Chronology of the Defendants' decisions and operations in respect of the 2011-2013 Bille Spills

The period prior to the 2011-2013 Bille Spills

1. Since at least the 1990s, there was a history of resistance and hostility to oil extraction in the Niger Delta, of which the Defendants were aware. In particular:

    1.1. In the 1990s, the Movement for the Survival of the Ogoni People ("**MOSOP**") and other protest groups were founded in protest against ecological degradation in the Niger Delta and political and economic marginalisation. MOSOP organised mass peaceful protests against oil pollution and extractive activities in Ogoniland, east of Bille.

    1.2. The protests resulted in the arrest of nine of its members (the "**Ogoni Nine**"), led by Ken Saro-Wiwa, and their eventual execution by the Nigerian military government in November 1995. Their execution was described by the UK Government as *"judicial murder"* and was widely condemned. Shell was accused by the families of the accused of having been complicit in their arrest and murder, including by fabricating evidence to support the charges made.

    1.3. In October 1995, Shell established a *"Nigeria Issue Contact Group"* to address reputational concerns associated with the Ogoni Nine publicity and their environmental impact in Nigeria. At that point, Shell reported that 60% of oil spills in the Ogoni area since January 1993 had been caused by sabotage.

2. From around the early 2000s, the security situation in the Niger Delta deteriorated. Protest movements became militarised, leading to the emergence of armed groups ("**Militant Activists**"). The Militant Activist groups, often funded through bunkering, carried out attacks on oil companies' infrastructure. Over time, the Militant Activist groups splintered or metamorphosed into criminal syndicates seeking financial gain from bunkering. Corruption was prevalent, with political leaders, government officials and members of the police or security agencies at times supporting or being complicit in militancy and/or crude oil theft.

3. From at least 2000, the Second Defendant had detailed knowledge of widespread pollution in the Niger Delta caused by spillages and leakages of oil from the Bille Pipelines and Infrastructure and/or illegal refineries which refined oil abstracted from such infrastructure by Third Party Interference ("**TPI**"). In particular, from at least 2002 it monitored and recorded theft incidents along the 28" old NCTL ("**Old NCTL**").

4. In 2002, the NCTL replacement programme commenced, to replace the Old NCTL with a new 30" NCTL. The construction project faced repeated delays because of the security situation and funding shortfalls.

5. In 2003 the Defendants commissioned WAC Global Services to produce a report on their peace and security strategy in the Niger Delta. The WAC Report (see paragraph ** of the pleading) explained that:

   5.1. Bunkering and transportation of stolen oil was a phenomenon affecting the Second Defendant's operations from 2000.

   5.2. Between 2000 and 2003, estimates of oil stolen from bunkering rose from 50 million to more than 250 million barrels. The report documented the processes of *"hot tapping"*, stealing and transporting stolen crude oil, as well as the consequential environmental impacts, and collusion by oil companies.

   5.3. The Second Defendant was an integral part of conflict dynamics in the Niger Delta and its license to operate was fast eroding. The manner in which it operated, including by seeking quick-fix solutions and dividing communities, created and exacerbated conflict and insecurity, which was inextricably linked with the prevalence of bunkering.

   5.4. If conflict trends in the Niger Delta continued, the Second Defendant would not be able to continue extracting oil while complying with the Shell Business Principles.

5.5. The Second Defendant was awarding contracts and paying placation money to powerful and violent individuals which further fuelled criminality and Bunkering.

6. In November and December 2003, Shell Global Solutions (UK) ("**SGS UK**") published two linked "Framework" documents, documents OG.02.47028 and OG.03.47062, setting out the risk-based management ("**RBM**") approach to be adopted by the Second Defendant for the assessment and remediation of contaminated land in the Niger Delta:

6.1. The "Framework for Risk Management of Historically Contaminated Land for SPDC Operations in the Niger Delta" (OG.02.47028, December 2003, the **"Contaminated Land Framework"**) recorded that the Second Defendant operated the SPDC JV "*on behalf of Shell*" and others. Although the title used the word "*Historically*", the Contaminated Land Framework also applied to future contamination: section 6.3 set remediation criteria for "*historically contaminated sites or for new spills*". Section 3.6.1 recognised that contamination was associated with various factors, including "*Criminal damage (vandalism and theft)*".

6.2. The "Framework for risk management of historically contaminated land for SPDC operations in the Niger Delta: Mangrove and other swamp areas" (OG.03.47062, November 2003, the **"Mangrove and Swamp Areas Framework"**). Although it bears an earlier date, the Mangrove and Swamp Areas Framework refers to, and is based upon, the Contaminated Land Framework.

6.3. The Contaminated Land Framework and the Mangrove and Swamp Areas Framework set out a risk-based management ("**RBM**") approach to be adopted by the Second Defendant for the assessment and remediation of oil spills in the Niger Delta, with a Generic Conceptual Site Model (**"Generic CSM"**) to be the foundation of RBM including through the derivation of Risk-Based Screening Levels (**"RBSLs"**) for contaminated sites which were calculated using modelling software developed by Shell Global Solutions International

("**SGSI**"). Based on the Generic CSM, the First Defendant: The Generic CSM concluded that "*visual identification*" was the "*most appropriate method of detecting contamination*" and that more intrusive investigations, such as "*groundwater monitoring*", would "*only be required if the initial visual inspection identified shallow groundwater being used as a potable resource*"; and set bioremediation as the "*preferred remediation strategy*" with respect to those risks identified as requiring remediation, on the basis that the "*environmental conditions in the Niger Delta (hot and humid) are ideal for rapid bioremediation*". Further details of both documents are set out in the "Defendants' oil spill response with respect to containment, cleanup and remediation" section of these particulars.

7. On 9 September 2004, the Board of Shell Petroleum Company Limited ("**SPCL**") approved the Group Investment Proposal for the replacement of the Old NCTL.

8. On 22 October 2004 a 4" *"illegal bunkering flowline"* was discovered connected to the 28" NCTL at Awoba causing an oil spill.

9. In 2005, the First Defendant was registered as a public company.

10. From at least 2005, upon coming into existence, the First Defendant acquired knowledge of the matters aforesaid (for the creation of the First Defendant, see paragraphs **) through the internal control, reporting and assurance processes outlined in Part B2 of these particulars. Further, Nigeria appeared as a standing item on the agenda of Executive Committee ("**ExCo**") meetings. The Business Head of Upstream International (Malcolm Brinded and then Andrew Brown) provided updates to the ExCo at and/or prior to each meeting, including on security, operations and production figures in Nigeria. Nigeria was also a regular discussion item during Audit Committee, Corporate and Social Responsibility Committee ("**CSRC**") and Board meetings.

11. In or around March 2005, the Second Defendant, with the approval of its Joint Venture Partners, the Nigeria National Petroleum Corporation ("**NNPC**"), Total Energies Exploration & Production Nigeria Ltd ("**Total**") and Nigerian Agip Oil

Company Limited ("**NAOC**") requested the Nigerian Government to provide security operations in the Second Defendant's field locations through the deployment of the Joint Task Force ("**JTF**").

12. In March 2005 the Second Defendant identified a leaking illegal connection on the Old NCTL in Bille and was engaging in discussions to shut it down for repairs.

13. In 2005 the Second Defendant identified further illegal connections in Bille, stating: *"Fitting valves were found welded on the 28"NCTL @ Awoba. The three connections were run from the tie-in points over a distance of about 400m to a nearby creek".*

14. In or around 2005, the Second Defendant established the Security Intelligence Network Centre ("**SINC**"), as Shell's internal security intelligence hub for Nigeria with the purpose to gather, analyse, and disseminate security-related intelligence, including about pipeline sabotage. SINC produced weekly threat assessments, incident summaries and maps, provided early warnings and recommendations to the Second Defendant and senior management, monitored JTF operations and reprisal attacks, supported Security Risk Assessments, and defined Security Operating Levels ("**SOL**").

15. Also in 2005, the Second Defendant along with Shell Global Solutions International developed a flowline integrity management system in response to a need to effect risk-based replacement and repairs of the Second Defendant. However, full implementation was abandoned in 2006 due to lack of resources.

16. In 2006, the Second Defendant entered into an agreement (the "**Arms Length Agreement**") under which it made monthly payments to the JTF for services received and endorsed by it, while the JTF entered into contracts for logistics support.

17. On a date unknown, the First Defendant introduced the Asset Fix programme as part of the Asset Integrity-Process Safety Management ("**AIPSM**") technical integrity programme. In or around 2006, the First Defendant set a "baseline" for

the Fix programme against which the Second Defendant had to report on the expected progress. The Board received regular updates on the progress and the status of compliance with the targets set out in the programme. As part of the Fix programme, the Second Defendant was expected to carry out what internal documents describe as "*the SPDC Pipeline Fix*" programme.

18. In or around 2006, the Second Defendant put in place a security programme, Communities and Shell Together ("**CAST**"), aimed at reducing TPI, pursuant to which it awarded security and surveillance contracts to local community contractors. The Second Defendant was responsible for training and resourcing the community contractors. Such security and surveillance services were typically undertaken pursuant to Global Memorandums of Understanding ("**GMOU**") with communities. GMOUs were five-year agreements.

19. On 23 July 2006, Ann Pickard (EVP Sub-Saharan Africa, Upstream, Shell Exploration & Production Africa ("**SEPA**")) emailed Malcolm Brinded (Upstream Director, Shell Petroleum) to notify him of a *"significant pipeline leak"* around the Krakama manifold. Ms Pickard noted that "*Heavy pollution"* was observed around the Krakama river up to New Calabar river, with upstream flow stations *"advised to shut down immediately"*.

20. As early as 2007, the First and/or Second Defendant identified the need to loop the Trans-Niger Pipeline ("**TNP**") and the new 30" NCTL to enable two-way flow and the rerouting of pipeline oil in the event of bunkering, leaks or spills on sections of the pipelines. However, while discussed at length at various times until 2013, the project was never executed.

21. Between 30 January and 5 February 2007, senior SEPA staff exchanged correspondence concerning the NCTL replacement investment proposal. Phil Davis (SEPA) circulated comments highlighting concerns about the adequacy of the investment and the risks associated with continued operation of the existing pipeline. He noted that the Old NCTL was *"supposed to have been replaced more than 5 years ago"* and that statements suggesting it would remain serviceable until

2012 were *"misleading"*, adding that *"the reality is we should not be operating the line now and there are many leaks."*

22. Responding on 5 February 2007, John Gdula (Regional Technical Director, SEPA) emphasised that the Old NCTL presented an *"integrity issue"* that he did not think the Second Defendant had *"the right to delay"*. He rejected suggestions that replacement be deferred pending market improvements, warning that delaying for cost reasons posed *"enormous reputation issues"* and that a future spill would be *"clearly seen as something which we could have prevented but chose not to."* Mr Gdula highlighted that the pipeline was likely to leak if replacement were delayed.

23. On 8 March 2007, Mutiu Sunmonu (Managing Director, SPDC) updated Ann Pickard, and other staff within SEPA as well as those within the Second Defendant regarding a leak on the Old NCTL at Cawthorne Channel.

24. In April 2007, construction of the New NCTL began.

25. In June 2007, Malcom Brinded sponsored, Peter Voser **(**Chief Financial Officer, RDS) supported, and Jeroen van der Veer (Chief Executive Officer, RDS**)** on behalf of the First Defendant's shareholders approved the Second Defendant's Group Investment Proposal of $127.4 million to enable the execution of the New NCTL construction project. In an email to Messrs Voser and van der Veer on 6 June 2007, Mr Brinded described the NCTL as a "*key element of the Delta infrastructure*" carrying about a third of the Second Defendant's production and the replacement "*as an expensive project but one […] we still must execute*".

26. In July 2007, full construction contracts for the New NCTL were signed with Saipem (for the 30" x 46km section) and Nestoil (for the 24" x 44km section and 12" x 7km delivery line).

27. In October 2007, Saipem and Nestoil mobilised to the New NCTL construction site but met with severe security challenges.

28. In October 2007, Ubaka Emelumadu (Community Affairs Director, SPDC) initiated, Esa Ikahaemonen (VP Finance, SEPA) supported, and Ann Pickard approved, on behalf of the First Defendant's shareholders, the Second Defendant's Group Investment Proposal of $52.6 million to establish a GMOU with 32 community clusters in the Niger Delta.

29. In October 2007, Markus Droll (VP Technical, Africa, SEPA) prepared a presentation for the ExCo titled "Nigeria: Integrated Business Plan and Funding". It included a summary of the security situation and "criminality triggers", including bunkering.

30. In or around December 2007, Ann Pickard visited Nigeria to oversee the execution of the 30" NCTL project. Following her visit, by email to *inter alia* Mutiu Sunmonu and Markus Droll on 18 December 2007, Ms Pickard made extensive recommendations regarding actions that needed to be taken prior to the introduction of hydrocarbons into the NCTL.

2008

31. In 2008, the Second Defendant faced severe funding challenges, which resulted in late payment of invoices to construction contractors working on the New NCTL.

32. From at least 2008 Ann Pickard , Malcolm Brinded and Markus Droll received regular notifications, updates and briefings from senior staff of the Second Defendant and/or SINC about: TPI and bunkering; individual leaks and other specific pipeline incidents; general and leak-specific asset integrity issues; security issues faced by the Second Defendant, including in relation to its staff, contractors and the JTF, and allegations of collusion in TPI / bunkering; budgeting and operational decisions. They had detailed discussions and were involved in key decision-making, approval and advice in respect of the Second Defendant's responses to all these issues. They were also engaged in discussions about environmental and technological security solutions.

33. Also in 2008, the Defendants put in place a regular Nigeria Security teleconference ("**Nigeria security telecon**") attended by representatives of the Second Defendant (including Mutiu Sunmonu and OJ Agbarah (VP Corporate Security, SPDC), Malcolm Brinded and Ann Pickard and others. The Nigeria telecon involved detailed discussions about security and political developments, including bunkering.

34. In 2008, construction of the Bille section of the New NCTL commenced. The construction project faced repeated delays because of the security situation and funding shortfalls.

35. In January 2008, two major ruptures occurred on the Old NCTL caused by severe corrosion. The Old NTCL was de-rated (i.e. its maximum allowable working pressure was reduced) from 31barg to 20barg. The Defendants' documents state that no further leaks occurred until an explosive attack on the Old NCTL in April 2008; and that there were six explosive attacks on the Old NCTL between April and October 2008, causing damage to the pipeline, cracks and at least five additional leaks.

36. Also in January 2008, Ian Currie (Corporate Head, Asset Protection, SPDC) prepared and OJ Agbarah approved a strategy paper titled "The Management of identified Security Threats to People, Assets and Operations across the Divisions", which aimed to define the mission of the Second Defendant's newly restructured "*One Security Department*", "*align SPDC with the Group Security Standard"*, and reduce risks to people, assets and operations to As Low as Reasonably Practicable ("**ALARP**"). An important aspect of the strategy was that Security Risk Assessments were to be conducted on all major Critical Assets in 2008, every five years thereafter and where there were material changes in threat levels or security circumstances.

37. On 1 January 2008, the SPDC – Shell International Exploration & Production ("**SIEP**") Service Agreement became effective. Details of the Service Agreements are set out at paragraph ** above.

38. On 11 and 12 January 2008, Malcolm Brinded, Ann Pickard and Simon Henry (EVP Finance, Upstream International, SIEP) exchanged emails regarding the provision of funding for security in Nigeria:

38.1. The email exchange referred to a reduction of the Second Defendant's security budget from $100m in 2007 to $40m in 2008.

38.2. In his email dated 11 January 2008, Mr Brinded referred to concerns raised by Ian McCredie (VP Corporate Security, Shell International) regarding the potential implications of the reduction in the budget on maintaining security and protecting assets and people.

38.3. In her response dated 12 January 2008, Ms Pickard stated: "*I think the security organisation overbuilt itself up…they had about 20 vacancies, and I cut them all*". She stated that the "*jury is still out*" on whether they would get benefit from the expanded security organisation, adding that "*[w]ill keep an eye on it and try to balance it with other things*".

39. On 19 January 2008, Stewart Davidson (General Manager Health, Safety & Environment, SPDC) circulated to SEPA employees, including Ann Pickard, a weekly HSSE and Emergency Response report referring to "*illegal bunkering activities*" and "*Anti-bunkering/Sting operations*".

40. On 22 January 2008, the ExCo held a meeting. Malcolm Brinded, Ann Pickard and Simon Henry reported on Nigeria, including the security and political situation, funding and arrears, "*reasons to stay*" and "*other key issues and next steps*".

41. On 27 January 2008, in advance of a meeting scheduled to take place at Ann Pickard's house on 6 February to discuss key issues arising in relation to the Second Defendant, Ann Pickard emailed Markus Droll; Guus Klusener (Assistant General Counsel, Sub-Saharan Africa, SEPA); Osagie Okunbor (VP Infrastructure & Logistics, SPDC); Basil Omiyi(Managing Director, SPDC and Chairman, Shell Companies in Nigeria ("**SCIN**")); Peter Robinson (VP Commercial - Africa, SIEP); Ruud Schrama (General Manager Offshore, Shell Nigeria Exploration and Production Company

("**SNEPCO**")); Graeme Smith, (General Manager Exploration Nigeria, SNEPCO); Mutiu Sunmonu; Erik Slotboom, (VP Human Resources, Africa Region, SEPA); and Oriseh Agbarah. She placed the big issues into five categories: security contract sanctity, project delivery, funding (short/long term, living within budget) and One Shell. She proposed speaking about these big issues and the enabling tools related to them. Graeme Smith responded stating, among other things:

> "*I believe we really need to agree what assumptions we are working on now and in the future. In particular we need to reconfirm the priority projects - the ones we are doing, the ones we are "keeping warm", the ones we have stopped and the triggers needed to switch warm to hot or stop to start. Once defined these will provide a framework for the decisions we have to make and the decisions made by the people we hold accountable for implementing them. In the end, projects are delivered by our people making decisions on a day to day basis within our One Shell organisation, constrained by the budget squeeze, the current security, HSSE, operational issues and with threats to contract sanctity. They need a framework with a red-thread to help without having to return to us on every single step on the way.*
>
> *Fundamentally therefore I feel we will not discuss the buckets effectively without testing our solution options against this vision so I would suggest we do that before diving in the buckets*."

42. Guus Klusener agreed stating "*We, as a management team, need to put our stakes in the ground and stick to it and empower a One Shell organization to implement it*." Mr Droll emphasised the overarching question of *"how will Shell survive in Nigeria".*

43. On 30 January 2008, the Board held a meeting. Simon Henry and Ann Pickard updated the Board on Nigeria and answered questions concerning developments in Nigeria, including in respect to security, the political situation, funding, arrears, "*the reasons to stay*", alternative funding and accounting provisions, and other key issues. The Board noted that the proposed visit of the CSRC to Nigeria had been

postponed due to security and social issues resulting from the staff reduction programme, and discussed options for other potential visits during 2008.

44. On 31 January 2008, a Nigeria Security telecon took place, with Malcolm Brinded present, among others. Illegal bunkering appeared on the agenda.

45. On 15 February 2008 Malcolm Brinded emailed Ann Pickard about an email that had been sent to the First Defendant's CEO Jeroen van der Veer by an individual who sought anonymity. That email concerned the condition of the old NCTL (which remained operational). He explained that the poor condition of the line meant that the design rating of 100 bar had been downgraded to 31 bar. He continued:

"To make up for this we do take into account when setting the production target that the TL isn't up to 100%. In other words: we know that there will be leakages and have downtime as a result. What I find even more disturbing is tha[t] we accept that with every leakage great quantities of oil spills!!! What I hear now is that the specialists declare that this line is now beyond repair!! And what do we do?: repair it. Many people here know about this situation, but I wonder how long it will take before international news gets a hold of it.

What impact will this have I ask myself? I assume that our image should be one of prudent operator. How often do we mention "compliance and TR"?. Rightly I assume, but in this case the management sends a message that is directly opposite those basics.

If we say A, we have to say B and not use this line any longer. As a follow up I suggest that you order Ann Pickard personally to do a Root Cause Analysis in Port Harcourt with all relevant parties to understand the causes. With an RCA [Root Cause Analysis] *it is important to agree on the problem. My proposal would be: why do we operate a TL (which transports 110.000 bopd Bonny Light + key asset) which is in fact beyond repair. Ann will probably need 2 days to get all the people together in PH and then another 2 days to do an RCA. That means that she can present her findings next week in the headquarters in NL. If*

necessary she can use a specialist with TR in SPDC to facilitate this RCA. Replacing the TL will take a long time, there is no budget and no fall-back plan => disaster".

46. Ann Pickard copied Mutiu Sunmonu into the exchange who responded on 16 February 2008 identifying an action plan including enlisting the help of SGSI with the investigation and working on the option of using gas lines to evacuate oil in case of a decision to shut down the Old NCTL. This was being worked on aggressively with a 6-week mandate and would be a fallback option in the worst case. On 17 February 2008 Markus Droll wrote that, on some level, he understood the frustration expressed by the anonymous author, who he was 99% sure was an "*expat*".

47. On around 22 February 2008, the Pipeline asset team completed a report indicating that the old NCTL was beyond any further proactive intervention and Marcus Droll was provided with a copy that day. Markus Droll emailed Bayo Olarewaju (Major Projects Manager Pipelines, Civil & Medium Projects, SPDC), copying in Ann Pickard stating that "*in addition to incorporating learning into the new NCTL, we need to work out why our condition assessment of the existing line was more favourable (ie as per the GIP) than what we now see in reality*." He noted that the GIP [Group Investment Proposal] suggested that they could manage with repairs until 2012. Malcolm Brinded, later copied into the exchange agreed adding that they needed to understand why intelligent pigging gave them an overoptimistic assessment of remaining life. Intelligent pigging is the of sensors to inspect pipelines, including for signs of corrosion and leaks, with the objective of early detection of pipe deterioration.

48. On 27 February 2008 an email exchange began concerning the budget needed to complete the rejuvenation of the Bonny Oil and Gas Terminal ("**BOGT**"). The exchange identified that the sum of $120 million remained outstanding and the joint venture ("**JV**") was only funding $43 million, a grossly inadequate sum to even complete commissioning of the new process plant in Q1 and "*take pressure off the rather fragile old system to allow replacement of badly corroded/deteriorating pipings and outstanding fire protection system before end*

08". Within the email exchange the crisis with the BTIP was compared to the "BP Alaska issue" (where there had been major oil spills following neglected safety rules). The suggestion was made to Markus Droll that he might want to raise the funding issue with Malcolm Brinded, by presenting a "*ranking of unfunded activities that are killing us without urgent support*". Markus Droll responded that while he could do this, he considered it would make no difference as he could not see that anything ranked higher than "*NCTL or the flares down (both absolutely critical in terms of oil protection and/or integrity) and we still don't get more money*". On 28 February 2008 Ann Pickard responded to this exchange stating "*I want the pressure on spdc to look inward… I just know there is still money being spent that shouldn't be*".

49. On a date unknown in February 2008 the operating pressure on the NCTL was derated from 31 Barg to 20 Barg due to internal corrosion that had been exacerbated in 2008 by explosive attacks.

50. In or around February or March 2008, an investigation report was published on dealing of petroleum products at Obigbo North Flow Station. It referred to the Second Defendant's staff being complicit in the diversion of petroleum for "*an illegal business at Umuebele"* as *"an arranged deal masterminded by several interested parties ranging from Police Exhibit Keeper/Recorder, Obigbo North Flow Station attendants and the Dispatcher/ Supervisor in Land Transport Medium fleet section*".

51. On 2 March 2008, Malcolm Brinded emailed Simon Henry, Peter Voser and Keith Ruddock (General Counsel, Upstream International, Shell International), claiming legal privilege, following a two day visit to Nigeria. Among six concerns identified, Mr Brinded addressed the condition of the Old NCTL as *"likely irreparable"*. He referred to the most recent leak as being roughly 2,000 barrels and stated that he agreed with Ann Pickard's assessment that SPDC will have to shut it down after the next leak which he considered could come next month or within six months *"if we are lucky"*.

52. On 3 March 2008, Ann Pickard emailed Simon Henry and Malcolm Brinded to notify them that the force majeures on Bonny Light and the Forcados Offtake Programmes were to be lifted that day. Ms Pickard stated that given the *"state of NCTL"* she anticipated having to declare force majeure again in the future for Bonny Light, noting that *"[a]nother leak like the last one and we will probably shut in"*.

53. On 4 March 2008, the ExCo held a meeting. Malcolm Brinded reported on Nigeria. The minutes record that he reported on *"the effects of underfunding*".

54. On 7 March 2008, the draft EPG [Exploration and Production Africa] Risk Information Sheet (a class of document used to document risks and mitigation and assurance plans, and inform quarterly risk reporting) recognised the risk that security measures taken to stem illegal bunkering on pipeline assets may not have been effective to stop the loss and attendant oil spills impacting the environment. They noted that vandalism on pipelines had decreased in 2008 and spills arising from sabotage incidents were "*mainly due to failure of existing illegal bunkering valves*".

55. On 7 March 2008, a Nigeria Security Telecon took place with Malcolm Brinded and Ann Pickard present. The attendees discussed bunkering activities, including reputational risks to Shell and environmental damage due to "*rampant spillage*". The notes of the telecon state: "*Noted: it is a disaster waiting to happen*."

56. On 12 March 2008, the Board held a meeting. Malcolm Brinded updated the Board on the situation in Nigeria, covering the security situation and funding arrears in particular.

57. On a date unknown around March 2008, Malcolm Brinded and Jeroen van der Veer visited Nigeria. Following their return on 21 March 2008, Malcolm Brinded responded to Vincent Beijer's (Subject Matter Expert Gaslift Optimisation, SPDC) email to Jeroen van der Veer dated 10 February 2008, which raised *"a number of Nigeria related concerns"*. Acknowledging the delay in providing a response, Mr Brinded considered his *"recent visits to Nigeria"* made him better able to reply

now and referred to Nigeria in general as being "*No 1 amongst the areas in EP"* that he was *"personally involved in"*. Mr Brinded stressed that he was *"well aware"* of the current state of the Old NCTL, *"even more so"* following his recent visit where it was *"one of the key topics under review"*. He acknowledged the NCTL replacement project as *"one of the very top priorities to be addressed",* but stated that it had been *"severely hampered"* for various reasons including the Nigerian government's lack of funding of the NNPC share of the Joint Venture budget, despite *"very significant amounts of money"* being lent by the First Defendant to the Second Defendant to cover NNPC's shortfall.

58. On 4 April 2008, the Shell Internal Audit issued an Audit Report, "EPG-2008.024: Safety & Security Payment Process Audit Report", dealing with the Second Defendant's Safety and Security Payment process. The audit received an unsatisfactory rating. Its findings included: inaccurate / incomplete security spend data, poor / weak assurance of the level of services received from the JTF, and poor oversight of JTF deployment. The audit raised concerns about breaches of the Arms Length agreement, with the Second Defendant's staff directly involved in the provision of logistics services and payment for those services being made directly from the Second Defendant to the vendors of security equipment. It also noted lack of clarity about cash payments for special security operations.

59. On 22 April 2008, the ExCo held a meeting. Malcolm Brinded reported on spills in Nigeria and the agreement on "*the reorganisation in Nigeria*".

60. On 28 April 2008, the Audit Committee held a meeting in which it discussed the unsatisfactory audit of safety and security payment processes in Nigeria. Peter Voser, the then CFO of the First Defendant, reported on key trends for Group businesses, including security issues in Nigeria.

61. In or around May 2008, Alban Faure (Well Delivery Manager, SPDC), OJ Agbarah and Mutiu Sunmonu approved a budget proposal for the protection of key facilities in the Second Defendant's Eastern Division. A draft proposal, dated 30 May 2008 and which the Claimants infer reflects the approved proposal, highlighted concerns, including "*the vulnerability of our Risers and Manifolds that are located*

in isolated areas" and the inability of the military alone to protect the Second Defendant's facilities. As to the latter, the draft proposal stated:

> "*Going by the present realities and the spread of these facilities, the military alone do not have the necessary logistics/equipments and men to protect all of them. Even if they are available, the current cost of deploying them to all the manifolds and risers will be highly prohibitive. The strategy being recommended therefore would be that which has a mix of various options working together*".

62. The proposed strategy consisted of intelligence gathering and integrated special surveillance, with payment incentives for performance. The strategy placed emphasis on "*communities tak[ing] on a much greater role"* given limits to relying on the military (endorsing a community/military ratio of 70:30). Special surveillance for the Soku Gas Plant to flow station was stated to involve 24-hour surveillance from community workers to prevent installation of illegal connections, working closely with JTF response teams, and supporting Pipelines team to remove illegal connections.

63. On 9 May 2008 Malcolm Brinded invited comment from, among others, Guy Outen (EVP Commercial & New Business, SIEP) and Ann Pickard on a draft Nigeria note for the forthcoming Board meeting. The draft discussed the difficulties and challenges faced by Shell in Nigeria, noting that Shell in Nigeria was in *"survival mode"* amid severe security deterioration, government paralysis and significant production shut-ins, but stated that "*despite all the challenges, in 2008 we expect to see a Shell in Nigeria cash surplus of $3-4 bln and the growth opportunities from currently held assets and licences remain some of the best available worldwide*".

64. In May 2008 Ann Pickard hosted Malcolm Brinded during a visit to Nigeria. While there, Malcolm Brinded passed along a question that had been raised at the AGM, whether there was the capacity/capability adequately to respond to the spills caused by sabotage, corrosion or operator errors. On 26 May 2008 Stewart Davidson tasked Peter Velez (Upstream Global Security & Emergency Response Manager, SIEP) and

Knut Engebresten (VP Health, Safety, Environment and Business Value, SEPA) to provide a response.

65. In late May/early June 2008, Markus Droll, Andrew Birch (General Manager Engineering and Onshore/Shallow Offshore Projects, SPDC), and Casper Kaars-Sijpesteijn (Development Directorate, SPDC) had an email exchange about environmental security measures to prevent TPI, including intruder detection systems, deep burial and spiking. The aforesaid were recognised as means of making TPI more difficult for intruders and buying the Second Defendant more time to intervene. In the course of the exchange, on 1 June 2008, Mr Birch commented that "*[i]f the Govt do not intervene to stop criminal damage to our facilities then we should simply stop operating the facilities on safety/environmental protection grounds and cut off the income stream until the situation is remedied".*

66. On 18 June 2008, the Board held a meeting. Malcolm Brinded gave a presentation to the Board (the full details of which are redacted in the version of the document provided to the Claimants).

67. On 17 July 2008, in an email to Markus Droll, Ann Pickard directed that OJ Agbarah and SINC investigate an incident where a contractor, Nestoil, was alleged to have arranged for "*community boys*" to stop work on a section of the NCTL. On 28 July 2008, Mutiu Sunmonu notified Markus Droll, Basil Omiyi and Ann Pickard that *"unusual low pressures"* had been observed across the Old NCTL from 02:00 hours. Surveillance reports indicated a suspected explosive attack on the Old NCTL risers near Kula, with an overflight planned that morning. Later that day, Mr Droll informed Malcolm Brinded that the issue had been included in the ExCo briefing and that the Second Defendant had declared force majeure on Bonny Light for July, August and September, pending further details on the extent of the damage and repair timelines. Mr Brinded replied that he had mentioned the matter in the ExCo meeting and asked for a further update the following day. Mr Droll subsequently provided Mr Brinded with a preliminary damage assessment, photographs and schematics of the damaged sections, and Q&As prepared for external communications.

68. On 29 July 2008, the Audit Committee held a meeting and considered Nigeria risks.

69. On 24 July 2008, Ann Pickard emailed Malcolm Brinded to share responses to various questions he had raised in a meeting with Ian Crawford (VP, Group Health, Safety, Environment Risk & Assurance Manager, Shell International) and Donald Jacobsen (VP Health, Safety, Security, Environment / Sustainable Development, SIEP) on 23 May 2008. Mr Brinded's questions included one raised at the AGM about inadequate remediation in Nigeria. In an email dated 31 July 2008, Mr Brinded stated that he felt "*uncomfortable"* with the response, that photos might *"give the impression"* that pollution has been adequately dealt with after remediation, but that *"we all know that an apparently uncontaminated surface layer does not mean the ground below has really been adequately remediated"*. He regarded the response that it is not practical to line pits as unpersuasive, noting *"if we had an oil leak onshore in other countries I suggest we might (have to) find other solutions"*. Mr Brinded requested that Ms Pickard organise a review to see whether more could be done on this point.

70. On 30 July 2008, the Board held a meeting. Jeroen van der Veer reported on oil spills, which were "*often due* [to] *sabotage*". Malcolm Brinded updated the Board on the outstanding issues and challenges in Nigeria and the responses thereto by Shell. The Board noted the Group Financing Proposals regarding Nigeria funding, which were agreed and shareholder approval was granted.

71. In August 2008, Mutiu Sunmonu provided to Ann Pickard an overview of pipeline incidents, raising concern that the Second Defendant "*can no longer guarantee speedy repairs and return to service of our lines*" because of the level of violence in the Niger Delta. He noted that illegal refineries were "*spreading in an uncontrolled manner to all nooks and cranny of the delta […] fuelling crude theft activities and denial of access for repairs*".

72. On 1 September 2008, in response to a request from Malcolm Brinded for clarity on the Second Defendant's funding and plans, Ann Pickard explained that derating the NCTL to between 6-11 barg "*effectively shuts in production*". She continued:

"*I think I had told you we would shut in with one more catastrophic spill, but what we have instead, is a number of small spills that appear to be linked to the recent attacks; the shock waves throughout the p/l have just caused a large number of small spills. At the previous pressure of 20 barg, and when not blown up at various times, we were producing about 150,000b/d (100%) of oil. Will go over this in greater detail tomorrow, but I am very worried. In the past, when we have shut in, everything gets stolen, and this move puts lots of flow stations at risk. Not a good story*."

73. Responding on 1 September 2008, in an email marked "*CONF-LEGALLY PRIVILEGED-FOR ADVICE OF COUNSEL*", Mr Brinded confirmed, in respect of the Old NCTL, that he did not want to continue to run a leak-prone pipeline. Given the "*big ramifications*" for the First Defendant, Nigeria, and the oil market of decreasing production until late 2009, he wanted to be sure "*we have used the very best in terms of Group pipeline repair and strengthening advice in terms of whether we have any appropriate options whatsoever that would enable more effective interim operations*."

74. On 1 September 2008, in an email to Mutiu Sunmonu concerning the NCTL, Ann Pickard suggested bringing SGSI expertise to provide verification to "*the market*" that shut down of the Old NCTL was necessary. Mr. Sunmonu agreed to action this plan and additionally proposed that Ann Pickard, Markus Droll, Knut Engebretsen and himself "*visit the pipeline yard during your next visit to chat with pipeline folks and to see sample of cut out sections of the NCTL*".

75. On 2 September 2008, Knut Engebretsen emailed Ann Pickard setting out three alternatives for the Old NCTL:

    75.1. The **bypass approach**, which would link in the new 17km section. Although there was more than 85% wall thickness loss on the Krakama – Cawthorne Channel section, as there was no indication that wall thickness loss on the rest of the NCTL exceeded 80%, the NCTL could be operated "*downgraded with the 17km section tied in without breaking rules*".

75.2. The **segmented approach**. This comprised running the four sections of the Old NCTL at different pressure regimes from 4 to 10 barg, based on their current state, and would require operating outside of normal industry practice, and at high environmental and reputational risk.

75.3. **Shut down** of Sections 1 and 2 until the New NCTL was available. This option was deemed "*share sensitive*" albeit less exposed than the segmented approach.

76. On 3 September 2008, David Martin (VP Health, Safety, Security, Environment & Social Performance, Upstream International, SIEP) reported to senior management in Exploration and Production an oil spill, of an estimated volume of 629 (barrels of crude oil) ("**bbls**"), on the Old NCTL at Cawthorne Channel-2 caused by corrosion. In response, Malcolm Brinded asked whether the spill was related to shockwave damage from earlier major blasts on the NCTL and whether the oil spill response was as fast as it could have been. Ann Pickard then visited the spill site on 4 September 2008. In an email to Mr Brinded and Keith Ruddock that day, she reported in detail on the condition of the pipeline, noting that "*pipe has become so thin in places*", and the oil spill response and investigation. She questioned whether investigation reports should be shared outside of Nigeria given the risks of them "*end[ing] up at the wrong side of the fence*" and being used in litigation. Finally, she stated:

> "*I will be writing up a report on the continued operations of the nctl outside the window of our normal operating procedures. As I told you, my view has changed over the past 9 months or so when I felt we would just shut it in in the event of continuous leaks, but I now think the environment exposure is far greater if we take that route, rather than carefully manage a small flow going through. I want it on record as to why I am approving these decisions.*"

77. On 10 September 2008, the Board held a meeting. An individual (whose identity has been redacted in the version of the document disclosed to the Claimants)

reported to the Board on developments in Nigeria including the security situation and progress on the bridge loan and modified carry arrangements (amongst other issues which are redacted in the version of the document disclosed to the Claimants).

78. On 11 September 2008, Alban Faure emailed Markus Droll with concerns that a proposal by the Second Defendants security department to pay money to the JTF who would then "channel" this money through a third party to communities was "*dodgy*" and non-compliant with Shell's policies, adding that he had alerted Andrew Ross (Corporate Security Operations Manager, SPDC). Responding on 12 September 2008, Mr Droll approved Mr Faure's approach, and copied in Ann Pickard because "*we have discussed these issues at some length recently*". On 16 January 2008, Mr Faure asked to have a private conversation with Mr Droll. Later that day, Ms Pickard thanked Mr Faure and stated that this formed part of a highly confidential investigation being conducted by expatriate investigators "*not working in Nigeria*". Mr Faure, confirming his awareness of the investigation, stated that he had wanted to speak to Mr Droll due to his concerns about "*security warnings from the auditors*". Mr Droll then proposed that they discuss the matter on a call later that day.

79. Between 16 September and 10 October 2008 the Defendants discussed applying for a waiver to allow for temporary operation of the Old NCTL outside approved Group Technical Standards under the segmented pressure regime (see paragraph ** above). In particular:

79.1. On 16 September 2008, Ann Pickard emailed Mutiu Sunmonu stating that she was still waiting on a paper about operation of the Old NCTL. She said *"it will go to jeroen* [van der Veer]*, so i expect it to be well done...but also soon. its been a couple of weeks now since i asked for it."*

79.2. The same day, Esta Eleluwor (Business Analyst to REVP, SNEPCO) responded, copying Markus Droll, with a draft note titled "Approval to Temporarily Operate Nembe Creek Trunk Line (NCTL) Outside Approved Group Technical Standards via a Segmented Pressure Regime To Prevent

Environmental Pollution*"* which set out the reasoning for this proposal. This was largely replicated in the note for file which later accompanied its approval by Ms Pickard, referred to at paragraph ** below.

79.3. The same day Ms Pickard queried whether the note was a final document, and confirmed that she expected Messrs Droll and Sunmonu (or their stand ins) to sign off on it.

79.4. The same day Mr Droll responded, noting that "*[b]ased on pipeline engineering considerations, the line should be shut down*" and the mitigating measures identified in the papers were not sufficient to remain within an acceptable "*operating envelope*". He stated that the main reason for continuing production, the expectation of worse environmental damage if they shut in, "*does not sound like a great reason to me*" because this "*basically says our operations are out of control (ie we can't even shut down in a controlled manner*)". He added: "*So the question to me, if I was Jeroen* [van der Veer]*, is really this: if we accepted the loss of production, and then ran a controlled shut-down (including flushing of all the lines), could we then guarantee no further spills?"*.

79.5. On 29 September 2008, Ms Pickard emailed Mutiu Sunmonu copying Markus Droll and Andrew Birch saying that she was "*not sure we should continue to operate*", and noted that a proper shut down would prevent leaks due to sabotage. She added: "*Then, we continue with our CAST or whatever means of surveillance we have, and keep the lines from being vandalized. In other words, still treat the lines like they were operating to keep theft minimal, but have the production securely shut in*." She suggested that once the part of the New NCTL was completed, a bypass be put in place "*making sure there is sufficient corrosion inhibitors and pigging of the line to keep the crude from the old line from damaging the new line.*" She sought the views of the others.

79.6. Mr Sunmonu responded that the threat of sabotage existed not on the Old NCTL itself but on the fields and flow stations that "*we will have to shut in because we can no longer evacuate their production."* He stated that once

stations were shut in, they became easy targets for bunkering leaking directly from well heads *"leading to massive pollution*". He added that it may not be possible to respond to spills because of access issues and security risks from bunkerers. He noted that dormant flowlines were also easy targets for thieves. He expressed concern that *"by the time new NCTL is commissioned in a year or so, there may be no flowlines left in the associated fields to allow us to produce from them"* and the decision "*to protect the environment might end up producing a far more devastating consequence on the environment and ultimately kill our business*". He added that on the other hand "*purists"* might view keeping NCTL operations as "*nothing other than placing production over the environment*." He expressed the view that keeping the Old NCTL operational would provide a greater measure of control over non-sabotaged spills.

79.7. The exchange up to this point was forwarded to Arie Dijksman (Head, Pipeline Integrity and Capacity, SPDC), who commented that "*[i]f we keep the NCTL "alive" the actual production will not be much due to the consequential leaks*". He added that, as Mr Sunmonu stated, the reason to keep the Old NCTL running was "*for the public*" in order to avoid harvesting of facilities, and further: "*Closing in production now in this stage might have legal consequences if the outside world comes to know that the line is completely gone, since we have declared force majeure and a badly corroded line is not "force majeure""*".

79.8. On 30 September 2008 Ms Pickard asked whether, if the wells are properly shut in, it would still be possible to steal from them.

79.9. Also on 30 September 2008, Mr Sunmonu responded that he would need to find out what would be involved to properly shut down wells and make them tamper-proof. He added that the security of the Soku supply was premised on keeping the Old NCTL operational because the NCTL provided the only condensate evacuation route; shutting down of the NCTL would lead to suspending the gas export to NLNG [Nigeria Liquified Natural Gas]. He noted that under the option to spike condensate into gas stream, the Soku Gas Supply

would be curtailed until the Old NCTL was returned to service because NLNG was not able to handle all the condensate that came with full gas production.

79.10. On 3 October 2008, Mr Droll responded, recognising that there is a high chance of the proposed approach being construed as "*putting production above everything*", which was his concern. He added that it appeared that "*continued operation of NCTL boils down to avoiding theft of flowlines etc, rather than 'avoiding an even greater environmental impact".* He added: "*A lot easier in my own conscience to reconcile a spill caused by a sabotaged well head, than with a pipeline that - under our own technical rules - should not be operated."*

80. On 23 September 2008, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including militant attacks leading to the deaths of Shell employees.

81. On 29 September 2008, Andrew Birch updated Ms Pickard, Mr Droll and Mr Sunmonu on the recent demobilisation for Saipem (a firm contracted to carry out work in relation to the construction of the New NCTL) from the NCTL project. He raised concerns about infiltration of local communities by militants.

82. On 1 October 2008, the AIPSM transition manual was issued bringing into effect the AIPSM.

83. On 7 October 2008, the ExCo held a meeting. Malcolm Brinded reported to ExCo on developments in Nigeria, including the security situation.

84. On 10 October 2008, Ann Pickard, approved the continued operation of the NCTL outside of Group Technical Standards, and circulated the approval to others, including Markus Droll which:

84.1. Stated that since the derating of the operating pressure 20 Barg in February 2008, there had been no further corrosion leaks until April 2008 when an explosive attack on the pipeline "*sent significant shockwaves that immediately aggravated the impact of existing damage to the line to a stage that de-rating as an integrity management strategy can no longer be applied*

and in accordance with group standards the NCTL would have to be shut down".

84.2. Added that *"an immediate shut down of the NCTL will be counterproductive and result in extensive vandalisation of swamp production facilities as evidenced by massive facility vandalisation and flowline salvaging in the Western fields of SPDC during a two year shut down and at Cawthorne Channel 3 flowstation during a four day shut down for leak repairs", resulting in "an uncontrolled hydrocarbon release to the environment polluting traditional sources of water for the nearby local communities and grinding traditional economic/income generation activities like fishing to a halt*".

84.3. Further added that securing wells to make bunkering difficult was assessed as nearly impossible as non-return valves would have to be installed in each string hanger; the quantity was not available and would in any event take at least three months to install and would not prevent vandalization of "Xmas trees" and flowline theft; and the Second Defendant did not have the budget for purchasing Non-Return Valves ("**NRVs**") or replacing Xmas trees and flowlines.

84.4. Recognised the above measure fell "*short of industry standards*" and was a novel "*MAOP [Maximum Allowable Operating Pressure] operating philosophy*" as an alternative to shutting down the line; but asserted it would be put in place to avoid environmental damage that could result from third party activities.

85. Ann Pickard also instructed Mutiu Sunmonu to *"go ahead*" and *"immediately*" start the process of purchasing NRVs and discuss this with Markus Droll. She instructed that in the event there are more significant attacks or the Saipem line cannot be completed, then "*we will have no other option at that point in time to shut in*". She instructed him to go through the NAPIMs (National Petroleum Investment Management Services) process as she wanted the decision on the record.

86. On the same day, Markus Droll emailed Ann Pickard expressing concern that the note left the Second Defendant and those making decisions exposed. He stated:

> *"As I said before, I find the argument that we can't effectively shut the supplying wells down as a reason to keep going, at best weak. If there is another massive explosive attack tomorrow (and let's face it we don't have an effective way of protecting ourselves against it, despite the mitigating measures listed in the note), then we could well find ourselves in the situation of simply having to close the production down, no further choices to be made. We would then have to deal with the situation we are now saying we can't deal with.*
>
> *As such, I would have expected that installing the remaining well safeguarding measures (the Non Return Valves) would at least be a parallel measure we would now take asap. [...]*
>
> *Given our overall understanding of this pipeline system, it would also not surprise me if we find out over the coming weeks and months that other sections are in a condition just as poor/critical. Finally, even once the line has been replaced, we have no guarantee that the new line won't be sabotaged in the same fashion as the old lines. All of these considerations lead me to believe that measures to effectively shut off the inflow if we need to do so, should be processed in parallel with the line replacement. I don't agree that funding can be an issue, as the $ quoted to provide an effective shut down capability are minor compared with the cost of replacing the line itself."*

87. On 11 October 2008, Ann Pickard responded to Markus Droll, advising as follows:

> *"[I]t was not an easy decision. For the future, please put any disagreements of this level under legal privilege. You have just exposed us significantly in your official disagreement as technical manager without legal privilege. I don't think we are saying we can't deal with it, I am saying it's a choice, both involve risks, and I have decided at this time, the lower risk to both people*

and environment, is to try and keep operating in the mode that is described. You are right, we may have to deal with it in the future, but for ALARP is the decision I made. I will agree with beginning to purchase of NRVs for the reasons you say."

88. On 14 October 2008 Ann Pickard emailed Malcolm Brinded to inform him that the relevant regulator, the Department of Petroleum Resources ("**DPR**"), had provided approval to optimise block valve stations on swamp oil pipelines, which would significantly reduce the Second Defendant's exposure to vandalization. She stated that it would also save the Second Defendant close to $90 million and some of these savings would have to be applied to designing and installing a newer, safer and vandal-proof tie in system for delivery lines.

89. At a date unknown prior to the completion of the NCTL replacement, the Second Defendant decided to remove provision for 12 block valves from the construction contract scope of the NCTL, with the effect that segments of the NCTL could not be isolated in the event of oil spills.

90. In or around October 2008, Markus Droll and Ann Pickard were provided with further operational and security updates, and provided directions in respect of the same. In particular:

    90.1. On 26 October 2008, Toba Akinmoladun (General Manager Wells, SPDC) sent an update to Mr Droll in relation to "Rig 2", noting issues with delayed payments to a contractor. In response, Markus Droll requested to let him know "*if/when to push with Finance / Security etc*".

    90.2. On 30 October 2008, Alban Faure provided a further status update to Mr Droll on the final security assessments and an emergency response plan. He referred to concerns about bunkering around the rig which "*Security are struggling to fully enforce."* He noted that he was under "*strict instruction from Ann* [Pickard]*"* and that the use of the Soku gas plant helipad and transfer of crews by boat under gunboat protection *"should not be done without her expressed permission".* Mr Faure sent a further update the same date noting

that 12 bunkering barges had been identified in the proximity of the rig preventing "air ops" from landing until they were removed. He requested help with SINC accelerating the Security Threat Assessment ("**STA**") noting its absence had delayed the operations.

90.3. Mr Droll copied in Oriseh Agbarah, asking who was accountable for preparing the STA.

90.4. On 31 October 2008, Ms Pickard responded that it was Ian Currie.

90.5. In response, Mr Droll noted: "*on the whole we are struggling a bit with security support.*"

90.6. Ms Pickard responded [sic]: "*i know...i spent an hour talking with OJ [Mr Agbarah] about it*".

91. On 27 October 2008, the CRSC held a meeting. Malcolm Brinded provided an update on Nigeria.

92. On 29 October 2008, the Board held a meeting. Malcolm Brinded briefed the Board on the latest developments in Nigeria, including two fatalities and the challenges in keeping up production in some areas (amongst other issues which are redacted in the version of the document provided to the Claimants).

93. On 4 November 2008, Mark Corner (Deputy Managing Director, SPDC) emailed Markus Droll and others (members of the "TLT" which is understood to mean the Technical Leadership Team) seeking endorsement of the draft AIPSM Application Manual required by AIPSM and drafted to support the implementation of the standard. He referred to the document having been vetted within the EP [Shell Exploration & Production] via the disciplines "MIDLT, SPDLT, Technical Safety, Engineering" and being reviewed by the PLT [Production Leadership Team]. He explained that after providing an EP position back to Group HSSE, the manual would be issued. He asked if there were any parts of the manual which the recipients of the email could "*not live with*".

94. On 6 November 2008, Markus Droll responded, copying in Mutiu Sunmonu and Knut Engebretsen. He explained that a lot of the commitment would fall on Mr Sunmonu's shoulders and expressed the hope this would be run "*in parallel*" through the "PLT" (which is understood stands for Project Leadership Team). He expressed concern about the "*effort this will trigger (especially around existing facilities and legacy)"* stating that "*'[i]ntelligent' compliance will be key here".* He added*:* "*You know our facilities/operation well enough to realise absolute compliance will be a very tall order here*". He forwarded the email exchange to Ann Pickard.

95. Between 9 and 11 November 2008, Ann Pickard had a discussion with Malcolm Brinded, Ian McCredie and Bruce Culpepper (EVP Human Resources, Upstream Americas, SIEP) about an investigation she had launched into an incident at the Alakiri site, in which a fire had caused two deaths, and Andrew Ross's response to it. In particular:

    95.1. In an email of 9 November 2008, Mr Brinded raised concerns about Mr Ross's integrity.

    95.2. Mr McCredie responded: "*As Ann has written the situation has problems -personalities, conflicting chains of command and control over the very large security budget. I have agreed with Ann that we need to scrub both the organisation and budget and I am drawing up proposals for both – Nigerianisation in part and transparency over the money and how it is spent. I plan to be in Nigeria soon to start pushing this*". He referred to emails he had considered on the issue. He suggested that he, Ms Brinded and Mr Culpepper have further discussion in person in Scotland.

96. On 10 November 2008 a spill incident occurred at Iriama along the 24" Amukpe-Rapele Trunkline following the failure of a previously installed clamp on a sabotaged section of the pipeline.

96.1. On 12 November 2008, Cor Zegelaar (General Manager West, SPDC) remarked that it was *"not the first time"* a clamp had failed. In response, Chidi Izuwah (Corporate Manager, Pipeline Assets, SPDC) drew a parallel to the Old NCTL where *"completely unacceptable practices"* had *"worsened a bad situation"*. He explained that prior practices of encasing clamps in concrete had damaged neoprene seals, contributing to progressive clamp degradation. He suggested that the *"best solution"* would be to proactively replace all old clamps, but acknowledged that this would require extensive excavation works, with further potential damage to the pipeline and potential reductions in allowable operating pressure and production. Mr Izuwah suggested a short-term policy to manage failures reactively through faster response capability, improved security coordination and potential leak-detection technologies.

96.2. On 19 December 2008, Markus Droll forwarded this email correspondence to Knut Engebretsen questioning how the suggested rapid clamp-replacement strategy could operate effectively if the line needed to be depressurised.

97. On 13 November 2008, as a result of the JTF's stated inability to secure the requisite number of troops in accordance with the security plan for the contractor building the NCTL, Andrew Ross recommended demobilising from the field. In an email exchange that followed between Ann Pickard, Markus Droll and others, Markus Droll questioned how to better communicate with and hence rely on the JTF doing that which they had undertaken to do. He considered that a decision needed to be reached whether to accept the very large stand-by costs on an ongoing basis, or whether to suspend works more permanently.

98. On 13 November 2008, Markus Droll, Ann Pickard, Andrew Birch, Mutiu Sunmonu, and others exchanged emails on this issue, titled "*JTF at NCTL*". Mr Droll advised: "*Obviously we will not take any risks we collectively are not comfortable with*" and that a quick decision needed to be made whether to demobilise the site. Mr Birch confirmed that he considered there was no alternative to demobilisation of Saipem from the site. In a separate email exchange on the issue, Ann Pickard stated that "*If you do not believe we can get sufficient military*

in the short term to allow the saipam nctl work to continue, please advise. We will shut the work down. I don't want them out there at all costs, i.e. violation of human rights, improper payments etc, but we are spending a ton of money on standby costs, and this cannot continue".

99. On 13 November 2008, a Confidential Position Paper titled "Transition from the Security Risk Exposure Matrix (SREM) to the Group Security Standard Threat and Security Operating Levels (SOLs) Matrix", written by Ian Currie, was published. This aimed to align all of the First Defendant' facilities and Right of Way with the Shell Group Security Standard by 1 March 2009. SOLs were defined as "*locally determined security risk mitigation measures*", directed at enabling local management to assess and respond to security threats. Included in the transition process were plans for SINC to "*validate 'projected' Threat Levels in line with the Security Risk Assessment program during 2009*".

100. In November 2008, in the process of dealing with sabotage on a pipeline, operational repairs resulted in an accident involving fatalities at the Iriama site in the Western Niger Delta. The incident prompted the Second Defendant, in early 2009, to reorganise its asset team to report to three separate parts of its production organisation.

101. On 17 November 2008, Guus Klusener emailed Markus Droll, Knut Engebretsen, Jurgen Janzen (Corporate Pipeline Asset Manager, SPDC) and others to confirm the First Defendant's decision to set up an investigation into the Iriama incident "*under the cover of legal privilege*", with Mr Droll as the leader of the investigation team. He instructed others to put all correspondence under the header of legal privilege.

102. On or around 17 November 2008, a Nigeria Funding Decision Review Board took place. This Decision Review Board was established in light of the shortfalls in funding of the Second Defendant's Joint Venture by its partner NNPC. Members included Jan van Bunnik (Finance Director, SPDC), Simon Henry, Esa Ikaheimonen (VP Finance, SEPA), and Ann Pickard. Between 17 and 21 November 2008 they discussed escalating funding shortfalls, and the high monthly

cash requirements for key projects, including the NCTL, the financial implications of the lack of NNPC funding and potential solutions. On 21 November 2008, Ann Pickard informed colleagues that, unless the government could improve the security situation, the Second Defendant would likely move within 2–3 weeks towards shutting down substantial work in the *"security impacted"* eastern swamps area to halt *"excessive standby costs".* Ms Pickard cautioned that such shutdowns carried all sorts of ramifications, including higher turn-on costs and delayed production.

103. On 18 November 2008, a remote meeting took place between Richard Fletcher (Oil & Gas Division, Pure Technologies Group, Canada), Chidi Izuwah (Pipelines Asset Manager, SPDC), Smart Ogbulie (Team Lead Integrity and Capacity Assurance, SPDC) and Irina Ward **(**Principal Materials and Corrosion Engineer/Metallurgist, Projects & Technology, SGSI), with Mr Ogbulie and Ms Ward joining from the Shell Research Centre at Calgary University. The meeting was convened to discuss plans to trial "SmartBall", a pipeline inspection technology designed to detect leaks and TPI, at Shell's facilities in Canada in December 2008, ahead of its planned deployment in Nigeria in early 2009. Mr Fletcher highlighted Shell's "*urgent*" need to combat leaks and TPI in Nigeria and advised that SmartBall was a straightforward option that could be used for unlimited inspections, allowing it to be run several times a month.

104. On 22 November 2008, Ann Pickard and Mutiu Sunmonu received an email from from a sender referred to as Essi Loveth with the subject line "Underlying Truth about Iriama's Catastrophy!". Ms Loveth asked the Second Defendant to *"look beyond production"*, alleging that it was a *"usual practice"* for pipeline and area CROs [Community Relations Officers] to *"connive with pipeline guys to deliberately impact environment"* and obtain clean-up contracts. Mr Sunmonu and Ms Pickard requested a *"special audit"* to look into the allegations made.

105. On 30 November 2008, Mr Droll emailed Guus Klusener, Ann Pickard, Malcolm Brinded, Knut Engebretsen and David Martin with an update on the Iriama investigation. In particular:

105.1. The investigation team had found that the following had been key contributors to the accident:

(a) Repair work on fully operational (pressured) pipelines without shutting the line down.

(b) Lack of a holistic understanding of the production system and a single point of contact where comprehensive shut-down decisions could be made.

(c) Lack of understanding of the risk associated with hydrocarbons.

(d) Failure to intervene and stop work.

(e) Inadequate equipment used for the job.

(f) Playing down the seriousness of the event as it unfolded (with the spill not being reported to more senior levels and the emergency response team being given wholly inadequate information).

(g) Lack of compliance, combined with tolerance of bad practices by "*layers*" of supervision (with clear evidence that working on pressured lines was not an isolated event).

(h) Poor understanding of contractor staff. A large portion of the spills which the Second Defendant struggled to access were sub-contracted to community contractors and work on hydrocarbon containment was then carried out by unsupervised community contractors.

(i) The operating environment, with oil theft, sabotage and community interference.

105.2. As to the latter, Mr Droll noted that some 80 clamps had been placed on the Amukpe - Rapele line. The initial reason for these clamps had primarily been sabotage/theft but repairs were increasingly associated with repairing

previous repairs ("*around 50% of the 2008 leaks*"). He noted that "*[w]ith theft continuing, new leaks and old reappearing leaks, this will result in an unmanageable integrity challenge*" and the Second Defendant would "*need a clearer position on when it cease[d] to be responsible oil field practice to operate such lines*".

105.3. Mr Droll referred to a "*strong sense in the team*" that many of the identified failures were not unique to Iriama or the Pipelines Department. He noted that the support received from "*EPE*" and SGSI had made "*a real contribution to the investigation*".

105.4. On 30 November 2008, Malcolm Brinded responded (copying Ann Pickard) and referred to discussions he had had with Ms Pickard, Mr Droll and Mr Klusener. He referred to it being clear that "*failings are likely more widespread within SPDC operations and implicitly have likely been present for some time*". He noted that significant thought was required to understand why neither the chain line of command nor the HSE audit processes had detected such significant weaknesses, and resources from outside the "*EPG*" would be needed at various stages of the follow-up. He suggested a conference to consider how "*other parts of EP and the Group may be able to help*". He asked for assistance in ensuring that he retained legal privilege as he relayed the summary to the ExCo and the Board the following week.

106. Meanwhile, in an email exchange on 21 November 2008 between Rob van Velden (Finance Director, SPDC), Ann Pickard and others, Mr van Velden noted that the Second Defendant expected to close the year with $600m *"overdues*" which were to grow further in early 2009 and the possible need to request a *"Shell Group loan*" of $99m from the First Defendant before the end of the year. He noted difficulties in obtaining funding extensions for, *inter alia*, the NCTL, from other International Oil Companies, stating the need to "*consider Shell exclusive financing per 01.0.1.09 as fall back*".

107. On 24 November 2008, the ExCo held a meeting. Malcolm Brinded reported on a pipeline explosion in Nigeria.

108. In or around late 2008, Ann Pickard implemented a comprehensive re-organisation of the Second Defendant's security apparatus. She justified the re-organisation on the basis that the Second Defendant had not been meeting the First Defendant's international performance benchmark. The re-organisation of the security apparatus included placing four expatriates in charge of security under Ms Pickard's direct control. These expatriates ensured that security information gathered on the ground in Nigeria reached Ms Pickard directly.

109. Ms Pickard additionally provided detailed directions in respect of operational and resourcing matters including, by way of examples:

109.1. In or around December 2008, Ms Pickard visited Nigeria. By email dated 18 December 2008, she sent the notes from her conversations and observations to, Mutiu Sunmonu, Markus Droll and others, issuing extensive directions about proposed personnel to run the terminal at Boma, suggesting the placement and/or retention of individual Nigerian and expatriate staff members at the terminal, in the operational support team and in the OR&A team.

109.2. For example, in respect of the Head of Maintenance, she noted: "*I want this nailed. I don't want the mistakes and practices of the past to be lapsed into again. The terminal was in terrible shape due to neglect. I think I want an expat in there for a year or so on an overlapping back to back with a critical Nigerian to learn"*. She noted the need to "*minimise risk and work to ALARP*".

109.3. Ms Pickard expressed concern about the pre-start up audit ("**PSUA**"), including that the team had lacked in-depth knowledge. She requested additional assurance and asked that Knut Engebretsen (VP External Relations and HSSE, Africa, SEPA) or another person visit the terminal in January and provide her with an update.

109.4. By a further email of 18 December 2008, Ms Pickard wrote to Matthias Bichsel (incoming Director Projects & Technology, SGSI), Malcolm Brinded,

Simon Henry and others stating that she wanted a "*top quality person who knows terminal operations and can quickly assess the situation to come and spend a week on Bonny Terminal before it goes live*". She expressed concern that the Second Defendant's staff did not have enough knowledge for a PSUA terminal and worked in small groups, about "*what might have fallen in the cracks*". She asked for a recommendation, and the relevant Regional EVP support.

110. On 2 December 2008, internal correspondence between the Second Defendant and SEPA staff discussed supervision and HSE readiness for community-contracted *"environmental upgrade"* works at Ekulama-1. Ann Pickard and Markus Droll both expressed concern about contractor competence and lack of adequate oversight.

111. On 3 December 2008, the Board held a meeting. Jeroen van der Veer gave an in-depth explanation about the safety performance of the Shell companies since the last Board meeting and provided an update on fatalities due to a recent explosion on a condensate pipeline in Nigeria. The Board decided that safety performance and the measurement thereof would be placed on the agenda of the Board in the first half of 2009, and a full presentation would be prepared in consultation with the CSRC. Malcolm Brinded updated the Board on various issues in Nigeria including the recent explosion at an oil/condensate pipeline. He also explained that the Soku plant in Nigeria had been temporarily shut down as a precautionary measure for HSE reasons and to enable removal of illegal bunkering taps on the pipelines leading to the plant. He also reported on other issues which are redacted in the version of the document disclosed to the Claimants.

112. At a date unknown towards the end of 2008, the First and/or Second Defendant shut down the old NCTL after successive de-rating due to a significant increase in the number of oil leaks from the trunkline. The old NCTL was left *in situ* and was not removed or properly decommissioned. It was not de-oiled or flushed and effluent content estimated at 195,000 bbls remained in the trunkline.

113. At a date unknown in or around 2008, a Confidential Position Paper on Shell Security was issued. A section on "Background" recorded that whilst Corporate Affairs Security (CAS) "*provides competent staff and is accountable for security delivery at the Group and Regional Levels*", Country-level "*security competence and accountability is inconsistent and can potentially be a weak link in the security chain of some countries*". A section describing the "Current situation" recorded fragmented and inconsistent security structures, with security management and coordination in the majority of Countries being undertaken by "*generalists*" with limited competence. A section on the "Proposed situation" set out a unified, country level "One Shell" approach, under which Regional Security Managers (RSM) would be accountable for security delivery in their regions, with consolidation of security effort into competent Country-level security resources to be managed by highly competent Country Security Managers (CSM), with a "*strong dotted line*" between the CSM and relevant CAS RSM. A detailed plan on how to move from the current to the proposed situation was due to be developed by Global Security Managers. A chart appended to the plan identified Nigeria and Venezuela as the highest threat, highest materiality countries.

114. At a time unknown between 19 and 22 December 2008, Ann Pickard approved a request from Akin Ogunkoya (General Manager Onshore Assets, SPDC) to carry out activities for the removal of illegal connections on the condensate pipelines in Soku.

115. On 23 December 2008, Mutiu Sunmonu emailed senior staff of the Second Defendant and SEPA staff noting that he had just approved a variation order ("**VO**") of almost USD $30 million consequent to Saipem's inability to remobilise on the NCTL project given security concerns. Ms Pickard asked Mr Sunmonu why he was approving a VO for project work, to which he explained that he was approving this major tender on behalf of the Second Defendant's board as their chairman. Ms Pickard directed Mr Sunmonu that, whilst he could sign for the project spend, *"you should not be approving project spend"* and she wanted projects to be accountable for their budget.

116. On 24 December 2008, on a separate email chain, Markus Droll queried who should take the decision about restarting the NCTL replacement project, specifically whether this should be him or the corporate security department. Oriseh Agbarah clarified that, "*Markus, as it relates to security, we given the advise and the business/line makes the call… if you are confident of a revised/varied security plan that is workable i.e. which can achieve ALARP status, you go ahead. So, make the call*."

2009

117. In or around 2009, illegal refining began in Bille.

118. On 3 January 2009, Ann Pickard asked Knut Engebretsen and Mutiu Sunmonu to make arrangements for "Stewart" to come to the Bonny Terminal for 3-4 days "*to do an inspection/coaching, etc."* to see if the terminal was ready to accept live hydrocarbons. She suggested that enquiries be made to get "*Peter Cowie from the Middle East*" for the same period. She noted that there had been a PSUA but she wanted to take a second look.

119. Pursuant to the aforesaid, on 4 January 2009, Knut Engebretsen contacted Stewart (SIEP), noting areas that the Bonny Terminal Installation Managers had found not adequately covered in the PSUA and other areas of concern which were to be addressed, including HSSE aspects, physical readiness of the facility and the effectiveness of the controls in place. Mr Stewart was asked to propose any necessary corrective actions and form an opinion as to the readiness to safely introduce hydrocarbons.

120. At an EPG Significant Incident Review in January 2009, Malcolm Brinded raised integrity aspects of the Iriama incident and the proposed action plan.

121. On 5 January 2009 Akin Ogunkoya emailed Ann Pickard, copying in other Second Defendant employees stating that he was grateful for Ms Pickard's approval *"to carry out activities to restore the integrity and availability of the GPHSL/NCTL trunklines"*.

122. In an email exchange on 6 January 2009, Markus Droll and Ann Pickard exchanged emails about security arrangements for the NCTL project. Mr Droll provided an update on his discussions with Andrew Ross about a remobilisation security plan which Saipem had found workable. He commented that "*I think this is the only way we can support remob. If we get into the business of over-ruling the security guys – we may as well not bother to have them*". He suggested that it would be more productive if Corporate Security worked more with executing departments rather than making suggestions which can be overruled, particularly where decisions rely heavily on JTF support. Ms Pickard responded that *"[w]e will continue to disagree with the bottom line. The business owns the decision. Security should work with the business (like you said), but the final call rests with the business."*

123. On 8 January 2009, a group of staff formerly contracted to assist with the Second Defendant's oil spill response emailed Ann Pickard, expressing concern about the reduction of the Second Defendant's spill response team and seeking reinstatement after they had been laid off. In response to the same:

123.1. Mutiu Sunmonu emailed Ms Pickard, stating that the Second Defendant was handling the issue. He expressed the view that there were far too many inspectors, and that *"most of"* the inspectors contracted to assist the Second Defendant's oil spill emergency response were "*suspected to be in collusion with communities and contractors to cause sabotage spill or approve shoddy clean-up work*".

123.2. Ms Pickard responded, stating "*I don't agree with not laying off the full number [of contractors] that is required*" and recommended to "*just do it once*" so that similar problems were not repeated in the future. She stated: *"If they shut in the pipeline network, so be it. We won't go in to restart it under those cases. Its a good time for that to happen with low oil prices*."

124. On 13 January 2009, Malcolm Brinded reported to ExCo on developments in Nigeria, including the security situation.

125. On 23 January 2009, Ann Pickard emailed Oriseh Agbarah and Ian McCredie noting that the Second Defendant had made *"huge strides"* in their security organisation in the past two years, but need to take it *"onto a new level of capability, effectiveness, reliability and efficiency"*. Ms Pickard requested an *"urgent"* meeting with senior staff from the Second Defendant and SEPA staff to discuss this.

126. On 26 January 2009, Malcolm Brinded reported to ExCo on developments in Nigeria.

127. On 27 January 2009, the CSRC held a meeting. Malcolm Brinded reported on developments in Nigeria. The minutes of the meeting record that spill volumes in Nigeria had been up in 2008, largely as a result of sabotage incidents.

128. On 28 January 2009, the Board held a meeting. Jeroen van der Veer provided an update on the situation in Nigeria. Malcolm Brinded gave an update on the various issues in Nigeria and reported on the findings in the Iriama incident and follow-up actions. The Board discussed the report of the Remuneration Committee and confirmed 2008 annual bonus amounts, including of €3,750,000 for Jeroen van der Veer and €1,615,625 for Malcolm Brinded.

129. On 29 January 2009, Ann Pickard emailed Cor Zegelaar to say that she was *"sorry"* regarding the Individual Performance Factor (IPF) reduction, but that his leadership and oversight as the *"senior person in the West"* was *"missing"* and holding him accountable for allowing a *"silo mentality"* to develop *"between production and pipelines"*. Ms Pickard noted that herself and Mr Sunmonu also received *"significant IPF deductions"*.

130. Also on 29 January 2009, John Madden (Project Leader, SPDC) emailed Obi Akosa (Production Services Manager, SPDC), copying in Stewart Davidson and Markus Droll, following a presentation on recommendations arising from the Iriama incident. Mr Madden proposed more rigorous site-inspection visits for asset-integrity assurance and raised concern over longstanding field practices, noting that *"ever since I first arrived"* in Nigeria he had heard the *"anecdotal story*

that pipelines…cannot be intelligently pigged" because of the *"decades old practice of inserting wooden pegs"* to plug leaks from sabotage or corrosion in order to avoid shutdown and repair. Mr Madden suggested that all pipelines should be walked and checked for such pegs and that SPDC implement fast-track shutdown and repair where necessary.

131. In February 2009, the Second Defendant issued a document setting out the "Standards for Oil Spill Clean-up and Remediation (SPDC-2009-02-00001300)". The document stated that clean up shall be aimed at reducing the concentrations of chemicals of concern to below the intervention levels stipulated by EGASPIN. The document also set out the activity descriptions and standards for various stages of the prescribed remediation process.

132. On 6 February 2009, Malcolm Brinded submitted the Business Assurance Letter for Upstream International for 2008 to Jeroen van der Veer. The Business Assurance letter relevantly provided:

132.1. Nigeria was a *"primary governance and assurance challenge*" and was "*an area of attention with some improvements in some areas counteracted by deterioration in others*". Issues in Nigeria included security, bunkering and asset integrity issues due to security concerns.

132.2. The funding situation had improved but remained *"fragile and subject to continued management attention*".

132.3. *"The HSE MS is still not consistently and effectively being implemented throughout Nigeria. Incident investigations […] [U]nsatisfactory audit results (e.g. Well Engineering, Pipelines, AFAM PSA) have revealed several weaknesses in the way hydrocarbons are controlled and, more generally, weaknesses in the consistent implementation of the HSE MS".*

132.4. "*A backlog of legacy integrity issues exists due to security concerns, facilities access constraints and insufficient joint venture funding that has resulted in inadequate maintenance and refurbishment programs in previous*

years" and that backlog had been "*compounded by attacks on facilities, crude thefts […] Reviews of the physical condition of assets have revealed deficiencies in well, pipeline and surface facility integrity. Some sections of the major trunk-lines within SPDC have not been fully inspected and their integrity is not fully known. […] Some of the old onshore wells in SPDC do not have fitted surface controlled subsurface safety valves*".

132.5. Only 39% of staff in the Nigeria region had completed the competency assessment process, compared to 52% and 87% in other regions.

132.6. In respect of the statement "*A risk-based system of financial controls has been devised and maintained*", a qualification was entered. The qualification stated that: "*There have been instances in 2008 where transactions have been executed without approved contracts or Purchase Orders being in place, or without adequate budget cover*."

132.7. In respect of the statement "*There are no other significant financial control and accounting (including financial reporting) issues that have not been disclosed elsewhere in these assurances"*, a qualification was entered. It stated that "*SPDC continues to face under-funding challenges, principally arising from the inability of NNPC to fund their share of joint venture activities. As a result SPDC is often not able to pay contractors on time for work done in accordance with contractual terms. In late 2008 a number of funding agreements (Modified Carry Agreements) were signed with the Nigerian authorities, albeit with execution pending the fulfilment of outstanding conditions precedent. Total NNPC under-funding at end 2008 was $2.2b".*

132.8. In respect of the statement "*Business activities, including those in joint ventures, are properly organised and resourced*", a qualification was entered. The qualification stated, in respect of Nigeria: "A *review on number and calibre of Development staff indicated a structural shortage with respect to delivering the BP08 Work Programme*." This programme related to training of the area security advisors.

132.9. In respect of the statement "*There are processes in place to ensure that the Business or Function operates within the framework of applicable laws and in accordance with the ethical requirements set out in the Shell General Business Principles"*, a qualification was entered. The qualification stated that "*SPDC agreed to pay for the logistics support to the Nigerian government security forces (JTF) via arms length contractual arrangements in compliance with Voluntary Principle on Security and Human Rights. Audit however observed instances of direct SPDC involvement that could potentially breach the contractual "arms-length" safeguards in place and negatively impact reputation*."

133. On 9 February 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation.

134. In February 2009, Malcolm Brinded reviewed integrity issues associated with the Iriama incident and the failure of block valves to stop the flow of oil during the incident. In particular:

134.1. On 13 February 2009, Mark Corner referred to concerns raised by Mr Brinded and Ann Pickard regarding the quality of the Second Defendant's technical integrity data and the apparent disconnect between high preventative maintenance compliance numbers and "*the visible state of the kit and low reliability of some of it*". He noted that preventative maintenance compliance was only reported for Safety Critical Equipment ("**SCEs**"). He stated that the Second Defendant's pipelines did not have Emergency Shutdown Devices ("**ESDs**"). He further stated that Mutiu Sunmonu had asked for support in determining the appropriate pipeline clamping philosophy, including whether it was an acceptable long-term repair. Edwin Blom (Upstream Global Discipline Head, Maintenance & Integrity and Logistics, SIEP) was to coordinate this with the pipeline P&T Engineering ("**PTE**").

134.2. On 24 February 2009, Malcolm Brinded included Ann Pickard in the email chain, noting that "*Legal always need to be an addressee to increase the*

chances of keeping privilege" and recommended that she consider asking Mutiu Sunmonu/Markus Droll whether pipeline isolation valves should be considered Safety Critical Equipment in Nigeria "*given that breaches of integrity from bunkering are so prevalent*". On a date unknown, measures were taken to ensure they were so treated.

135. On 24 February 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production levels.

136. In March 2009, the Second Defendant finalised its 2009 Corporate Security Business Plan. It recorded TPI which "*persisted throughout the year to a very large degree unchecked, despite the presence of government security forces*", resulting in extreme environmental damage at Soku. A "*jigsaw strategy*" for security was proposed, namely deployment of community surveillance and government security forces ("**GSF**"), with focus, for onshore assets in challenging environments, on "*deterrence, detection and denial*". Key focus areas included compliance with the Group Security Standard (GSS), especially in respect of formal Security Risk Assessments (SRA). A section on 'Funding' recorded cost-saving measures under evaluation, including "*alignment of security resources with production*".

137. On 3 March 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation.

138. In early March 2009, Markus Droll and Ann Pickard exchanged emails about the approach to security contracting. In particular:

138.1. On 4 March 2009, Paul Hesham (Exploration & Production Regional Supply Chain Manager, Sub-Saharan Africa, SEPA) emailed Markus Droll about concerns raised about escalating costs of disruption of the Second Defendant's projects, suggesting that "*we will save a lot of money in SPDC projects if we can assign disruption risk to contractors who are better placed to manage communities and security issues than we are*". He referred to Ms Pickard having made a request in January on how to "*contain cost in projects*"

and a confidential submission having been made on this to the management board.

138.2. In an email on 5 March 2009, Mr Droll responded that he was not comfortable with "*just letting contractors get on with managing the security*" and had concerns that *"in the end we retain full responsibility – at least in a reputation sense – for everything our contractors will do 'in our name'*". He added:

> "*So, I would need to understand much better how we would ensure that contractors would handle security in a manner that is compatible with our* [Shell Group's Business Principles ("**SGBPs**")] *.... I think it is pretty pointless comparing NCTL construction costs with a pipeline offshore India or elsewhere in the world. Fortunately for those people, nobody has to put up with circumstances like the ones we are seeing on NCTL.*
>
> *Even a comparison with a Delta pipe a few years ago is not very meaningful - I think we should just check if the replacement still makes economic sense with the latest view on costs (pretty sure it will though). We should raise a new/revised GIP if we can see that currently approved funds are not enough - or are close to getting exceeded.*"

138.3. In an email on 9 March 2009, Ms Pickard responded that "*I worry that you and I are giving different comments*" and *"[w]e can't remain divided on the issue*".

138.4. In his email response on the same date, Mr Droll stated:

> "*I do indeed worry that we abdicate our responsibility, but in reality we retain the reputational exposure fully. Shell's SGBPs are tight and stringent. I am convinced that most of the international contractors are more relaxed. And once we start applying this principle to local contractors, we will completely lose control. There is a useful analogy*

on this if you consider HSE - we wouldn't dream of letting go of control on that.

Sorry, am difficult on this I know - but I feel pretty strong about the principles involved, and I probably need more education on how this is supposed to work".

139. Around the same time, Markus Droll also exchanged emails about contractors with Chris Haynes (EVP Upstream Major Projects, SIEP) and Andrew Birch. In particular:

139.1. The exchange concerned a prior email from Babs Omotowa (VP Infrastructure & Logistics, SPDC) to Ann Pickard, raising concerns that Shell had taken over the risk and responsibility of security and set standards which removed the incentive for contractors to deliver projects in a timely or cost-effective manner.

139.2. In an email of 9 March 2009, Mr Haynes suggested taking stock to question the project execution model in the Niger Delta and the form of contracts used. He supported changes to eliminate risk premia paid to contractors without benefit to Shell. He stated: "*I would be careful on your part to accept any 'headline making' changes that reduce technical quality of end product but don't really reduce the real/true exposures/risks."*

139.3. In his response dated 11 March 2009, Mr Droll queried whether in his discussions Mr Haynes had looked at a different approach to security, which he understood was an area being pushed by the Security Contract Manager.

139.4. Mr Haynes responded on 11 March 2009, stating that one of the issues was who carried the risk for security-related downtime of infrastructure. He stated that how to handle security exposure operationally and contractually should be *"one of the primary inputs*" into the Second Defendant's contracting strategy. He recommended a workshop of experienced persons to consider the options.

139.5. In his response of 12 March 2009, Mr Droll stated that the impact on SGBPs needed to be looked at very carefully with respect to security. He said: "*my worry is that we end with a cowboy contractor (and let's face it we don't always control who we get....), who does something stupid, and it's all done in the name of Shell*."

140. On 6 March 2009, Knut Engebretsen emailed the "SEPA EPGLT" inbox (which the Claimants understand stands for the SEPA EGP leadership team) update how to *"focus more"* on the Significant and High Potential Incidents by the EPG Leadership Team. Ann Pickard forwarded the email to David Martin and Malcolm Brinded, noting that she was changing the way such incidents were reviewed away from her reviewing them with HSE to a collective weekly review as a leadership team to create *"More ownership and more embedding"*.

141. On 11 March 2009, the Second Defendant finalised its Security Procedures Protocol. The protocol provided procedural instructions on implementation of the Shell EP Nigeria Security Management System (SMS) Protocol and Shell EP Nigeria Security Policy. In particular, the Protocol:

141.1. Provided for Baseline Security Performance Criteria, which included minimum standards for Security Operating Levels ("**SOLs**") to be classified as green. Such criteria were developed for a wide range of areas, such as: Security Management; Security Risk Assessment; Facility Security Plans; Security Operating Levels; Compliance with applicable laws; Budgeting; Perimeter Barriers; Access Controls; CCTV; Intruder Alarm Systems; Protective Lighting; Guard Service Operations; Incident Reporting and Investigation. Shell EP Nigeria developed a "BSPC [Baseline Security Performance Criteria] Compliance Review Checklist", which enabled Business Unit Security and Asset Managers to ensure Security Operating Procedures meet minimum mandatory requirements.

141.2. Described SINC as an "all-source" security threat information collection and analysis centre which reviewed security threat levels ("**STLs**") on asset-

location, area and transportation basis, generated SINC Early Warning Reports and Information Reports for security threats, SINC Significant Incident Summaries every 14 days to provide overviews of hotspots, trends and activity, and SINC Assessments Papers every three to four months on the assessment of such trends. The purpose of the STL was stated to be assisting Shell EP Nigeria in determining/implementing Security Operating Levels; and "*Inform strategic decision making at Group level".*

141.3. Described SOLs as locally determined security risk mitigation measures that were designed to provide a framework for management to determine appropriate levels of security countermeasures and respond to threats. The four SOLs were green (baseline), amber, red and black. Whenever a SOL higher than Green was in force, "*additional security countermeasures have been identified within Shell EP Nigeria on an asset location or activity basis*".

141.4. Security Risk Assessments were to be carried out to identify risks to assets and operations, and Asset Managers were to provide documented demonstration that implementation of countermeasures has reduced security risks to 'Tolerable" or ALARP.

141.5. Facility Security Plans were to be prepared for individual facilities.

141.6. Security Operating Procedures documented procedures for specified security activities and operations.

141.7. Emergency Response Procedures were developed jointly at business and country levels by Shell EP Nigeria in accordance with the Group Emergency Response Manual.

142. On 11 March 2009, the Board held a meeting. Peter Voser reported on HSE performance in 2009 to date, including: one fatality related to a security incident in Nigeria, a significant oil spill which had occurred due to an attack on the 24" Trans-Ecarvos pipeline in Nigeria, and otherwise on the developments and

concerns in Nigeria. The Chairman of the CSRC reported on discussions with members of the review committee of the Sustainability Report, noting that concerns centred on matters in Nigeria. The Board was briefed on a number of security (Soku plant) and funding issues in Nigeria (amongst other issues which are redacted in the version of the document disclosed to the Claimants, in addition to the identity of the individual who delivered this briefing).

143. In an email exchange on 12 and 13 March 2009, Rob van Velden, Markus Droll, Mutiu Sunmonu, Bernard Bos (VP Finance, Upstream - Africa, SEPA) and others exchanged emails about the Second Defendant's cash flow problems because of significant overdues and the option of getting exclusive funding from the First Defendant. In particular:

143.1. In an email of 12 March 2009, Mr van Velden described the situation as "*no longer tenable*" and proposed a number of suggested actions including (i) to "*use the remaining $100M within Shell Group borrowing limit to alleviate immediate cash pressures effective April*" and (ii) "*[s]ubject to further delay on MCA [Modified Carry Agreement] cp's beyond April agree IOC or Shell exclusive funding for NCTL and GU"*.

143.2. Mr Bos responded, agreeing with some of the suggested actions. In respect of (i) he stated that this was a "*last resort*" and, in respect of (ii) "*let's see where we are end March. We are working hard to get the CP's sorted*".

143.3. On 13 March 2009, Mr Droll responded that Mr van Velden's suggestions made sense, stating that he did not want to "*wait until the end of March to start working out what plan B is*".

143.4. On 13 March 2009, Mr Bos responded:

> "*About your plan B, for GU as well as EA it seems we have reached the point of no return. It means it would be more costly to stop the projects now, than to continue and finish it. So if we cannot get the partners on board, by exercising maximum pressure on them (albeit from a lousy*

negotiation point of view), Shell may be left to fund it exclusively. ***As Peter Voser*** *has put a cap on this, and we are already very close to that cap, it would mean going back to him to increase the I/G loan, and this will not reflect very well on all of us. Also we are exposed in terms of cost recovery, partner sharing of costs, tax deductibility, etc."*

144. On 24 March 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation.

145. In March 2009, Basil Omiyi prepared a presentation on "Managing Environmental Oil Spill Eye Sores". The presentation:

145.1. Noted access problems as an issue affecting clean-up activity and referred to "*vandalism of pipelines in order to generate clean-up job*s".

145.2. Made various recommendations for the way forward including: accelerating clean-up of all existing oil spill sites, making oil spill clean-up contracts unattractive in order to discourage community vandals from creating spill for economic gains through clean-up contracts, strengthening surveillance and changing payment practice (no additional payment made for clean-up in event any oil spill in contractor area of coverage), organising raids, burying the river crossing manifold and removing the block valves, undertaking deep burial "*about 10m depth of the trunk lines to make them inaccessible to criminals*", intensifying external and internal protection against corrosion – via deployment of Pipeline Integrity Management System ("**PIMS**"), and timely compensation of third parties in case of non-sabotage incidents.

145.3. Included "*New Ideas*" around leak prevention including Right of Way ("**RoW**") surveillance training, standardising contract rates, contract compliance monitoring, and performance related pay, response improvements, and physical security improvements.

146. On 30 March 2009 Ann Pickard emailed Mutiu Sunmonu in an email with subject "*Going after every barrel*", copying in Marcus Droll and others expressing a concern that '*our ops people, SPDC in particular, have come to see low production as acceptable*". She asked him to consider a production campaign or some other means to re-launch an effort to fight for the production of barrels. Mutui Sunmonu responded that a programme was to be launched on 17 April to take production to 500 Mbopd (excluding EA) over the next three months.

147. In April 2009, Robert Boulstridge (Pipeline and Subsea Integrity Operations, Projects and Technology, Shell Global Solutions Netherlands ("**SGS NL**")), Joe Dim (Regional Pipeline Discipline Head, Sub-Saharan Africa, SPDC) and Jurgen Janzen signed the Pipeline Repairs DEP 31.40.60.12-SPDC, that is, the First Defendant's DEP as amended specifically for the Second Defendant ("**the SPDC Pipeline Repairs DEP**"). The revision was stated to have been "*as a result of the significant number of clamps in use*" to repair defects with pipelines, including those caused by third parties such as illegal tapping points and hacksaw cuts. Of note, the SPDC Pipeline Repairs DEP provided:

147.1. In relation to *"correction of injurious defects"*, the SPDC Pipeline Repairs DEP amended the Pipeline Repairs DEP to broaden the circumstances in which the Second Defendant would be permitted to use clamps for repairs, as opposed to having to replace defective pipeline segments. In particular, the SPDC Pipeline Repairs DEP:

(a) Removed wording in the Pipeline Repairs DEP, stating that: the "*preferred repair philosophy*" was "*replacement of the defective segment of the pipe*"; "*temporary repair*" would be acceptable only "*until replacement can be carried out*"; and "*permanent repair"* would be acceptable only "*if replacement* [of defective pipe segments] *is not practical*"; and provided instead that "*[i]f replacement is not practical, then a pressure containing clamps* [sic] *may be used for leaking and non-leaking defects subject to performing the inspections as specified in (7.5)*" (section 6.2).

(b) Permitted that pressure containing clamps "*may be installed as a permanent repair"* (removing the provision that they were only permitted for "*temporary repairs for up to a maximum of two years*"). That, however, was subject to requirements that:

(i) "*All soil at all locations where this clamp is in use shall be inspected annually for signs of contamination"* and, if contamination is observed, the pipelines shall be depressurised; and

(ii) Such clamps "*shall not be encased in concrete or otherwise*" (section 7.5).

(c) Permitted that *"[l]eak clamps* [lighter weight clamps with a single draw bolt, compared to pressure-containing clamps] *are allowed for the temporary repair of leaking local internal corrosion defects or leaks from drilled holes provided the pipe section with the leak clamp is not backfilled and the clamp is monitored for sign of leakage until permanent repair"* (section 6.2). Such clamps should be replaced with permanent repairs within six months, and should only be used in areas with "*low risk of third party interference*" (section 7.6).

(d) Removed the requirement that "*[t]emporary or permanent repairs with the line under pressure should be restricted to situations where shutdown would result in unacceptable interruption of the use of the pipeline or when the hazards created by removing fluid and/or cutting the pipe cannot be tolerated"* (section 8.1).

(e) Removed (i) the condition that alternative repair methods may only be used when depressurisation and pipe replacement is not possible and (ii) the provision that "*repairs required to remain on the pipeline for a period longer than 2 years should not be considered as temporary*", increasing the time in which temporary repairs could be relied upon (section 8.2).

148. The aforesaid revisions were not permitted in the globally applicable Pipeline Repair DEP. The Second Defendant required permission from the First Defendant to deviate from the relevant Group-level technical practices.

149. On 6 April 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and status of the MCA.

150. On 13 April 2009, SINC prepared an overview document, titled "The Impact of Poor Security on Oil and Gas Production Operations", in which it recognised that the "*lack of an effective security forces presence on* [NCTL]" created a favourable environment for TPI, with a clear correlation between the presence of militant camps and bunkering activity.

151. On 22 April 2009, Mutiu Sunmonu received notification of a Fountain Incident regarding a leak reported on the Djebu creek delivery line. In a follow-up email, Harold Nwokolo (SC Chairman, SPDC) emailed Tony Attah (VP Safety & Environment, SPDC) listing a number of challenges which he considered responsible for TPI, including increased criminality in the Niger Delta, inadequate security, intelligence, information gathering and response culpability; ineffective surveillance services in some parts of the field location; ineffective compliance monitoring team as few personnel overseeing wide coverage owing to poor funding; delayed payments to surveillance contractors; few SPDC staff/personnel on ground managing surveillance services contracts; disparity of payments across the fields; lack of refresher training for surveillance guards and their contractors due to frequent changes; slow pace or non-closure of legacy projects; ad-hoc repair contractors on call-off contractors; no inventory of traders or vendors who deal on disused flowlines and pipelines; no specific trending of flowline vandalization incidents to confirm vulnerable areas requiring allocation by more resources and greater attention by security Operations and surveillance guards; "*doubtful loyalties of most of the external security personnel*" including JTF; erring or non-performance contractors not punished enough or replaced.

152. On 25 April 2009, Markus Droll was copied into an email from Lawrence Ajuyah (Major Projects Manager – Pipelines, SPDC) providing a summary of the NCTL's

Director brief for the week ending 23 April 2009. Forwarding the email to Ann Pickard, Mr Droll noted that a *"tough decision"* was approaching regarding Nestoil, with contract termination justified but risking *"major political fall-out"*. Ms Pickard responded that this was *"why they pay us the 'big' bucks"*.

153. Between 6 May and 25 June 2009, email discussions took place with respect to a Project Controls Audit of the NCTL replacement project (EPG 2009.002). The audit findings were rated *"HIGH"*, raising concerns about the project's governance and control environment.

154. On 11 May 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production figures.

155. Between 14 and 15 May 2009, Ann Pickard, Per Halvorsen (Health, Safety, Environment Manager & Head of Exploration Production Africa, SNEPCO) and Chika Pat-Obiora (Assurance Coordinator, SNEPCO) exchanged emails about a Fountain Assurance item entered in respect of the replacement of the TNP. Ms Pickard stated that "*I have given endless lectures that you need to own your audits and the audit outcomes. And that if the auditor tries to put something ignorant into the actions, the auditee needs to prevent it from happening"*. She added: *"if you think that is a legitimate action, then you take the action for delivery, and report to me each week in detail why you have not succeeded in delivery. […] I have to explain to my boss when something is not delivered in Fountain, and when this is not delivered, I guarantee you that I will not be the one taking the blame*."

156. On 15 May 2009, in an email to Nkesi Wahua (Head of Asset Management, SPDC) regarding a draft audit report on the NCTL replacement project, Markus Droll stated that the majority of the delays and cost-overruns were due to security or "*SPDC funding shortfall*".

157. On 18 May 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production figures.

158. On 20 May 2009, the Board held a meeting. Malcolm Brinded updated the Board on ongoing challenges in Nigeria, including the Soku shut down, production levels and security issues (amongst other issues which are redacted in the version of the document disclosed to the Claimants).

159. On 25 May 2009, Ann Pickard emailed Elohor Aiboni (Business Analyst to EVP of Sub-Saharan Africa, SEPA) regarding the forecast recovery of the Old NCTL coming back up. Ms Pickard asked Mr Aiboni to reconcile an assumption that the Saipem-replaced section could operate at 20 barg, given that Nembe/Belema sections were operating at 8 barg. Mr Aiboni confirmed the assumption was based on re-rating the full line to 20 barg following completion of a 17 km section. Markus Droll expressed scepticism, noting that, assuming the pressure limits cited by Ms Pickard had been based on the remaining wall thickness, there was no clear basis for improvement, describing the explanation as *"fishy"* and stating he would review the issue on return to Nigeria.

160. In or around 26 June 2009, the Nigerian President announced an amnesty program offering a pardon and various incentives to militants in the Niger Delta. The Defendants' internal documents show that the Defendants acknowledged that the general security situation in the Bille region improved as a result of the amnesty, but crude oil theft continued to proliferate.

161. On 4 June 2009, during or after a visit to Nigeria, Markus Droll emailed Ann Pickard and Mutiu Sunmonu with a detailed update following a meeting with the Managing Director of Saipem on the work to date, and to be done on the construction of the new NCTL. He noted that "*we need better JTF support, or this is going pear shaped".*

162. On 9 June 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation.

163. On 15 June 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production figures.

164. On 24 June 2009, the Board held a meeting. Simon Henry briefed the Board on the financial and performance issues related to developments in Nigeria including arrears in payments, taxation and production "shut-ins" due to attacks and OPEC restrictions (amongst other issues which are redacted in the version of the document provided to the Claimants). Malcolm Brinded reported on the situation in Nigeria, sharing that a number of serious attacks on oil pipelines were affecting the onshore oil production and operations (amongst other issues which are redacted in the version of the document provided to the Claimants).

165. At a date unknown in or around July 2009, Peter Voser replaced Jeroen van der Veer as the CEO of the First Defendant. Around the same time, Simon Henry was appointed as the CFO of the First Defendant.

166. On 1 July 2009, Malcolm Brinded emailed Peter Voser to report an attack on two of the Second Defendant's well heads that occurred on 29 June 2009. Mr Voser responded the same morning, commenting that this was a "*further terrible incident*" and requesting an overview of "*how much is now shut in*" and a comparison of "*normal capacity*" against "*current production*" and "*plan*". His request triggered an immediate instruction from Mr Brinded to staff to deliver detailed production, capacity and restoration data by the next day. Following that instruction, on 2 July 2009, Markus Droll circulated a five-slide pack providing that information.

167. On 7 July 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production figures.

168. On 20 July 2009 the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation, "*the bridge loan and MCAs*".

169. On 27 July 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation.

170. On 28 July 2009, the CSRC held a meeting. The CSRC noted that the reduced performance for on-time inspection of EP pipelines was driven by the security situation in Nigeria (as 60% of EP pipelines were in Nigeria). The CSRC agreed to potentially visit Nigeria during Q4 2010, if the security situation was stable. Malcolm Brinded updated the CSRC on the ongoing "*serious security situation*" in Nigeria.

171. On 29 July 2009, Shell Exploration and Production Companies in Nigeria ("**SEPCIN**") and the Second Defendant published a "Nigeria 2009 Post Amnesty Security Risk Assessment" with reference, *inter alia* to the Shell Group Security Standards. The total score given in the assessment to the risk of TPI on pipelines was 10. The assessments stated that subsequent conduct of full Security Risk Assessments was required for assets scoring 7 or higher. The assessment proposed countermeasures to the risk of attacks on pipelines, including supporting community surveillance contracts "*with robust communications plan and response forces*." The assessment recognised the close correlation between militancy and oil theft, and its *"well documented links*" and "*inside collusion within [Government Security Forces], Political and [International Oil Company] management".*

172. On 19 August 2009, Ann Pickard forwarded a spill notification from the Emergency-Control-West mailbox to senior Shell Group staff, including Malcolm Brinded and Maarten Wetselaar (EVP Finance, Upstream International, SIEP), noting that *"We are watching this closely"*. Ms Pickard described the hydrocarbon risks as *"pretty extreme"*, and relayed that the focus would be on *"containing the impact"* of the spill rather than *"fixing the root problem"*.

173. On 28 August 2009, Shell Corporate Security issued a draft update to the "Shell Nigeria Country Security Plan", a high-level plan setting out procedures in place to safeguard company assets. The plan recorded that Group Security Standards required "*all Shell facilities to complete annual security risk assessments in accordance with the Group Security Protocol*" with such assessments to be completed by "*appropriately qualified staff*".

174. On 31 August 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and a well-head leak.

175. In or around the last quarter of 2009, in light of the recognised environmental impact of spills, Shell Nigeria leadership reviewed the Oil Spill Management Process and set up a dedicated team to manage environmental remediation and related local regulatory certification. In the final quarter of 2009, at a date unknown, the Second Defendant established a Remediation Project Team to address the legacy issue of 439 backlog oil spill sites which required remedial action.

176. On 1 September 2009, Bernard Bos emailed Ann Pickard in relation to the circulation of updated Nigeria production forecasts for Board reporting. Ms Pickard questioned why production figures were being included without her prior sign-off, stating that *"production and safety are the two things I am most sensitive to"*. Mr Bos replied that he would defer to Ms Pickard in the future.

177. Also on 2 September 2009, Markus Droll, Ann Pickard and Babs Omotowa (SPDC) communicated about a well on fire at Jones Creek. Ms Pickard instructed Mr Omotowa to *"keep a close eye on this and err on the side of over providing help"*, to keep security *"fully in the loop"*, as well as to inform her if *"outside help"* is required.

178. On 3 September 2009, Ann Pickard emailed Mutiu Sunmonu, Babs Omotowa and Osagie Okunbor (VP Human Resources, SEPA), copying in Markus Droll and others on the subject of remediation/reputation. She expressed concern that the Second Defendant was still attacking spills piecemeal and wanted "*us to step back and take a look at a more comprehensive plan with various work streams under it"*. In addition to the new remediation team being set up under Jurgen Janzen, she identified the need for a truly independent team to investigate every claim under the Amnesty International report (on which see further in the paragraph below), and other reports coming out. She added "*I don't expect to see the normal SPDC white wash of these events".* She also wanted a project manager to come up with an action plan and an oversight committee "*or DRB (to use the current lingo*) *that*

includes the cx side, pipelines, environmental, and so forth. She asked the email recipients to discuss the matter that week and come back with some options. She also suggested drawing "*help from the centre*" to supplement what was already available.

179. On 5 September 2009, Malcolm Brinded emailed Christopher Finlayson (EVP Russia/CIS, Shell Exploration and Production Services (RF) B.V), Keith Ruddock, Gerard Penning (EVP HR Global Functions, SIEP), Ann Pickard and others regarding critical reports from Amnesty International and ECCR received earlier that year regarding pipeline spills and remediation and the impact on the environment and communities. In particular:

179.1. He noted that both reports needed to be considered "*in context of ongoing threats in Nigeria (security and commercial), our global reputation"* and then ongoing legal action in the Netherlands. Amnesty International had demanded a response from Peter Voser in 100 days.

179.2. He referred to previous discussions with Ann Pickard, Nick Wood (VP Communications, Upstream International , SIEP) and Nick Welch (Global Head of Policy and Stakeholder Relations, Shell International) and the decision to proceed with two strands of work, one responding to Amnesty International (he stated "*we will meet them but try to avoid a prolonged debate and do not intend to furnish much specific further information"*), the other a more in-depth review in Nigeria of "*our whole approach to spill investigation, remediation and associated community issues*", including inventorising major legacy issues, future policies and procedures and the preferred remediation approach.

179.3. He added that the review would encompass work which Ms Pickard had done already to update capability and "*for over a year she has been looking to beef up the pipeline remediation team with suitable expats"*.

179.4. He added that it needed to be considered whether some or much of the work should be done under legal privilege.

179.5. He asked for support in identifying a project manager to support Ms Pickard and Mr Sunmonu and identifying experts from within the Shell Group who could work temporarily in Nigeria to support the Second Defendant in the areas of pipeline engineering, maintenance, environment and oil spill clean-up.

180. On 5 September 2009, Matthias Bichsel responded stating: "*let me know where you would want me to put more pressure on in the system. I certainly think we can put a taskforce together re pipelines/maintenance etc and I will check what we have in the DS group who has have been working on remediation of sites.*" He stated that he had always felt reluctance "*from within the lower ranks*" of the Second Defendant to come up with clarity on what they needed.

181. On 8 September 2009, Ann Pickard emailed Gerard Penning, David Martin and Greg Guidry (EVP Europe, Upstream, Shell International) (copying in Malcolm Brinded and Osagie Okunbor) setting out her requirements for staffing the Second Defendant's new remediation group, looking for two "*expats*". She wanted an "*expat*" to fill either the position of divisional head of remediation or project engineer. She added that a new position in Production at EC-3 level was identified, called Competence Improvement Manager. This was meant to be part of the project to "*beef up this org so that Mutiu [Sunmonu] [could] assume country chair*". She added that key learnings after the Iriama incident had identified "*very low competencies across the entire production*" organisation. She identified "*embedding/sustaining*" as the key problem.

182. On 13 September 2009, Malcolm Brinded sent an email to Gerard Penning asking him to follow up on the email above, and emphasised the need to get the issues resolved and mobilise "*good quality help*" to Nigeria, otherwise Ms Pickard would get even more critical of "*the centre*". Mr Penning responded, confirming that he could follow up with David Martin and have a telecon with Osagie Okunbor to "*ensure we keep the parts connected*".

183. On 21 September 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production figures.

184. At a date unknown towards the end of 2009, the First Defendant implemented the Transition 2009 programme, pursuant to which P&T and Upstream International were created as Businesses within the Shell Group (explained at paragraphs **).

185. At a date unknown in October 2009, Malcolm Brinded visited Nigeria. During his visit, Mr Brinded participated in a helicopter overflight of the Niger Delta with Ann Pickard.

186. On 7 October 2009, Shell Internal Audit ("**SIA**") issued an audit report of the NCTL Replacement Project, titled "EPG-2009.002 NCTL Replacement Project". The audit received an unsatisfactory rating, noting ineffective project schedule and cost controls, poor contractual risk allocation and inadequate Project Delivery Assurance Board ("**PDAB**") steerage.

187. On 20 October 2009, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation, production figures, and the Second Defendant's funding. The minutes recorded Peter Voser's "*request to be apprised of the reason(s) for any "Serious" and significant "High" severity items being overdue in the Fountain Assurance Tracking system".* The ExCo and CEO engaged in a detailed evaluation of audit reports, incident and risk management materials, and – in particular – commented on the scope of JV audits and Nigeria audits planned in 2010.

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188. On 27 October 2009, the CSRC held a meeting. The CSRC discussed the HSSE Assurance Report and Plan for 2010, noting deferrals in the audit programme, mainly due to security issues in Nigeria, as well as changes to project timelines and unplanned shutdowns of plant and equipment. The CSRC noted that the main challenge in Nigeria was around executing actions already identified and progressing existing work programmes before re-audit. The dates for planned CSRC Q4 2010 visits to Nigeria (if the security situation was stable) were to be

confirmed in due course. Malcolm Brinded informed the CSRC that despite the amnesty, sabotage of facilities continued to cause "*major problems"*.

189. On 28 October 2009, the Board held a meeting. Peter Voser reported on the HSSE performance of Shell over the third quarter and the aggregate over the three quarters. Malcolm Brinded presented on the status of the projects and pending matters in Nigeria, including safety and security (amongst other issues which are redacted in the version of the document disclosed to the Claimants). Simon Henry briefed the Board about the Second Defendant's Nigeria funding and cash generation.

190. On an unknown date after 29 October 2009, Mutiu Sunmonu approved a strategy to execute a Pipeline Fix programme for backlog activities in pipeline maintenance, with target completion by the end of 2011.

191. On 9 November 2009, a document containing draft findings and recommendations of the Shell Biodiversity Action Plan (BAP) Review was drafted with input from a number of senior Shell Group staff The distribution list was limited to the Shell-IUCN Steering Committee members. The report summarised the BAP review desk study and field data collection exercise undertaken to assess the suitability of a BAP as a tool to manage biodiversity within Shell, including its conclusions and recommendations.

192. On 25 November 2009, Peter Voser sought the ExCo's endorsement to re-launch of the simplified HSSE Control Framework with effect from 1 January 2010 (see paragraphs **). A "Note for Discussion: THE HSSE & SP CONTROL FRAMEWORK" records that the HSSE & SP Executive would "*oversee the implementation of the Standards and supporting Manuals to ensure a consistent approach*", each Business would conduct a gap analysis and full implementation would be completed by the end of 2013. From 2010, the HSSE & SP Executive convened for regular meetings. In each meeting, Business and Discipline VPs reported on HSSE performance, risk and assurance to the HSSE & SP Executive.

193. On 26 November 2009, Andy Bell (Manager Integrated Charge Evaluation and Asset Geochemistry, Projects & Technology. SGSI) approved a Cost Time Resource ("**CTR**") for Phase Two of technical work on fingerprinting of crude oil in Nigeria, aimed at addressing TPI (the "**Shell Fingerprinting Project**"). The approval was forwarded by Edwin Verdonk (VP Expertise & Deployment, Global Solutions Upstream, Projects and Technology, Shell International) to Thijs Jurgens (Senior Advisor Europe and Sub-Saharan Africa, Shell International) for "*perusal (and funding)*".[3]

194. On 1 December 2009, the ExCo held a meeting. Malcolm Brinded reported to ExCo on developments in Nigeria, including the security situation and the political environment, referring to "*positive effects of the government amnesty programme*".

195. Between 2 and 3 December 2009, Malcolm Brinded had an email exchange with Ann Pickard regarding project management of the Second Defendant's pipeline work:

195.1. On 2 December 2009 Mr Brinded emailed Ms Pickard checking whether she had the project manager (discussed in September, as described at paragraph ** above) in place to support the oversight of the Second Defendant's pipeline work. He was concerned about any further delay in "*defining/launching the wider scope*" they had discussed, and emphasised it was between Ms Pickard and Chris Haynes to get the right resource. He expressed his concern about the CAST programme, noting: "*if they are left without additional training and meaningful duties to enable them to see some potential for progression in their responsibility/role/salary these youths will become increasingly resentful and (I would imagine) yet another additional collaboration force with the theft activities."*

195.2. On 3 December 2009, Ms Pickard responded, in respect of the project manager position, that Chris Haynes and Richard Crichton (Shell) had suggested a person in country but this did not work for her as she wanted a "*dedicated resource*". She expressed frustration about the time it had taken her to "*to get people placed in this transition*", noting the support from Upstream

International Leadership Team ("**UILT**") but commenting that "*UA* [Upstream Americas] *and PT* [Projects and Technology] *don't have the same commitment*".

195.3. Mr Brinded responded that he would push "*Gerard* [Penning]/*HR*" on the issue.

196. On 3 December 2009, David Martin emailed Malcolm Brinded to clarify that the Q3 oil spill volumes included in the HSE performance material read at an ExCo meeting did not reflect *"several theft/sabotage events (on wells)"* which led to *"sizeable hydrocarbon releases"* and estimated to contribute an additional "*+/- 120,000bbls".* Mr Brinded responded that Peter Voser, Matthias Bichsel or himself will have to *"make this point verbally at the Board*".

197. On 8 December 2009, Peter Voser and Malcolm Brinded discussed data about oil spill volumes, including sabotage spills, in Nigeria before this information was provided to the Board. In particular:

197.1. Mr Brinded stated that the new data "*will surely cause… them real concern*", explaining that:

> "*Simply put: we will add 16.000 tonnes (equaling 120.000 barrels) to the 4.400 tonnes YTD total RDS spillage reported in the Board Book. This will take us to a level that is already 3 to 4 times the average we have reported since 2002 and way above any single year*".
>
> *This is clearly a major concern, but having seen much of it in my recent visits to Nigeria, I can well believe it. I have of course regularly mentioned the incidents to the Board.*"

197.2. Mr Voser responded that the figures were "*much more than anticipated. Of course full transparency to the board on the volume and source of the spill* ".

198. On 9 December 2009, the Board held a meeting. Malcolm Brinded reported to the Board on the safety and security situation in Nigeria and the effects of the Nigerian government's amnesty programme, which had resulted in increased production (amongst other issues which are redacted in the version of the document disclosed to the Claimants). Malcolm Brinded also informed the Board that data on cumulative annual oil spill volumes in Nigeria was not yet certain, but indications were that the quantity was significant, with the spills caused mainly by sabotage.

199. In December 2009, Ann Pickard was informed of allegations that the Second Defendant's Head of Security in the West, Agans Aganmwonyi (General Manager Security, SPDC), had colluded with several other senior security staff (community relations officer, area security adviser for Wells West and a district security supervisor) in bunkering activities. The allegations were referred to the First Defendant's Business Integrity Department for investigation. The resulting report is described below at paragraph **.

200. On 25 December 2009, Ann Pickard sent to Malcolm Brinded, Chris Haynes, Gerard Penning and others, a slide pack for an Environmental Improvement Programme, prepared by Mutiu Sunmonu. She also returned to the recruitment discussions earlier that year and noted that she was now looking for a Business Opportunity Manager (instead of a Project Manager). She confirmed that the Right of Way Manager position would be offered to James Stark (Right of Way Manager, SPDC).

201. On a date unknown in December 2009, Ian Craig (incoming EVP, Sub-Saharan Africa, Upstream, SEPA) and Mutiu Sunmonu signed off on and Malcolm Brinded supported the carrying out of a Nigeria Sustainable Development and Reputation Strategy Review.

January 2010

202. In response to the environmental spill incidents in Nigeria in 2009, Shell in Nigeria set up an Environmental Management Improvement Program ("**EMIP**") headed by the Business Opportunity Manager ("**BOM**"). The EMIP programme was tasked with clearing the outstanding maintenance backlog as part of a "Pipeline

Maintenance Backlog" workstream. EMIP was given a two year period starting from 2010 to clear all outstanding maintenance backlogs.

203. In January 2010, the Second Defendant introduced a "Remediation Management System" ("**RMS**"), which demonstrated and explained how SEPCIN managed remediation of oil impacted sites. The RMS relevantly provided as follows:

203.1. SEPCIN's policy on environmental issues related to contaminated soil and groundwater was to:

"Carry out Environmental Impact Assessments and Environmental Evaluation Reviews in relation to all aspects of the natural and social environment that may affect, or may be affected by its activities
Limit the nature and extent of any residual negative impacts, however caused, such that they are as low as reasonably practicable
Consult relevant stakeholders
Leave the environment at the end of the useful life of any operation in a condition suitable for future use
Routinely monitor the environmental status of each operation and take corrective action as necessary"

203.2. The RMS was "*structured in line with Risk Based Management strategy*" defined in frameworks promulgated by SGSI (pleaded to at paragraphs ** above).

203.3. "*Part One: Remediation Management Strategy*" set out the strategy and management processes of remediation, describing the roles and responsibilities of the new "*corporate remediation team*", which were to be responsible for the remediation of all spill sites. In particular:

(a) The remediation of impacted sites *"shall be carried out seamlessly and timely to return the environment to a safe and fit for purpose condition and to meet the EGASPIN intervention level (TPH <5000ppm), in order to prevent the emergence of "Past Impacted Sites" and or "legacy sites""*".

(b) The RMS was structured in line with the "SEPCIN Oil Contingency Plan (OSCP)" ("**OSCP**"), which was aligned with the Nigerian National Oil Spill Contingency Plan and "*Shell global standards for oil and chemical spill response plan specified by [...] MOSAG* [Multibusiness Oil and Chemical Spill Advisory Group]".

(c) "OSR" (Oil Spill Response) was required to issue Fountain reports within specified timeframes for different forms of non-compliance.

(d) For "*Tier-1*" oil spills (<250 bbls in swamp; <1,500 bbls on land), the RMS required a JIV investigation to be organised within 24 hours, containment of spilled oil to be undertaken within 24 hours, recovery of oil to be commenced within 48 hours, and clean-up to be commenced within seven days and completed within 21 days. If clean-up was effective, a joint clean-up inspection would take place within 30 days of the incident, and a clean-up certificate would be issued by the regulator. In the event further remediation was required after completion of clean-up, a pre-remediation assessment would take place within seven days of receipt of the clean-up close out report, and remediation would be completed within about 12 weeks of the completion of clean-up.

(e) For *"Tier 2/3*" oil spills (>250 bbls on swamp; >1,500 bbls on land), a "*Divisional Emergency Response Team*" would be activated after JIV confirmation of the volume of the spill. The RMS required that clean-up be commenced within seven days and completed within 28 days, and remediation would be completed within about 12 weeks of the completion of clean-up.

203.4. "*Part Two: Standards and Work Procedures*" set out the standards and work procedures applicable to clean-up and remediation. In particular:

(a) The objective of clean-up and remediation was *"to return a negatively impacted environment back to a useable and fit for purpose condition*". The

process was *"underpinned by a risk assessment focused on the protection of human health and the environment*", consistent with sections 6.2.4 of EGASPIN.

(b) Clean-up and remediation *"shall be aimed at reducing the concentrations of chemicals of concern (CoC) to below the Remediation intervention levels stipulated in the provision of DPR EGASPIN"*, and the objective was "*to achieve a standard in which the risk is reduced to* [ALARP]". Table 1 set out the EGASPIN levels, which included: (i) for soil/sediment contamination, the TPH "*Target Value*" was 50 mg/kg, and the "*Intervention Value*" was 5000 mg/kg; and (ii) for groundwater contamination, the "*Target Value*" was 50 µg/l, and the "*Intervention Value*" was 600 µg/l.

(c) Remediation was defined as "*the process of returning the impacted areas to fit-for-purpose conditions by using a technically sound and environmentally friendly techniques*".

(d) The remediation options for soil were RENA, stabilisation by cement fixation and low temperature thermal desorption.

(e) The procedure for post-impact and post-remediation site assessments involved a "*Tier 1 site assessment procedure*", which was used to visually identify and quantify sources of contamination, identify sensitive receptors, and prioritise sites for remediation. "*[V]isual investigation"* of impacted sites was considered "*the most appropriate method of assessing the risks posed by the contamination and prioritising remedial action"*. More detailed investigations, such as groundwater monitoring, *"would only be required if the initial visual inspection identified shallow groundwater being used as a potable resource near by*". The RMS then set out soil delineation and sampling protocols.

(f) The procedure for groundwater assessment involved drilling and installation of groundwater investigation/assessment boreholes and soil sampling protocols.

(g) The procedure for the certification of remediated sites involved a "*Tier 3 certification process*" to check the quality of remedial action against the standards in "SPDC-2009-02-00001300 (Standards for oil Spill Clean-up and Remediation)" and EGASPIN. The assessment strategy was "*based on a visual inspection and sub-surface inspection through shallow boreholes and auger drills of the site and surrounding areas to ensure that the impacted site has been restored to fit-for-purpose conditions, in which the concentrations of Chemical of Concern (CoC) are below the remediation intervention or risk level as stipulated in EGASPIN*".

204. On 6 January 2020, Malcolm Brinded discussed the Amnesty International campaign, and challenges to be faced from NGOs in Nigeria in 2010 with Nick Wood, Keith Ruddock, Dave Martin and Andrew Vickers (VP Policy and External Relations, Shell International).

205. On 7 January 2010, Malcolm Brinded emailed Ann Pickard (EVP, Upstream - Africa, SEPA), Mutiu Sunmonu, Keith Ruddock, copying in others, under the subject "*Nigeria Reputation Management/Environmental Improvement Programme*", marked *"Confidential: Legally Privileged*", to update them on the discussions and request their support for the follow-up. In particular:

205.1. He made comments on the EMIP, noting his immediate concerns that a BOM needed to be in place in Nigeria as soon as possible. He noted the position would realistically be for 18-24 months "*for such a crucial and potentially complex taskforce leadership role in a difficult environment*".

205.2. He noted that the work included stakeholder management and communications and the importance of "*clarity on the steerage of the respective programmes*" but recognised that there were "*specific issues around spills and pipeline integrity that need careful and targeted communication within the broader comms plans*".

205.3. He wanted further consideration of the scope and merits of "*more transparency and credibility in our spill and remediation reporting… recognising the constraints that you face with regard to our Nigerian partner and various regulators as well as the potential downsides*".

205.4. He referred to an update to be sent by Nick Wood "*following incorporation of feedback from Mutiu*" and confirmed his "*directional support*" for the strategy set out.

205.5. He referred to Jonathan Barnden (General Manager Communications - West Africa, SNEPCO) as the key "*editor/compiler*" of the "*broad Nigeria *SD/RM* plan"*, and his support going forward but wondered whether *"an additional dedicated resource is required to support Mutiu (and RDS) re the specific comms and engagements*".

205.6. He further referred to a planned NGO engagement on 12 May "*co-chaired by Julia Marton-Lefevre* (Director General, Institute of Ecology and Environmental Management) *and Aaron Cramer* (President and Chief Executive Officer, BSR - Business for Social Responsibility) - *with Peter v, Marvin O, myself and Wim Kok* (Chairman, Social Responsibility Committee, RDS) *representing RDS*". He requested the attendance of Mr Sunmonu and asked him to join the dialogue for Nigeria "*which is likely to be one of the hottest of the four hour meeting*". He set out steps for further engagements with Amnesty International and ECCR.

206. On 7 January 2010, Malcolm Brinded sent to Ian Craig an agenda for his orientation before he took over Ms Pickard's role as SSA EVP in Upstream International, stating that he wanted him to take special interest in the issues set out. At a date unknown to the Claimants in or around the first quarter of 2010, Ian Craig took over from Ann Pickard as SSA EVP.

207. On 20 January 2010, Malcolm Brinded emailed Peter Voser and others (including Simon Henry and Matthias Bichsel) raising a "*serious reputation threat*" with

respect of Nigerian oil spills data in relation to the draft HSE performance report which was due to be sent to the ExCo and CSRC the following week. In particular:

207.1. He stated that *"[t]he info showed not only the expected large kick-up in spills volumes for 2009 due to several major Q3 sabotage incidents […] but also a dramatic revision to the 2008 data, increasing total Shell spill volume from some 8k tonnes to some 28k tonnes. The increase was – in the draft submission - all attributed to sabotage."*

207.2. He attributed the increase to several spills which had been omitted from the data where volumes were not yet verified or causes agreed with the Nigerian Government. One such spill was Iriama which contributed some 17,000 tonnes to the increase. He noted that in the draft EC/Board submission Iriama had been planned to be classified as sabotage.

207.3. He considered there to be clear "*reputational and credibility concerns"*, in light of:

(a) "[Milieudefensie] *cases re Nigeria oil spills,* and [Amnesty International] *accusations […] both of which have alleged that SPDC underestimates spill volumes and wrongly classifies their causes*".

(b) The First Defendant having "*majored*" *"on the defence that 85% of the 08 spill volumes were from sabotage"* including in discussions with NGOs, giving rise to risk of credibility damage.

207.4. He referred to a response team focussed on investigating the facts and considering next steps, "*led by Nick Wood (global) and Ann Pickard (Nigeria) with Keith Ruddock, Rupert Thomas* (VP Performance and Reporting, Strategic Planning and Systems, Projects and Technology, SGS UK) *Andrew Vickers etc all involved."* He stated that "*we must get the facts right – about volumes and causes – as soon as possible*".

207.5. He stated that he would provide an update at the upcoming ExCo meeting and seek "*a steer*" from the CSRC and the Board.

208. On 21 January 2010, Malcolm Brinded emailed the response team he mentioned in the email above, asking for any additional insights or information he could give Peter Voser. He tasked Nick Wood and Ann Pickard with setting up the response team "*with respective focus areas of Group and Nigeria, taking an integrated view across the various issues (reputation, legal, Nigerian authorities, partners, partner NGOs, ERC etc) and expecting you to arrive at aligned positions."* He asked them to "*call on all support that is needed as if this were a crisis*", noting the importance of direct involvement of Andrew Vickers given the Amnesty International and ECCR angles. He asked for regular updates to be provided with appropriate information in advance of ExCo discussions well in advance.

209. On 26 January 2010, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation, and Matthias Bichsel reported on P&T's safety and operational performance. The minutes of the meeting record that the ExCo provided "*detailed comments*" on the pre-reading materials and the HSSE&SP Business Performance Report for 2009, asked "*numerous questions*" regarding unsatisfactory audit findings, and commented on CSRC papers. The Claimants infer from the emails above addressing the underreporting of spills and resulting reputational damage, that the ExCo discussed and/or Peter Voser was informed of and/or advised in respect of the issues discussed in those emails.

<u>February 2010</u>

210. A February 2010 presentation to the Board, titled "Asset Integrity and Process Safety", discussed the "Access" and "Fix" Programme status, noting that it was on track except for the Second Defendant's pipelines in Nigeria. It identified the status of the Fix programme in Nigeria as a key activity completion risk area, noting that the repair plan ran to 2015+ due to access, sabotage and resource limitations. It referred to a special review team having been initiated to assess the status of the programme to include reports in the annual update.

211. On 3 February 2010, the Board held a meeting. Thomas Botts (EVP Global Manufacturing) and Greg Guidry presented to the Board on asset integrity and process safety for both Upstream and Downstream and confirmed that a near miss reporting system was in operation. The Board requested that their next report include benchmarking data on how Shell compared to its competitors in the area of asset integrity and process safety, to the extent this was possible.

212. On 5 February 2010, Malcolm Brinded submitted the Business Assurance Letter for Upstream International for 2009 to Peter Voser. In the Business Assurance letter:

212.1. In respect of the statement "*A risk-based system of financial controls has been devised and maintained*", a qualification was entered. The qualification stated that: "*There have been instances in 2009 where transactions have been executed without approved contracts or Purchase Orders being in place, or without adequate budget cover*." This was the same qualification as the one stated in the Previous Business Assurance letter.

212.2. As to ethics and compliance, the letter noted that the First Defendant's Anti Bribery and Corruption programme had been launched in 2009 but its pilots in places such as Nigeria "*demonstrated that full implementation would create a significant administrative burden to the business*". It was noted that further progress on this issue would require "*senior management attention in 2010*".

212.3. In respect of the statement "*Adequate processes and controls are in place to ensure that activities are conducted in accordance with the Shell General Business Principles and withing the framework of applicable laws. Staff are aware of their obligations under the Shell Code of Conduct"*, a qualification was entered. The qualification stated, in respect of Nigeria, that a 2008 audit recommended improvements in controls around maintaining an arms length relationship with the JTF, but "*the required changes in contractual relationship have not yet been finalised*".

212.4. In respect of the statement "*Asset Integrity – Process Safety Management – Any asset under operational control meets the requirements of technical integrity necessary to commence of continue operations",* a qualification was entered. The qualification stated that: "*A significant backlog of legacy integrity issues exists due to security issues, facilities access constraints and insufficient funding that resulted in inadequate maintenance and refurbishment programs in previous years coupled with attacks on facilities, crude theft etc. Reviews of the physical condition of assets […] revealed deficiencies in well, pipeline and surface facility integrity. Partly due to access constraints, some sections of the major trunklines within SPDC have not been inspected and their integrity therefore is not fully known […] Some of the old onshore well in SPDC do not have fitted subsurface valves. Recent audits have indicated a significant level of asset integrity issues. The asset integrity issue is further complicated by the increasing encroachment of local people and communities onto the immediate vicinity of pipelines*". The qualification stated that a *"holistic approach"* was being taken to address well security, environmental impact, pipeline maintenance and replacement, noting the "Fix" programme starting in 2010 (to run for five to ten years), the AI/PSM-Maintenance and Integrity Execution program for HSSE critical equipment being implemented for completion in 2011, HSE Cases for all assets, and ongoing competence assessments.

213. Between 18 December 2009 and 8 February 2010, employees of First Defendant exchanged correspondence about the Shell Fingerprinting Project. In particular:

213.1. On 18 December 2009, Thijs Jurgens asked Maarten Wetselaar for $250,000 to enable continuation of "*technical work on fingerprinting*" by "[o]*ur chemists in P&T in Rijswik*" to "*provide input to a project let* [sic] *by the British Foreign office*", confirming that Malcolm Brinded had already approved this cost but there was "*no budget, either within SPDC or UIG*".

213.2. On 21 December 2009, Maarten Wetselaar responded, advising: "*This cost should go to where ever we get the best tax recovery: Bernard* [Bos] *to*

advise if there is any chance of getting tax deductibility on this in Nigeria (we can solve the budget problem)."

213.3. On 22 December 2009, Bernard Bos advised Thijs Jurgens that "[a]*ll Rijswijk costs are generally rejected, given push to have studies done in Nigeria*".

213.4. On 22 January 2010, Thijs Jurgens asked Hilde van den Braak (Secretary to the Executive Director Exploration & Production / Upstream International, Shell International) for an account code for the $250,000 cost, with comment: "*Maarten* [Wetselaar] *recommends putting this on Malcolm's* [Brinded] *budget. (This after Bernard's advice that tax deductibility in Nigeria will be rejected.)*". In response, Ms van den Braak provided the budget code used in The Hague, advising that Malcolm Brinded may not know he had a budget code, and that it was doubtful that Maarten Wetselaar would want the cost assigned to his Rijswijk code.

213.5. On 28 January 2010, Robert Elsinger (Principal Geochemist Fluid and Basins - Asset Geochemistry Team, SIEP) informed Thijs Jurgens and Hilde van den Braak that the budget code could not be used directly for charging work time or paying invoices from contractors, and that a CTR therefore needed to be finalised so that a billing system could be set up to recover the costs. He circulated an Atlas Project Approval Form for completion to that end.

214. On 8 February 2010, Mark Sugden (Petroleum Exploration & Production Geochemist, Projects & Technology, SGS) completed the Atlas Approval Form for Phase Two of the Shell Fingerprinting Project. The Form set out that Phase Two would encompass collection of samples from oil tanker loading and offloading facilities, followed by analysis and reporting at Shell's Rijswijk Laboratory, at a budgeted cost of $250,000. The Cost Centre identified on the form was the Executive Committee (NL) of Shell International. During 2010 however, Mark Sugden and Robert Elsinger were unable to secure an internal Shell sponsor prepared to fund the Project. As of 24 April 2012, Mark Sugden continued to

maintain that the Projects' underlying thesis remained "*valid*" and merited further exploratory research.

215. On 8 February 2010, a proposal titled "Strategy for Managing Surveillance in Awoba, Krakama, Soku and Cawthorne Channel (2 and 3) Fields in Swamp1 East" was finalised. Its purpose, which was to obtain line approval to engage the services of community nominated surveillance contractors, was justified on the basis of the need to protect assets from threats including TPI, and to foster joint responsibility between communities and industry for mitigation of such challenges. Surveillance contractor performance was to be managed by raising service requisition/contracts on a monthly basis and giving "*a peace award*" to contractors successfully protecting against vandalism for an entire year.

216. On 11 February 2010, the First Defendant's Business Integrity Department ('**BID**') published its preliminary findings as to the allegations against Agans Aganmwonyi described at paragraph ** above. The report notes the BID had conducted similar investigations in the past. The report referred to the following:

216.1. There were allegations that some of the staff had worked with Mr Aganmwonyi previously and had been brought into the security department to support his illegal activity.

216.2. Kadiri Anthony (Community Relations Officer, SPDC) was responsible for handling the security department's payment timesheets and was alleged to have inflated the days and numbers of security personnel on the ground.

216.3. Okogba Emmanuel (District Security Supervisor, SPDC) was a field-based chief negotiator alleged to have acted as a front to Mr Aganmwonyi.

216.4. Ariodere Austin (Area Security Adviser, Wells West, SPDC) had previously supervised the other two men as part of the Well Engineering Relations team, and it was alleged that the team had "*re-grouped in the security department to continue their illegal activities against the company*".

216.5. The employees denied the allegations.

216.6. The report nonetheless observed that a sample of monthly time sheets had shown that absent personnel had not been marked as such with only a blank gap left on the timesheet; security personnel substituted for medical or other reasons had not been marked as such; not all timesheets were signed by individuals who played a role in verifying the numbers; spot checks performed by Area Security Advisors were not reflected on the time sheets.

216.7. The report stated that the security department had implemented additional measures to deal with the concern of "*ghost employees*". The BID recommended further improvement and additional verification measures to be put in place in respect of timesheets.

216.8. The BID requested additional information from the anonymous party who had made the allegations and recommended the matter be closed pending availability of more information.

217. Mr Aganmwonyi remained in post until at least 2015 and placed a key role in the Second Defendant's security apparatus as described below.

218. On or around 11 February 2010, Arie Dijksman delivered a presentation titled "SPDC PIPELINES SYSTEM: Pipeline Integrity Challenges and a different approach to assess integrity issues". The presentation recognised that the technical integrity of the Second Defendant's lines had been "*compromised*" as a result of ageing lines, illegal bunkering, "*[l]ack of regular maintenance*" and sabotage. Mr Dijksman called for a "*rigorous inspection, maintenance, repair and replacement program*" to be executed. The presentation slides observed that there was a substantial backlog in technical assessment and maintenance which was too much for the current asset teams to handle

March 2010

219. In March 2010, the 30" x 17km Krakama to Cawthorne Channel Junction Manifold section of the new NCTL was commissioned.

220. On 2 March 2010, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation and production figures. The minutes of the meeting record that the ExCo asked questions and "*reviewed the system of risk management and internal control"*, concluding that it was "*adequate and effective*".

221. In or around March 2010, Peter Voser participated in an event in the United Kingdom which involved a discussion about Nigeria. In preparation for the event, various staff of the Second Defendant discussed a briefing note on "*The operating environment*" in Nigeria which referred to statistics on crude oil theft. In an email dated 16 March 2010, Rebecca Hoppe (Security Intelligence Network Centre Operations and Development Lead, SPDC), provided an estimate that up to 100,000 barrels per day of oil had been stolen since 2005 although she noted that the figures "*are unlikely to be accurate - as they are [t]he incidents we have managed to capture*.

222. On 29 March 2010, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation, and Matthias Bichsel reported on P&T's operational and safety performance.

April 2010

223. On 8 April 2010, Ann Pickard received an email update about the restructuring of the Corporate Security Team in Nigeria:

223.1. On 9 April 2010, she expressed views on the individuals on the team and stated that she "*wouldn't sign off on it*" albeit noting, that if Ian Craig had done so she would not want to second guess him.

224. In a further email sent the following day, she noted that the organisation will work "*if you can prevent OJ from "fixing" the east and west in a way that is not acceptable to Shell* […] *But Mason* [Oghenejobo] *will have to hold east and west*

accountable, and not let them continue their old ways of operating […] *or Crockett* [Oaks, (Head, Business Integrity Department (BID) - Africa, SPDC)] *will be kept endlessly busy*."

225. On 20 April 2010, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation, changing political environment and operational updates. The minutes of the meeting record that the ExCo discussed several unsatisfactory audit findings, provided "*detailed comments*" on the Chief Independent Auditor and Business Conduct Integrity Reports, and "*encouraged more follow-up and leveraging of audit findings to test if identified issues were systemic or "one-offs"".*

226. On 22 April 2020, the HSSE & SP Executive coordination meeting took place. It received a performance update from each Business and Health and Safety disciplines. The discussions included concerns by Upstream International with the "E" (which the Claimants understand to stand for Environment within the HSSE framework) strategy paper which was said to extend the Control Framework compliance commitment to an all-encompassing E-function and appeared to be *"top-down driven whereas in reality it is "for the business, by the business*"'. It was noted that the standards were not subject to a cost-benefit analysis and the challenge was to drive compliance and ensure whether the standards in the Control Framework remained the correct standards. It was noted that while Upstream International was committed to avoiding derogations from the Control Framework those *"will be inevitable, e.g. due to circumstances outside Shell control.*" The HSSE & SP Executive discussed Global Discipline teams ("**GDT**s"), considering them to be "*key enablers*", and gave a steer on their terms of reference and functions. The HSSE & SP Executive discussed operational safety and supported "*CPA*" proposals for HSSE to join CP and Finance to assess performance of the top 20 contracts in each Business; it was noted that HSSE leaders were to participate in leadership team reviews of the performance of those contractors. As to reporting on environmental data, the minutes of the meeting state: "*Develop an approach to "lean" reporting. Work with [Upstream International] as necessary to rest in a pilot, with a view to build a Group wide solution*".

227. On 23 April 2010 the Norwegian Council of Ethics, an advisory body to the Norwegian Minister of Finance in relation to investment policies of the Norwegian Sovereign Wealth Fund, wrote to Peter Voser stating its intention to place Shell under investigation in relation to the environmental, socio-economic and health related impacts of petroleum activities in the Niger Delta with focus on oil spills. At this time, the Norwegian Government Pension Fund – Global, held around 2.3% of all shares in the First Defendant, and was one of its largest shareholders.

228. On 27 April 2010, a monthly remediation meeting was held. Presentation slides, titled "Remediation Monthly Meeting", noted a "*[s]ignificant finding is in laboratory test certificates with incorrect DPR intervention value reported for groundwater at 5000ppm instead of 0.6ppm. This gives impression sites "clean" when not.*"

229. On 28 April 2010, the "Nembe Creek – Cawthorne Channel Trunkline Replacement Project Decommissioning and Abandonment Plan" (the "**NCTL Decommissioning and Abandonment Plan**") was submitted for approval. The plan considered three decommissioning options and recommended Option 2. The options were:

229.1. Option 1 - Do nothing: This involved flushing the line free of oil and leaving all surface and sub-surface facilities intact, at a budgeted cost of $600,000.

229.2. Option 2 - Removal of surface facilities only: This was the "*recommended*" option and involved flushing the line free of oil, filling it with water, removing the above-ground facilities, leaving the line in the ground, conducting testing to confirm that the abandoned segments could retain abandonment pressure of 10psi, and subsequently maintaining the Right of Way and ensuring any leak from the abandoned line did not "*pose any harm to the environment*". The budgeted cost was $2million.

Option 3 - Removal of the entire line: This involved flushing the line free of oil and removal of all above and below ground facilities, at a budgeted cost of $200million.[8]

May 2010

230. A May 2010 Asset Integrity Update, relating to the Second Defendant referred to the significant backlog of legacy asset integrity issues in terms similar to the BAL of 6 February 2009. It noted that:

230.1. Insecurity, access constraints and insufficient funding had resulted in inadequate maintenance and refurbishment programmes in previous years.

230.2. Since the Second Defendant's reviews of the physical integrity of assets in 2003 and 2004, which had revealed deficiencies in well, pipeline and surface facility integrity, further degradation had occurred.

230.3. Management systems had been introduced based on the Group's AIPSM to address the issues, but would take time to fully embed.

230.4. While progress was being made with the facilities Fix Programme a "*huge amount of work*" was outstanding for pipelines and a significant amount of funding was required.

230.5. There was a risk that assets did not meet minimum standards for integrity to provide the Second Defendant with a Licence to Operate, presenting a reputational risk from the Group's perspective.

231. On 10 and 11 May 2010, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including on production figures, a shut-in and declaration of force majeure of Bonny oil.". Matthias Bichsel provided a HSSE update.

232. On 12 May 2010, Bart Lismont (VP Technical Sub-Saharan Africa, SEPA) submitted a Group Investment Proposal to Malcolm Brinded, Simon Henry and

Peter Voser for support and approval. The Group Investment Proposal sought support/approval for additional funding of $113.8m to complete the NCTL Replacement project. The project was stated to be "*highly attractive*" as it would make available 600 thousand barrels of oil per day ("**kbpod**") gross production from 14 flow stations, accounting for 30% of the Second Defendant's entire oil production, and enable the re-opening of circa 200 kbopd of locked-in oil from the Second Defendant's Eastern Swamp Operations. The proposal further stated that the "*value unlocked*" by completing the project would be worth circa $1.14 billion to Shell. The proposal noted that the difficult operating environment in the Niger Delta had had a significant negative impact on project schedule and delivery costs, but a "*more peaceful working environment is expected*" following the Nigerian government's amnesty. In relation to HSSE, the proposal noted that the project was being executed "*with large numbers of unskilled workers"* and a *"local relatively inexperienced contractor (Nestoil Ltd) handling some 50% of the work with subcontractors with immature HSE systems".*

233. On 19 May 2010, the Board held a meeting. Peter Voser informed the Board of senior staff moves, including the appointment of Ian Craig as Executive Vice President Sub-Saharan Africa in succession to Ms Pickard. The Board noted that a new government had taken office in Nigeria and Malcolm Brinded explained the status of various matters and projects in Nigeria (amongst other issues which are redacted in the version of the document disclosed to the Claimants).

234. On 24 May 2010, a Niger Delta Security update for the Second Defendant recorded "[i]*ncreased threat of sabotage of pipelines and critical infrastructures (especially major trunk lines)*" and listed existing risk responses, including: "*on-going integration with business units*" to find solutions to TPI; ongoing rollout of new SRA methodology in compliance with Group standards and DPR regulations; and optimising GSF deployment.

235. On 25 May 2010, the 30" x 17km Krakama to Cawthorne Channel Junction Manifold section of the new NCTL was commissioned to commence production of additional early oil from Awoba, Cawthorne Channel 2 & 3 flowstations.

236. At the end of May 2010 a document was published over which legal privilege purported to be claimed titled "Nigeria Sustainable Development and Reputation Strategy Review". This set out a progress update since the strategy was established in December 2009, signed off by Ian Craig and Mutiu Sunmonu and supported by Malcolm Brinded. In relation to activity, it was reported that the EMIP in-depth review of oil spill response, processes and practice had revealed a number of areas where "*significant improvement is possible"* – from relationships with government agencies, to data storage and retrieval and availability of equipment, to e.g. spill measurement methodology. It was reported that the BOM was now in place and the EMIP was examining in depth not only oil spill cleanup and remediation processes and practice, but also asset integrity, right of way issues and flaring in a holistic way and on a fast track. The Second Defendant's partnerships with third parties had been reviewed and the focus would be on community development.

June 2010

237. On 14 June 2010, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including the security situation and production figures, and Matthias Bichsel provided a HSSE update.

238. On 23 June 2010, the Board held a meeting. Peter Voser (CEO, RDS) reported on HSE performance.

239. On 27 June 2010, the CSRC held a meeting. The CSRC noted that a "*significant environmental incident in Nigeria was operational in nature and caused by pipeline corrosion*" and more resources were being applied in Nigeria to improve pipeline integrity, facilitated by the improved security situation.

July 2010

240. In July 2010, the 30" x 46km San Barth to Cawthorne Channel Junction Manifold section of the New NCTL was fully commissioned.

241. Illegal connections were installed on the Old NCTL while it was operational until around July 2010. When production through the New NCTL began in around July 2010 illegal connections were installed on it at or close to the same locations as the illegal connections on the Old NCTL.

242. On 6 July 2010, the SIA issued an audit report regarding remediation in the Niger Delta, "UIG-2010.005 Environmental Remediation Management". The weaknesses identified in the report included: inconsistencies in the application of the Soil and Groundwater work procedure, as included in the Remediation Management System, and associated techniques; the need to improve remediation contractor performance; gaps in the process for updating data on the inventory of impacted spill sites, remediation sites and all other associated data/information; the lack of a clearly defined and agreed interface management process with other internal stakeholders such as Oil Spill Response ("**OSR**"), Corporate HSE Environment and Communications teams. It specifically noted the lack of evidence to show that sufficient numbers of soil probes and sampling were carried out as the basis for determining the extent of impact, necessary remediation (including the vertical depths at which it was required) and close-out of completed work.

243. On 12 July 2010, a Fountain Incident Report on a 'shut in' well head fire in Krakama 50 from a suspected illegal refinery, reported concerns about failures of monitoring and surveillance of TPI. It raised concerns that the stations and flowlines had not been routinely visited by the operations team, and concerns about ineffective communications between the JTF, District Security Supervisor, and the community surveillance contractor to achieve timely interventions. Recommendations were made, including that surveillance contracts be restructured to include "*regular engagements for service monitoring, frequency of reporting and termination consequence for not reporting",* consideration be given to securing non-producing wells by the removal of the Control and Communication Units on all Krakama wells, and an effective communication channel be put in place between the JTF, District Security Supervisor ("**DSS**"), and the community surveillance contractor.

244. On 16 July 2010, the SIA issued a further audit of the Second Defendant's safety and security management and payment process, titled "UIG-2010.011 Safety and Security Management and Payment Process". Like the 2008 audit, this audit received an unsatisfactory rating and raised similar concerns including continuing significant ethics and compliance concerns. Findings included a lack of assurance on value for money in respect of JTF support costs and delays in the implementation of contracts between the Second Defendant and logistics service providers to JTF. The report identified concerns about irregular signatures and records on timesheets, including the same JTF personnel being recorded to be in place for 365 days in some locations. The audit noted as the "*root cause"* of the identified weaknesses the absence of a clear and unambiguous strategy to manage the overall provision of special security, including detailed guidance on how to manage dilemmas arising there from.

245. On 19 and 20 July 2010, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including on the security situation, operational updates, including production figures in the East Area and Bonga, and Matthias Bichsel provided a HSSE update. The ExCo discussed several unsatisfactory audit findings, including in the Upstream Business and JV governance.

246. On 25 July 2010, the Ekulama, Awoba and Cawthorne Channel 1 flowstations on the New NCTL started production.

247. On 27 July 2010, the Cawthorne Channel 2 and Cawthorne Channel 3 flowstations on the New NCTL started production.

248. On 28 July 2010, the Board held a meeting. Peter Voser reported on the HSE performance over the first half year. Malcolm Brinded provided an update on Upstream International, including safety performance and developments in Nigeria (amongst other issues which are redacted in the version of the document provided to the Claimants).

249. On 27 July 2010, the Audit Committee held a meeting. It discussed and supported the proposals to redesign the First Defendant's assurance processes, and the aim

for those to be provided from the EVPs upwards. The Chief Internal Auditor recommended that "*all assurance efforts would in future be coordinated and integrated better and channelled exclusively through the (existing) relevant "Business Assurance Committees" with the relevant EC member signing off on any additional assurance*." The CFO and the Audit Committee expressed approval for the project. The Audit Committee noted that 20% of audits had an unsatisfactory/unacceptable rating and it "*would be interesting to compare this baseline to Nigeri*a". It discussed the unsatisfactory and unacceptable audit findings including in relation to Nigeria security payments. The CFO then explained "*the background and intrinsic complexities of this matter*".

250. On 27 July 2010, the CSRC requested clarification in the First Defendant's response to "*exaggerated media assertions that oil spills in Nigeria are comparable to the BP incident in the Gulf of Mexico*".

August 2010

251. In August 2010, Sekobe Afohron (Coordinator Liaison Right of Way Inspector, Security & Pros, East, SPDC)delivered a presentation, titled "Current Surveillance Contract Concept", which noted that there were "*High Numbers of Surveillance Contracts handled by few people (2-CH handling over 750 contracts East/West with only 1 SCM Category Manager who has other customers to attend to)"*. The presentation noted that contractors operated under "*HSE Mode-1*" contracts, which required constant monitoring and supervision. Challenges were listed as including an absence of nighttime monitoring ("*when most heinous crimes are committed*"), a failure to provide communication equipment to contractors, and a lack of motivation as a result of delayed salary payments.

252. On 9 August 2010, Malcolm Brinded submitted a Revised Group Investment Proposal for the NCTL Replacement Project to Peter Voser and Simon Henry, with Maarten Wetselaar in copy, with comment that oil production from the New NCTL would result in total Shell share proceeds of "*well over $1bln*". He explained that, as highlighted in the Group Investment Proposal, additional funding of $113.8m was required to cover the Second Defendant's share of the cost increase, plus

$49.6m to fund NNPC's share. Later that day, Peter Voser confirmed his support for the Group Investment Proposal. On 10 August 2010, Simon Henry also confirmed his support.

253. On 21 August 2010, in response to being forwarded a notification regarding two *"significant pipeline spills"*, Malcolm Brinded stated it remains a *"key objective"* to increase the external confidence in the allocation of cause as being bunkering/sabotage related rather than operational or integrity issues.

254. On 25 August 2010, the Second Defendant's Pipeline RoW/Leak Prevention Team held a meeting with surveillance contractors in the Egbema District, who complained regarding delayed payment of salaries, inadequate supervision, lack of communication equipment, RoW access difficulties and failures to repair existing illegal bunkering points to assist with security.

255. On 31 August 2010, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including the security situation. Matthias Bichsel reported on an investigation in Upstream International. The ExCo provided "*[d]etailed comments*" on a Safety and Environmental Performance Update.

September 2010

256. In September 2010, the Second Defendant issued a revised version of the Remediation Management System (Version 2.0) following audit review findings in relation to weaknesses in the operation of SPDC's remediation management framework. Material amendments included:

256.1. The remediation standard was maintained as the EGASPIN intervention level (5,000 mg/kg TPH), but additional wording was included stating that the SEPCiN remediation intervention level was set at 3,000 ppm TPH to demonstrate *"commitment to remediation excellence."*

256.2. The development and/or addition of detailed "Remediation Work Procedures" to provide *"logical and consistent"* process steps, including

procedures for Remediation Site Assessment, Groundwater Investigation, Groundwater Risk Assessment, Remediation Site Prioritization and Ranking Criteria, Remediation of Oil impacted Soil, Certification of Remediated Sites, HSE implementation Process, Management Review and Reporting.

256.3. Procedure 4.3 (Remediation Site Assessment) retained reliance on the SGSI Generic Conceptual Site Model (see **) to justify visual investigation and shallow soil sampling of impacted sites as the most appropriate method of assessing the risks posed by the contamination, clarifying that *"detailed intrusive investigations"* including groundwater monitoring should only be undertaken if the initial visual inspection identified groundwater being used as a potable resource *"nearby"*.

256.4. Procedure 4.3 further set out detailed lateral and vertical soil delineation processes to be completed prior to remediation, including Area of Concern (AOC) subdivision, confirmatory sampling, composite sampling, Oil Detection Plan (ODP) testing and limited hand-auguring.

256.5. Procedure 4.4 (Groundwater Investigation) retained reliance on the findings of OG.02.47028 (see paragraph 6 above), including that the risk of groundwater impact from surface spills is "*typically very low*", to limit groundwater investigations to those sites where there is presence of farmland or habitation within distance of 500m from the boundary of impacted area.

257. At the end of August 2010, and in early September 2010, David Martin, Ian Craig and Malcolm Brinded discussed the scope of the CSRC's upcoming visit to Nigeria, with Mr Craig and Mr Brinded providing detailed input into the agenda. In an email on 7 September 2010, Mr Brinded emphasised that the presentations should include pipeline integrity management and "*the encroachment challenge*" and how "*we are dealing, or plan to deal, with it*". On 8 September 2010, Nick Wood added that "*they need to overfly Ogoni and go see the scale of the illegal refining and bunkering*".

258. In the last quarter of 2010, the Second Defendant's management recognised deficiencies in the organisational structure of the pipelines team following the Iriama incident in late 2008 and decided to bring together the assets team under a single pipeline manager. The reconstituted team did not however conduct any formal risk identification and assessment exercise until May 2011.

259. On 8 September 2010, the Board held a meeting and received an update on safety and environmental performance.

260. On 8 September 2010, the HSSE & SP Executive held a meeting. It discussed the programme of professional development of HSSE&SP staff, to be "*coordinated centrally*" but implemented by businesses.

261. On 20 September 2010, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including on the security situation, and Matthias Bichsel provided a HSSE update.

262. On 28 September 2010, the 24" x 44km Nembe 1 to San Barth section of the New NCTL was commissioned.

263. In September 2010, the Second Defendant developed and signed off a remedial action plan ("**HSE case**") to execute sectional replacement of pipelines against clamping, stating this was to address hazards for which identified controls were not in line with ALARP.

<u>October 2010</u>

264. On 3 October 2010, Mutiu Sunmonu emailed colleagues following a Town Hall meeting attended by Ian Craig with the Second Defendant's staff. He delivered the message from Mr Craig that *"our performance on leaks and oil spills and especially on operational spills, will be a critical factor in deciding the future of our company"*. He noted that the number of operational spills reported in the first three quarters of 2010 had been *"truly alarming"*, recording an increase of more

than 100% in the first quarter and 250% in the second. He noted as the root causes of the spills: corrosion, followed by equipment failure, mostly from failed clamps.

265. On 18 and 19 October 2010, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including on the security situation, and Matthias Bichsel provided a HSSE update. The ExCo discussed unsatisfactory audit findings and provided "*detailed comments*" on the SIA audit plan for 2011.

266. On 26 October 2010, the CSRC held a meeting. Malcolm Brinded reported on Nigeria including on two significant environmental incidents caused by theft and sabotage.

November 2010

267. In October and November 2010, the CSRC were updated, outside CSRC meetings, on the process of the Nigeria international media campaign.

268. On 1 November 2010, Woji Weli (East Swamp Asset Manager, SPDC) chaired a Swamp East Contractors' Forum Meeting. Notes from the meeting show that:

268.1. Woji Weli told contractors to be more efficient in reporting spills given the increase in sabotage spills.

268.2. In response, the contractors noted that the Second Defendant had been slow to respond to their reports of spills and take decisive action against those involved in TPI, putting the lives of contractors at risk and reducing their incentives to report them.

268.3. The contractors raised concerns about the lack of effective security measures, including security lights (despite those having been requested), overgrowth on the right of way providing cover for TPI activity and insufficient investment in equipment such as patrol boats. The Second Defendant responded, *inter alia*, that security lights would be provided very soon and that it was appointing a RoW manager to work to clear mangroves.

However, as is apparent from the chronology below, issues around clearing the RoW persisted at least until the end of the claim period.

268.4. The contractors further raised concern over the old NCTL line which had been left exposed, causing health hazards. The Second Defendant's staff responded that the line would not be removed but instead would be flushed and filled with sea water and biocide.

269. On 6 November 2010, in advance of a visit by the CSRC on 9 and 10 November 2010, Malcolm Brinded emailed Ian Craig and Mutiu Sunmonu telling them to be prepared to address asset integrity and process safety as there had been "*some considerable concern"* about these issues at the last CSRC meeting.

270. As planned, on 9 and 10 November 2010, the CSRC visited Nigeria to "*review the Environmental and Social performance aspects of Shell Nigerian operations*", with a wide agenda covering safety, environmental, and social issues, with specific focus on asset integrity and environmental spills. The participants included Wim Kok, Lord Kerr, Chad Holiday, Malcolm Brinded and David Martin. They were hosted by Ian Craig, Mutiu Sunmonu, Babs Omotowa and Elohor Aibioni. The CSRC received presentations by senior members of the Regional Management Team on oil spill response and remediation; pipeline integrity management and pipeline encroachment; external engagement, disclosure and reputation strategy, the Iriama incident follow up and the GMOU Programme. The CSRC undertook site visits, including by road to an onshore spill location and helicopter overflights to various locations, including over illegal bunkering/refining activities in Ogoniland.

271. The subsequent site visit report noted:

271.1. <u>On spills generally</u>: "*The CSRC emphasised the importance of securing independent verification of the spills and the reports".*

271.2. <u>On pipelines</u>: "*[T]here was* much *to do in reviewing pipeline condition, executing any identified repairs/replacements and routine maintenance*

activities.". The Second Defendant had reported that due to access restrictions, two of its eight major operated pipeline systems had not been inspected recently in the same manner as other parts of the system. The CSRC provided their support to reroute those pipelines, given that they are targeted by criminals for bunkering and illegal refining activities.

271.3. On TPI: The CSRC raised concern about the extent of encroachment on the pipeline RoW, but was encouraged by the purportedly methodological approach taken by the Second Defendant to assess risk, prioritise actions and err on the side of caution, to shut down pipelines if the risk was perceived to be too great. The CSRC also encouraged the Second Defendant to undertake a "pipeline crisis exercise".

271.4. On spill response: The CSRC "*was able to witness several ongoing illegal refinery activities from the air, the proximity to local communities and the resultant damage to the surrounding and downstream mangrove areas."*. The CSRC emphasised the importance of early access to sites and the speed of response to spills, noting the extent to which spills recovered quickly once they had been cleaned.

272. On 29 November 2010, Malcolm Brinded and Hans van der Loo (Head European Union Liaison, Shell International) discussed a message about illegal bunkering in the Niger Delta. Mr van der Loo proposed a draft which referred to the money benefitting "*a wide ranging group of people, including military and government officials as well as militants*." Mr Brinded responded that "*I'm sensitive to (= against) putting on paper the specific allegation in sentence re officials"* and asked for this to be amended to "*[t]his money is rumoured to benefit a wide-ranging group of people, as well as the leaders of the organised criminal gangs who conduct such large-scale theft.*"

December 2010

273. On 9 December 2010, the HSSE & SP Executive held a meeting. It reviewed "Thorns and Roses" for 2010, noting, as "thorns": "*competencies*"', "*penetration*

of contractor community", "*emergence and severity of security issues*" and *"audits need to focus more on behaviours".* The Executive noted that a review of the JV HSSE requirements in the HSSE & HP Control Framework determined existing requirements were fit for purpose and required no amendments. The Executive asked if people in the existing JVs and those negotiating new ones were sufficiently aware of the requirements.

274. On 13 December 2010, the Upstream International Sub-Saharan Africa Business Assurance Committee published its Q4 2010 Report, which noted that sections of the Second Defendant's trunklines had not been fully inspected and their integrity was unknown, the wells integrity Fix Programme was due to be completed in 2012 but resourcing was an issue, audits had identified issues with isolation practices and wellhead and flowline maintenance, and there was a "*significant backlog of legacy integrity issues*" due to security issues, access constraints and insufficient funding.

275. In or around December 2010, James Stark requested an explanation from Raymond Asuquo (Team Lead, Pipelines East, SPDC) and John Okojie (Trunkline/Pipeline Maintenance East, SPDC) for the 2010 backlog performance and the intelligent pigging ("**IP**") backlog recovery plan for 2011.

276. On 15 December 2010, the Board held a meeting. The Board was updated on safety and environmental performance.

277. In an email on 15 December 2010, Mr Stark stated that Ian Craig had called him expressing his concern about intelligent pigging. He referred, as of 1 December 2010, to 37 overdue IPs in the East (with 9 programmed but only 4 delivered by the end of November "*which was considered a serious reputational threat.*

277.1. On 17 December 2010, Mr Asuquo responded setting out two challenges that needed to be overcome to recover on the 2010 plan and achieve the 2011 plan, namely: (i) several lines were defective and non-piggable, and would require repair before pigging; and (ii) interventions on the lines would impact

on production calling for rigorous integrated planning to ensure early but optimal shutdown windows.

277.2. Mr Stark responded, noting *inter alia* that there was not yet a robust plan in place to clear the backlog. He stated that "*the success or failure of the IP programme will directly affect the pipeline integrity assessment targets for 2011".*

278. On 17 December 2010, the SIA issued an audit report in respect of the Second Defendant's asset management in the East Swamp Team, titled "UIG-2010-003 Asset Management: SPDC East Swamp Team Including Soku". The audit:

278.1. Described "*immediate production recovery*" as the team's focus following improvement of the security situation in the Niger Delta.

278.2. Stated that the management of assets had been constrained by challenges in the Niger Delta including illegal bunkering and sabotage activities which were said to have impacted on safe operation of the facilities, unplanned shutdowns, environmental damage as a result of oil spills, theft of petroleum and revenue loss.

278.3. Described "*aging facilities and assets, which in some cases are being operated beyond initially designed operating life.*"

278.4. Found that the risk of asset value erosion and leakage was high.

278.5. Found gaps in the operation of the planning controls and inconsistent application of the risk management framework for the assets, as well as the absence of an integrated view of subsurface and surface risks impacting assets.

278.6. Noted the lack of an updated Asset Reference Plan ("**ARP**"), previously updated in 2004. The ARP is a key tool for effectively and efficiently managing assets throughout their lifecycle

278.7. Found that improvements were required in the integration and review of risks impacting assets and in monitoring adherence to asset operational controls.

278.8. Identified management attention and capacity being fully engaged in resolving daily operational issues related to challenges in the Niger Delta as a main root cause for the identified weaknesses; noting that this left "*little capacity for proactive medium to long term planning and value optimization*".

279. Between 17 to 24 December 2010, employees of the Second Defendant exchanged emails about security handover by 1 January 2011 for the SANBARTH – CAWC axis of the New NCTL from the Project Management Team to the Asset Team. In particular:

279.1. On 22 December 2010, Jeremiah Anietie (Head of Pipelines, SPDC) emailed Johnson Erewa (Area Security Advisor, Pipeline East, SPDC) advising that deployment of a surveillance contractor at the New NCTL would be sufficient, and barring "*counter advice from Security, there should be no immediate need for engagement of GSF specifically for the facilities in question."*

279.2. On 23 December 2010, Johnson Erewa responded to Jeremiah Anietie, with the comment: "*These are critical assets and their vulnerability is high. Considering the remoteness of these assets, previous attacks on these and similar assets in the past, surveillance guards only cannot give the protection required*."

279.3. On 23 December 2010, Jeremiah Anietie responded: "*If we have to deploy GSF for every pipeline asset, then perhaps we might as well consider having a standing SPDC army!*". He proposed review of the security arrangements, noting that the responsibility of the surveillance contractor for the asset "*should be the base case*" and setting out the need for a "*comprehensive cost-benefit analysis*" of GSF deployment.

280. On 23 December 2010, Solomon Asen (Head of Security Operations Eastern Delta) responded to Jeremiah Anietie, stating "*You may be taking a big risk here by over relying on surveillance contractors. They were there and GPHSL could not work and has been closed down. NCTL is a new line. We cannot toy with a multi-million asset just completed. It is totally unacceptable arrangement to security. Both surveillance and GSF are required. This is our advice but the business makes the call.*"

281. On 24 December 2010, Arie Dijksman confirmed his awareness of the handover discussions, and that as a stand in for James Stark) he would take a decision that morning.

282. In 2010, the Second Defendant's profits had returned to "*old levels*" at $807m. The Second Defendant had accumulated $1.7bn in undistributed profits, to be distributed to its shareholders in 2011, SPCL and SPNV.

283. In 2010, the Second Defendant decided to undertake a campaign to secure all non-operating wells in the Ogoniland. No such campaign was initiated in respect of non-operating wells in Bille.

2011

284. The security situation in the Niger Delta improved following the Nigerian Government amnesty of 2009 However, illegal bunkering and TPI remained widespread as many former militants moved to criminal activity. The Defendants' internal documents show that they recorded a significant increase in oil spills and volumes, including operational spills from corrosion and equipment failure, in 2011.

285. Throughout 2011, the Defendants' policy was to only shut down pipelines with illegal bunkering points if they detected that those bunkering points were leaking, and to only remove and repair illegal bunkering points when they were actively leaking or on an "*opportunity basis*" when the Pipelines and Ancillary Installations had to be shut down and repaired for other reasons. The inadequacy of those

policies was compounded by the fact that the Defendants had no adequate system in place to detect bunkering points on the Pipelines and Ancillary Installations, still less to monitor whether any bunkering points were leaking. The adoption of such policies gave rise to imminent and/or foreseeable risks of oil leaks and spills from red-banded pipelines and/or from "*non-leaking*" bunkering points, and ultimately caused, tolerated and/or permitted unacceptable levels of oil spills and contamination in Bille.

286. In or around 2011 and into 2012 further illegal refineries were set out in the Bille area in the northwest cluster (between 2 and 7 km west of Bille), the southern cluster (including the Oboma community area which is 339.7 hectares in size) and the eastern cluster (an area located to the east of Bille Town in and around Touma).

January 2011

287. An unreported spill incident near Bille at several points on the NCTL (4.568013, 6.895109; 4.568213, 6.893765; 4.567822, 6.894283; 4.567678, 6.894089; 4.567814, 6.894287; and 4.567931, 6.893418) was active as of 8 January 2011. Full details are provided in Annex 024.

288. An unreported spill incident near Bille at several points on the NCTL (4.567038, 6.897606; 4.566956, 6.898504; 4.566787, 6.899254; and 4.566711, 6.899535) was active as of 8 January 2011. Full details are provided in Annex 025.

289. An unreported spill incident in Touma Creeks at two points on the NCTL (4.565349, 6.908119 and 4.565336, 6.908232) was active as of 8 January 2011. Full details are provided in Annex 038.

290. Between mid January to early February 2011, SIA audited the effectiveness of Shell's Oil Spill Response (OSR) control framework (UI/2011.010). Its findings included that a failure to adequately test the effectiveness of oil spill response preparedness could result in an *"ineffective response and consequential damage to Shell reputation"*.

291. Reported spill incident ID 612832 was reported by the Second Defendant to have taken place on 21 January 2011, with the cause reported as TPI. Full details are provided in Spill Annex 612832.

292. On 24 and 25 January 2011, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including the security situation, operational performance and production figures, and Matthias Bichsel provided a HSSE update. The minutes of the meeting record that the ExCo "*discussed and asked questions regarding the Group Notable Audits*" and "*asked questions (to clarify several incident notifications) on the BCI Report and provided detailed comments*". Further, the ExCo provided "*[d]etailed comments*" on the HSSE & SP Performance Report for 2010 and CSRC papers.

February 2011

293. In February 2011, the Board received copies of the CSRC Nigeria visit report.

294. In February 2011, Mark Courtnell (Corporate Security Manager, SPDC) presented on the Corporate Security Report for SEPCIN. The presentation slides noted that TPI continued to be a major problem.

295. On 1 February 2011, the CSRC held a meeting. Malcolm Brinded updated on the security situation in Nigeria, noting it was relatively stable at the time. The notes of the meeting record that he confirmed the actions taken at Bonny Oil & Gas terminal following the CSRC visits: to remove tanks from service and reduce operating alarm frequency to normal levels. He also confirmed that the terminal management had been replaced.

296. Also on 1 February 2011, the Audit Committee held a meeting. The committee discussed the "Nigeria" risks and received an update from the CFO on developments.

297. Between 2 and 7 February 2011, internal correspondence recorded an urgent request from the First Defendant to senior SEPA staff for Local Decision Limit

("**LDL**") approval to proceed with de-oiling the Old NCTL and replacing the defective 8" Belema delivery line. Niyi Salami, an employee of the Second Defendant, reported that the Old NCTL remained *"filled with crude oil"* and had *"leaked recently"*, and that flushing could not begin until *"a number of weak points have been repaired"*. On 7 February 2011, Bernard Bos supported issuing the LDL, but instructed the team to obtain Contract Review Committee ("**CRC**") (NAPIMS tender board) approval as soon as possible.

298. On 2 February 2011, the Board held a meeting. The Board was updated on the CSRC's work *"focusing on Nigeria"*, and received an update from Malcolm Brinded on the Nigeria business, including environmental performance and reputation.

299. On 4 February 2011, Malcolm Brinded submitted the Business Assurance Letter for Upstream International for 2010 to Peter Voser. The Business Assurance letter relevantly provided

299.1. *"In technical areas, the embedding of the Discipline Controls and Assurance Framework (DCAF) continued with increased penetration and compliance for projects in all UI Regions [...] This will also include full alignment of the DCAF with the updated HSSE&SP Control framework and Operational Excellence standards."*

299.2. The final changes related to Transition 2009 had been embedded in 2010 and "*[a]ttention is now focused on the UI Ambition Programme and its four themes of Increased Production, Cost Reduction, Value from Commercial Delivery and the Acceleration of Hydrocarbon Maturation"*.

299.3. In respect of the statement, "*Processes and controls are in place to ensure compliance with applicable laws and regulations*", a qualification was entered. The qualification stated: "*Certain payments for logistics support to the Nigerian Joint Task Force are not in compliance with a contractual arms length approach […] The issue was flagged in a 2008 audit (Unsatisfactory*

opinion) and the failure to fully close out the issue contributed to an Unacceptable opinion in a follow-up audit in 2010. Close coordination between Group and UIG will be required to resolve this issue in 2011".

299.4. "*Areas of exposure remain (e.g. overdue wells stock reconciliation in Nigeria) but these are not considered material at the Business level*".

299.5. *"Audits continue to raise some weaknesses in the implementation of Specific Process Safety risk controls, highlighting the need for further work around management of change and the capture of Safety Critical Elements within maintenance systems as part of the MIE* [Maintenance and Integrity Execution] *process."*

299.6. "*Security continues to be managed in line with the Group HSSE&SP requirements through the network of Regional Security Managers, and with a continued prioritisation of the high risk countries [...] Nigeria".*

299.7. Significant security risks were reported for Nigeria and sabotage-related spills increased (by nearly 205).

299.8. In respect of the statement "*Any asset under operational control meets the requirements of technical integrity necessary to commence or continue operations*", a qualification was entered. The qualification stated: "*SPDC facilities assessed with gaps in process safety and integrity […] and sections of pipeline […] have been taken out of service […]. Remaining assets under operational control meet technical integrity whilst legacy maintenance backlogs and process safety basic requirements are being addressed in line with AIPSM targets".*

299.9. Like the 2009 Business Assurance Letter, it highlighted the backlog of pipeline repairs in Nigeria and asset security issues, noting that "*the Fix programme for assets under operational control is on track for completion […], with the exception of Nigeria (pipelines)".*

300. On 15 February 2011, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, including the security situation, and Matthias Bichsel provided a HSSE update.

301. On or around 15 February 2011, the Second Defendant considered launching a "*New Contract Strategy*" for remediation contractors. A presentation, titled "*SPDC Remediation Project: New Contract Strategy*", noted that the Remediation Project Team still faced a remediation backlog of 344 spill sites plus any new spills in 2011. The strength of the current model was identified as being "*Low 3rd party cost*"; weaknesses included that contractors "*can only do RENA, nothing else*", had low competence and no specialist remediation skills.

302. On 17 February 2011, Terms of Reference were issued by Shell Internal Audit for "HR&CSec/2011.001 – Risk Response Management to Physical Security Threats", with Nigeria one of three countries to be addressed. The Audit Scope included governance, including accountabilities for Security in Shell; risk responses, including to Security Risk Assessments; and assurance mechanisms.

303. On 17 February 2011, the HSSE & SP Executive held a meeting. The Executive recognised shortage of skilled security staff as an exposure and discussed potential cross-postings of HSSE Staff into Security positions. It discussed and made decisions to reorganise existing GDTs. It agreed to establish a joint CP/HSSE change team to drive a 12-month change programme in respect of contractor HSSE management, and discontinued the GDT on environmental delivery. It requested an analysis of the risks associated with proposed changes to Design and Engineering Manual – Application of Technical Standards ("**DEM**") 1, and how it was proposed to mitigate those risks. "*AvD*" who the Claimants understand to mean Arjan van Dijk provided the Executive with assurance that any potential lack of clarity in design standards that could result in safety risks had been removed by consistently adding "*SHALL PS*" statements in DEM 1, emphasising the mandatory nature of such requirements, and that derogations must be authorised by appointed Technical Authorities.

304. Following the meeting, Arjan van Dijk provided assurance to the HSSE & SP Executive that due process had been followed in the revision of DEM1 by "*involving the right engineering discipline hears [sic] and seeking business steer & sign-off*" and any potential lack of clarity in design standards had been removed by consistently including "Shell PM" statements; it was stated that "*derogation from these requirements must have authorisation by appointed TAs" (*Technical Authorities)."

305. On 28 February 2011, the ExCo held a meeting. Malcolm Brinded reported on developments in Nigeria, and Matthias Bichsel provided a HSSE update. Martin Ten Brink (EVP Group Controller, Shell International) presented the Risk Management and Internal Control Report – 2010 Design and Operation Review and Armand Lumens (EVP Internal Audit, Shell International) presented the Chief Internal Auditor's 2010 Annual Report. The ExCo asked "*detailed questions*" and concluded that design and operation of the risk management and internal control system was "*adequate and effective*".

March 2011

306. On 8 March 2011, the CSRC held a meeting. Malcolm Brinded reported on the situation in Nigeria. The CSRC noted that the Technical Integrity "Fix" programme was on track for completion by the end of 2011 target date, with the exception of Nigeria pipelines where the date was estimated to go beyond 2015.

307. On 9 March 2011, the Board held a meeting. Malcolm Brinded updated the Board on the *"status of various issues in Nigeria"*.

308. On 15 March 2011, the SIA issued a report, "UI-2011.010 Upstream Oil Spill Response Preparedness", regarding Upstream Oil Spill Response Preparedness (with Nigeria one of the locations covered by the report) put in place to cover the effectiveness of the Oil Spill Response ('OSR') Control Framework. In respect of Nigeria, the audit found that Tier 3 response exercises had not been performed at all locations, the exercise schedule was fragmented and only partially completed,

with lack of direct senior management involvement and no forward-looking exercise plan.

309. On 28 March 2011 the ExCo held a meeting. Malcolm Brinded reported on Nigeria operations, including bunkering, and Matthias Bichsel provided a HSSE update.

310. On 29 March 2011, SEPCiN issued its first HSSE&SP Control Framework "Security Gap Analysis and Implementation Plan". Approved by Agans Aganmwonyi, who had final accountability for its implementation. The scope included "*Shell Assets, facilities, operations, projects and activities*" including the Second Defendant's facilities. Submission of quarterly progress reports was planned "*as input to overall CF reporting to HSSE LT/SC, UI and Group*". A table headed "Detailed findings, actions & timelines" recorded plans including:

310.1. For Brian Mair (Regional Security Manager Sub-Saharan Africa, Shell International), (whose employer and role within the First Defendant's security function at the time is unknown to the Claimants) to conduct a security threat and mitigation assessment by the end of May 2012, and "*liaise with Shell centre*" to develop a country specific security plan by Q3 2012 and execute such plan by Q4 2012; and

310.2. For Dean Emmanuel (Corporate Security Operations Manager, SPDC) to conduct a risk analysis to assure that all identified risks were ALARP, and to align the SEPCiN protocol for security management with CF requirements by the end of May 2012; and develop and deploy an online security assessment tool as required by the Group by the end of December 2012.

311. On 29 March 2011, at Opobo Channel in Bodo, the JTF seized a metal dump barge containing about 15,000 bbls of crude, as well as other smaller barges also carrying crude. Between 30 and 31 March 2011, internal correspondence and photographs of the seizure were circulated within the Second Defendant. Vincent Holtam (General Manager Onshore Assets, SPDC) forwarded the update to Mutiu Sunmonu, copying in Ian Craig, remarking that the capture demonstrated that the

USD $1.5 million being spent on *"enhanced security"* in the area was *"paying off"*.

312. On 31 March 2011, the Second Defendant received a presentation from Continental Alarm Limited on options to improve asset integrity by electronic monitoring instruments, including wireless intrusion cameras, pressure gauges, CCTV cameras and real time alerts.

April 2011

313. On 1 April 2011, Ian Craig wrote to Malcolm Brinded about the JTF arrest on 29 March noting that it was "*[a]n illustration, if one is needed, of the scale of the bunkering operation, and the collusion needed to allow this to continue "unseen"*". He commented that the open market value of the crude was enough to pay for the increased security costs.

314. On 6 April 2011, the HSSE & SP Executive held a meeting. Among other issues, the Executive proposed updates to AIPSM and DEM2 including the following changes: "*Include "Wells" in various CF documents, Add/modify text on Statement of Fitness, Cause and Effects Matrix, Process Safety Review, Management Review (all AIPSM), Emergency Shut Down Valves".*

315. An unreported spill incident at the Awoba wellhead 002 (4.532330, 6.825262) was active as of 8 April 2011. Full details are provided in Annex 001.

316. An unreported spill incident at the Awoba wellhead 003 (4.533414, 6.828763) was active as of 8 April 2011. Full details are provided in Annex 003.

317. An unreported spill incident at the Awoba wellhead 008 (4.531444, 6.829851) was active as of 8 April 2011. Full details are provided in Annex 004.

318. As at 15 April 2011, the Second Defendant issued a presentation reporting that it knew of 19 non-leaking bunkering points on the Eastern Pipeline Network, with 11 non-leaking bunkering points repairs outstanding.

319. On 18 and 19 April 2011, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, and provided an Upstream International HSSE update. Armand Lumens presented the SIA report for Q1 2011 to the ExCo, which the ExCo reviewed and asked "*detailed questions*". Peter Voser asked Mr Lumens to provide a summary of action items and responsible parties to the ExCo. Martin Ten Brink presented and the ExCo discussed the Q1 2011 BCI Report and notes for information, including the Fountain Assurance Tracking.

May 2011

320. On 4 May 2011, the Second Defendant and its contractors, Eni, Saipem and Desicon Engineering, issued the "*Nembe Creek – Cawthorne Channel Trunkline Replacement, Pipeline Operating and Maintenance Manual*":

320.1. The manual set out the corrosion strategy and confirmed that pigging frequency would be established by the Second Defendant's Production Department based on initial monitoring and the operational budget.

320.2. As to pipeline operations and maintenance, it provided that pipelines would be operated in a manner to *"guarantee the continuous operability, efficiency and safe performance of the pipelines network so as to minimise deferments, eliminate discharges, improve environmental performance and enhance SPDC reputation and license to operate*". This was to be achieved by managing the risk of functional failure using a Risk and Reliability Management ("**RRM**") approach; with risk controlled to an acceptable level by reducing the probability or consequence of a pipeline failure to ALARP. The Manual cross-referred to the standards in the Second Defendant's Pipeline Integrity Management System ("**PIMS**") and Corporate Pipeline Maintenance Reference Plan, with the requirement that both Asset Reference Plans and Operational Reference Plans specifically reference PIMs.

320.3. As to pipeline operations and maintenance, it provided that pipelines would be operated in a manner to *"guarantee the continuous operability,*

efficiency and safe performance of the pipelines network so as to minimise deferments, eliminate discharges, improve environmental performance and enhance SPDC reputation and license to operate". This was to be achieved by managing the risk of functional failure using a Risk and Reliability Management ("**RRM**") approach; with risk controlled to an acceptable level by reducing the probability or consequence of a pipeline failure to ALARP. The Manual cross-referred to the standards in the Second Defendant's Pipeline Integrity Management System ("**PIMS**") and Corporate Pipeline Maintenance Reference Plan, with the requirement that both Asset Reference Plans and Operational Reference Plans specifically reference PI.

320.4. The Manual stated that during normal operating conditions no interventions were foreseen for the pipeline but regular pipeline patrolling along the RoW overfly would be performed, with operating personnel paying particular attention to the state of tie-ins and cathodic protection stations for evidence of unauthorised manipulations or intrusions. It provided that during programmed shutdown periods the isolating valves installed on the pipeline's pig traps would be fully closed and fully opened thereafter in order to verify their optimum function for emergency conditions due to leakage, pipeline rupture or start-up failure.

320.5. The Manual provided that in the case of a leak the pipeline pressure would be reduced to the minimum value feasible and the operation of the pipeline would preferably be reduced. The Manual drew a distinction between larger ruptures, where the pipeline would be isolated and replaced, and limited cracks, where sleeves clamped to the pipe were recommended.

321. On 9 May 2011, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including on production and divestments, and provided an Upstream International HSSE update. Matthias Bichsel provided an HSSE update.

322. On 12 May 2011 a virtual meeting concerning Nigeria took place attended by Ian Craig, Peter Robinson, Stuart McGeoch (General Manager Commercial Integration & Business Value, SNEPCO), Malcom Brinded, Marco Brummelhuis (VP Finance

Strategy and Planning, Upstream International, SIEP), Ben Ring (Senior Business Development Manager, SIEP), Peter van Driel (VP Investor Relations Europe, Shell International), Mark Turner (Head of Structured Finance, RDS), Godson Njoku (Senior Business Adviser to Shell Nigeria Country Chair / SPDC MD, SIEP), Kees van Noort (Strategy Advisor, Shell International) and Thijs Jurgens. Matters addressed included onshore growth scenarios, onshore licence renewal, SPDC JV funding, onshore timeline and the way forward. In respect of the latter it was noted that "*Shell is in Nigeria for the long term value maximimisation .. whilst it aims to enhance its (international) reputation.*

323. Reported spill incident ID 660628 was reported by the Second Defendant to have taken place on 16 May 2011, with the cause reported as Human Error. Full details are provided in Spill Annex 660628.

324. Reported spill incident ID 661190 was reported by the Second Defendant to have taken place on 17 May 2011, with the cause reported as Operational. Full details are provided in Spill Annex 661190.

325. On 18 May 2011, the Board held a meeting. The Board received a Safety & Environmental Performance, with the minutes recording that safety performance improvement appeared to be "*levelling off*" and that "*coordinated interventions and special attention*" would be required, including at the forthcoming "*safety day*" in June. [105]

326. On 20 May 2011, SIA issued an audit report, on the well integrity management, "UI-2011-003 Production Well Integrity Management", including in Nigeria. The audit:

326.1. Identified weaknesses in the well integrity programme including technical reviews signed off by individuals who were not Technical Authorities.

326.2. Found inconsistent use of action codes leading to over-reporting of wells with compliance deviations.

326.3. Found missing or inadequate criteria for leak rates and valve closure times in well integrity test reports in Electronic Well Integrity Management System ("**eWIMS**"), leading to potential for false assurance.

326.4. Identified several risks arising out of unreliable assessment of test results, including leaking valves not being repaired when they should be and Shutdown Safety Valves that do not close within the correct time limit not being repaired, leading to potential delays in isolating a well in the case of an abnormal event.

326.5. Found that Local Well Integrity Management Systems had not been completely carried out.

327. On 20 May 2011, SIA issued an audit report on the roll-out and implementation of HSSE Standards, "PT-2010.002 Group HSSE Standards Roll-Out and Implementation – Including Life Saving Rules". SIA gave the audit an opinion of "FAIR". The audit considered the implementation of the HSSE Control Framework across all the Businesses. It included the Second Defendant's operations in its scope and included findings in relation to:

327.1. Inadequate change management. There were inconsistencies in the way Businesses were implementing and adopting the HSSE Control Framework. Kieron McFadyen (EVP, Safety & Environment, Projects & Technology, SGSI) was assigned responsibility for actioning responses including applying updated change management with common approaches and expectations across the Businesses.

327.2. Lack of effective support from Global Discipline Teams ("**GDTs**") to the Businesses. Post *"transition 2009"* the GDTs were not providing effective support to Businesses on implementing the HSSE & SP Control Framework. This risk was rated as High and Arjan van Dijk, Allard Castelein (VP Environment, Projects & Technology, SGSI) and Dorine Bosman (VP Social Performance / Manager Sustainable Development, Projects & Technology,

SGSI) were assigned responsibility for ensuring the GDTs increased visibility, supported Businesses as intended and shared learning on how to simplify and standardise risk controls and work procedures.

327.3. Business HSSE teams were not making full use of the GDTs. There were inconsistencies in the implementation strategy of various businesses, including a lack of clarity on retiring old standards in the process of implementing the new HSSE & SP Control Framework requirements, and little evidence of cross-business sharing of learning. David Martin and Kieron McFadyen were assigned responsibility for ensuring the Upstream International and P&T HSSE & SP teams implemented and improved *"mechanisms for rapid sharing of good practices and making use of GDTs"*.

328. On 23 May 2011, Vincent Holtam emailed Jurgen Janzen, Muhammad Shittu (Business Opportunity Manager, SPDC), Ben Agbajogu (Operations Manager, Afam Power Plant, SPDC), Andrew Birch and others regarding the Facilities Fix Programme, noting that it was due to be completed by the end of 2011 and was "*being tracked in RDS at the highest possible level, so failure to either close or get an approved step out is not an option*". He further noted that the programme had been stalled at 93% completion for some time.

June 2011

329. In June 2011, the SIA issued an audit report on response to and management of security threats, titled "HR&CSec-2011.001 Risk Response Management to Physical Security Threats". The audit received an unsatisfactory opinion, and covered Malaysia, Nigeria, China and Pakistan. The audit findings included:

329.1. *"The current design of the Shell Security function does not support effective risk response management to physical security threats and assurance thereof. Corporate Security (CS) is responsible for identifying threats to Shell's people, property, reputation and sensitive information and providing advice. However CS cannot enforce security risk response measures as businesses and Country Chairs are accountable for mitigating the identified*

security risks to an acceptable level. Many gaps and inconsistencies were noted, which is partly caused by the different Governance models for Security, e.g. Real Estate (RE) has a dedicated Security function, DS has Security integrated within HSSE, Upstream has Security detached from HSE, Nigeria has a dedicated Security organisation".

329.2. "*CS has limited resources to provide reliable assurance themselves and is therefore largely dependent on Security Risk Assessments (SRAs) from the Businesses and Countries."*

329.3. In respect of audit finding no.1, "*Gaps in the Security Governance and incomplete assurance on Security risk mitigation*":

(a) The report found "*inconsistent responsibilities related to risk responses"*, noting that "*[t]he CS function is currently overstretched and unable to respond to every request made by the Businesses regarding practical assistance and support to participate in HSSE audits, facilitating SRA's, conducting training and awareness events and independent review of the effectiveness of security risk mitigation and response measures*."

(b) The report found that there was "*[i]nadequate reliable assurance on effective risk response management to physical Security threats"*, noting that "*CS lacks the tools and resources required to deliver Group and Business level assurance effectively"*, there was "*no structured information flow or feedback from the businesses or countries on the follow up of security assurance related action items is available to CS"*, "*very limited monitoring takes place regarding Group and business independent HSSE & SP Assurance action items until implementation"*, and there were no procedures for Corporate Security to escalate action items in Businesses.

(c) The report found that there was limited communication between security organisations, including in Nigeria.

(d) The report further found that "*no monitoring is in place by the security function to ensure compliance with training requirements for the relevant Security responsible persons"*; noting *"risk that the training provided by CS is not complete and effective to build up the skill level at the required level*".

(e) The report further noted that: "*no security rules (like the HSE life savings rules) coupled with consequence management system are in place to enhance general security awareness to drive the right behaviour towards security threats and incidents among Shell staff and contractors or ensure individual compliance with the GSS."*

(f) The above findings were rated as "*High*" risk, with the report noting that "*[g]aps in the governance framework may result in a failure in managing security risks effectively and providing assurance of the effectiveness of security controls"*.

329.4. In respect of audit finding no.2, "*Gaps in Management of Risk Responses to Physical Security Threats*", the report identified gaps in effective risk responses to security threats. In particular:

329.5. The report identified *"Incomplete Security Risk Assessments (SRA) and gaps in quality of SRAs"* noting that a significant number of sites did not have such assessments in place. Without security risk assessments in place, "*there is little assurance how well security threats are being managed"*. Corporate Security did not have an effective mechanism in place to monitor the status and quality of such assessments.

(a) The report found that the quality of security risk assessments was inconsistent. Low quality assessments were observed and the actions to address identified weaknesses in many samples were not effective to mitigate the risks. The Security Risk Assessment Manual provided no guarantee that assessments were conducted effectively.

(b) There was a lack of timely follow up on previous audit actions.

(c) Security incident reporting was limited and were not recorded in Fountain Incident Management, and engagement with external stakeholders was not formally embedded and had not produced results.

(d) The above findings were rated as "*High*" risk, with the report noting that "*[l]ack of adequate security risk assessment at country and site level and gaps in the management of risk responses to physical security threats may result in security incidents and extended exposure to security threats*".

330. On 7 June 2011, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, and provided an Upstream International HSSE update.

331. On 14 June 2011, the UILT held a meeting. Ian Craig informed the UILT of increasing security challenges in Nigeria. He presented the "*UIG plan"*, and "*outlined major challenges related to license expiry and proposed that the climate is now right for a ramp up of activity levels*". He informed the UILT of a Nigeria strategic review due to take place later that month (the "**Nigeria Strategic Review**"). Malcolm Brinded stated that the situation had improved in Nigeria with the amnesty holding after almost two years

332. In June 2011 the First Defendant's CEO endorsed the Nigeria Strategic Review.

333. On 16 June 2011, Terms of Reference for the Nigeria Security Review were issued. Planned for 25 July – 5 August 2011 (the "**August 2011 Security Review**"), the scope of the review encompassed the effectiveness and efficiency of security operations, assurance, control and management of Shell Companies in Nigeria, with a focus on "*demonstration of alignment with Group Security Standards and the provision of assurance to meet requirements*". Robert Ream (Regional Security Manager, Americas, Shell International) was identified as Audit Lead, and Ian Craig and James Hall (VP Corporate Security, Shell International) as Sponsors.

334. Reported spill incident ID 675384 was reported by the Second Defendant to have taken place on 20 June 2011, with the cause reported as Operational. Full details are provided in Spill Annex 675384.

335. In June 2011, Linda Szymanski (Chief Ethics & Compliance Officer, Shell International), the First Defendant's then new Chief Ethics and Compliance Officer, visited Nigeria as part of her "*critical review of RDS' compliance process*" intending to focus on "*building commitment with businesses and functions*" in high-risk operations including Nigeria. She was accompanied by Keith Ruddock.

336. Reported spill incident ID 677598 was reported by the Second Defendant to have taken place on 26 June 2011 with the cause reported as TPI. Full details are provided in Spill Annex 677598.

337. On 29 June 201, the HSSE & SP Executive held a meeting. Relevant discussion points included:

337.1. The Executive asked for a further review of the effectiveness of Environment GDTs (including soil and groundwater) in the third quarter.

337.2. The Executive supported proposed interventions *"to drive zero tolerance of E non-compliance, in with feedback and strong steer from [EC] [the Executive Committee] engagement the previous day*". The Audit Committee was to give direction and provide communications materials to facilitate engagements with HSE Business Leadership Teams to raise awareness and understanding.

337.3. The Executive provided a steer on reporting to CSRC, including a steer to *"[m]ake clear that "cumulative high" findings equal a "serious" finding and therefore an "outcome of significance"*".

July 2011

338. On 1 July 2011, the First Defendant held a "*Nigeria CE* [Chief Executive] *Review*" to consider and obtain support for a proposal to grow operations in Nigeria rather

than stay flat or reduce investment. The review was attended by Peter Voser, Malcolm Brinded, Simon Henry, Ian Craig, Maarten Wetselaar, Macro Brummelhuis and Ben Ring. Significant improvement in operational performance was noted over the preceding 18 months and further improvement was anticipated. This was attributed in part to increased discipline around shut-ins for both flares and spills. Funding options for the Second Defendant were addressed. Messrs Voser and Henry expressed concern that the continued use of MCAs provided NNPC with the wrong incentives, noting that what had begun as an interim solution risked becoming the norm. Mr Craig stated that the Second Defendant had lost some of its execution capability and "*would need some P&T support to improve performance*". It was agreed that the Nigeria Strategy would be discussed at the EC on 18 July and possibly at the Board on 27 July, time permitting, and if not, later in the year.

339. As of 4 July 2011, the Second Defendant purportedly knew of 14 new non-leaking bunkering points compared to 15 April 2011, and was purportedly aware of a total of 25 known bunkering points on its Eastern pipeline network. These included three bunkering points on the old NCTL over the Sombreioro River in or close to the Bille area near Awoba.

340. On 5 July 2011, James Hall sent an email to "ALL SECURITY PROFESSIONALS IN SHELL" in respect of the HSSE & SP Executive meeting of 29 June 2011, informing them that the ExCo members (Peter Voser, Malcolm Brinded, Hugh Mitchell (Regional Director for Africa and Human Resources Director & Corporate Officer, RDS) and Matthias Bichsel) had supported a review of the Corporate Security Governance model to ensure it was aligned with other functions which manage security risks across the Shell Group. He stated the ExCo members supported Corporate Security's ongoing security review of Nigeria, and that Peter Voser wanted further data to show gaps in compliance with the HSSE Control Framework to enable the ExCo to support efforts at gap closure.

341. As is clear from a presentation titled "Pipeline Protection Management of Known Non-Leaking Bunkering Points" from July 2011, the Second Defendant maintained and updated a map of bunkering points and refineries around its pipelines and

infrastructure. The presentation recognised that "*Non repaired points still subject to bunkering due to ineffective policing*" but that it was "*Difficult to secure shutdown for non leaking points*".

342. The presentation as well as a document of the same date, titled "*Special Project – Management of Known Bunkering Points*", set out the Second Defendant's strategy for management of leaking and non-leaking bunkering points as of July 2011. As to the content of that strategy:

342.1. For leaking bunkering points, the strategy was to immediately shut down upstream flow stations, isolate the affected segment of the pipeline, and arrange for a JIV / repair to be conducted immediately.

342.2. For non-leaking bunkering points, the strategy, at least on the TNP, was to carry out a "*raking*" of the swamp area to update the list of non-leaking bunkering points; conduct a risk assessment and put mitigation in place pending availability of an Integrated Activity Plan ("**IAP**") window for the repair of bunkering points and mobilise additional teams to remove bunkering points existing within the shutdown area in the event of a leak; and to seek shutdown windows to carry out the "*Known Bunkering Points Repair campaign".*

343. The documents stated that non-repaired points were subject to bunkering due to ineffective policing; and that the installation method was not made to standards, causing the fillet welds to fail after some time and resulting in spills and environmental damage. The documents further noted that most of the bunkering points were valve/nipple connections and that the resources required to disable the handles of the valves were the same as to completely repair the bunkering points. The process of disabling the handles was said to result in leaks. Another option was to disable the handle and cap the points but this had "*proven to be inefficient and not allowed again in our repair DEP*". The note concluded that overall it was better to remove rather than disable the points and "*put effective surveillance in place to safeguard tampering till the points are repaired properly*".

344. The documents further stated that, once there was a window with shutdown/isolation in place, a day was sufficient to remove a point or two on land (depending on terrain), with approximately twice the length of time required to remove bunkering points in swamps. They noted difficulties in securing shut down for non-leaking bunkering points, especially trunklines, which required shutdown of four to five flow stations for some days, which would result in deferment.

345. The documents stated that "*The challenge is not with the repair capabilities of the contractors but with our own supervisory capabilities*".

346. The strategy for repair of the non-leaking bunkering points set out in the presentation included 24/7 security watch over the shutdown delivery line / trunk line during the repair period due to low / no pressure on the pipelines.

347. Reported spill incident ID 685360 was reported by the Second Defendant to have taken place on 8 July 2011 with the cause reported as Operational. Full details are provided in Spill Annex 685360.

348. Reported spill incident ID 685650 was reported by the Second Defendant to have taken place on 9 July 2011, with the cause reported as Operational. Full details are provided in Spill Annex 685650.

349. On 13 July 2011, the UILT held a meeting. Ian Craig updated the UILT on activities in UIG and expressed "*concern on process safety and cumulative risk".* He provided a summary of the Nigeria Strategy Review as endorsed by Peter Voser. He noted that a lot of challenges remained to be addressed prior to getting the strategy off the ground. In his view, the country was at a "*pivotal point — it still offered major opportunities but required a substantial step change to enable those opportunities to be realised going forward*". Ann Pickard stressed the importance of taking a long-term outlook given that Nigeria has had a long history of positive revenue generation for the First Defendant.

350. Reported spill incident ID 689063 was reported by the Second Defendant to have taken place on 16 July 2011, with the cause reported as Human Error. Full details are provided in Spill Annex 689063.

351. On 18 July 2011, the ExCo held a meeting to discuss and endorse the Nigeria Strategy.

352. Reported spill incident ID 689552 was reported by the Second Defendant to have taken place on 19 July 2011, with the cause reported as Operational. Full details are provided in Spill Annex 689552.

353. On 21 July 2011, the SPDC JV 2011 – 2015 Strategic Business Plan, marked "Confidential", was published. The Executive Summary noted that the emphasis in the Business Plan was on maximising and protecting production from existing assets. Additionally, the Second Defendant was said to have embedded a "*new cost and commercial mindset*" aimed at reducing costs and achieving production targets without compromising on HSE and asset integrity. A section on "Funding" reported that the improved security situation in the Niger Delta "*has engendered unfettered access to facilities for repairs*" making it imperative that adequate funding for repairs was provided to enable sustained production. A section on "Asset Integrity and Infrastructure" identified TPI as the key threat to pipeline integrity and listed specific integrity assurance activities underway to sustain system integrity including routine and intelligent pigging of lines, application of corrosion inhibitors, cathodic protection and coating surveys, and Right of Way maintenance. Reduction of TPI, leaks and pollution was flagged as a key deliverable, with plans including review of existing construction methodology to give new pipelines better protection against TPI; development and implementation of improved asset security strategy; and increased GSF surveillance around TPI "*hot spots*". A section on "Health, Safety and Environment and Security" listed security assumptions for 2011 to 2015, including that the Security Operational Level (SOL) "*will continue to fluctuate between AMBER and RED till 2015*" requiring commensurate security activities and budgets, and that TPI would be likely to continue.

354. On 25 July 2011, a Root Cause Analysis ("**RCA**") for a spill on the Ekulama Delivery Line was prepared, setting out the JIV findings. It identified the cause of the leak as external corrosion. It noted that the defect points on the line had grown faster than predicted and intelligent pigging in 2006 had indicated critical defects requiring possible intervention. It referred to the required dig verification of large defects to confirm IP results not having been done for two years in 2007-8 because of the security situation. It further noted that the line was not considered for review prior to the 2010 commissioning of the new NCTL and had been taken back into production in July 2010. The RCA recommended a reassessment of all pre-NCTL "Green" lines "*to assure no further surprise".*

355. On 26 July 2011, the CSRC held a meeting. It requested to be updated on the upcoming report by the United Nations Environment Programme (on which see paragraph ** below) once it was issued so that it could be reviewed at a future meeting. The CSRC noted what it described as positive progress in Nigeria through actions on asset integrity and increased transparency. It was updated on the status of the OECD complaint on oil spills in Nigeria and the company.

356. On 27 July 2011, the Board held a meeting. The Board was given a presentation by Maarten Wetselaar titled Nigeria Strategy Review. The minutes record Board as having *"considered"* and *"supported"* the proposed strategy.

357. On 27 July 2011, Nina Arvanitidis (Sustainable Development Business Adviser, SIEP) emailed Rupert Thomas, stating that the CSRC considered "*Shell's activities in Nigeria*" to be an "*issues[sic] of public concern with potential reputational impact*" for the Shell Group and the First Defendant.

358. On or around 21 July 2011, the Board supported a change in the country strategy: from "*hunker down*" to "*conditional growth*". Under this new strategy the Defendants would commit resources to grow business in Nigeria and overcome challenges including insecurity and lack of funding from NNPC. This would enable higher levels of investment in later years, and sought to capitalise on an improving security and business environment and operational performance.

August 2011

359. Between 30 July 2011 to 11 August 2011 Robert Ream led a team to review security in Nigeria. A follow up report set out its key findings. The review and report took into account, *inter alia*, the "Unsatisfactory" finding of the audit "HR&CSec-2011.001 Risk Response Management to Physical Security Threats"; the BID's uncovering of irregular and unverifiable payments by the UIG Business by companies purporting to provide services to the GSF assigned to protect Shell assets and people; the high turnover of holders of the SPDC VP Security role; and the departure of key expatriate security staff from Nigeria in 2011. The findings included:

359.1. Leadership and Commitment:

(a) The then-current holder of the SPDC VP Security [Mason Oghenejobo's] role lacked the requisite experience and competency;

(b) The Second Defendant's Security team did "*not have a recognized seat at the table*" meaning it was either not consulted, was consulted late, or was unable to provide sufficient or competent support;

359.2. Organisation, Responsibilities and Resources:

(a) The structure of the Second Defendant's security organisation was "*wholly inconsistent with other country or regional security structures within the Group*" as evidenced by, for example, the VP Security role having "*no functional accountability to the Corporate Security function in The Hague"*.

(b) The organisational structure meant that the expatriate role of Corporate Security Manager (which was then-vacant) was "*sidelined*" to the VP Security role and so unable to provide requisite technical experience and management.

(c) Area Security Advisors appeared to spend significant time "*administering*" security rather than advising and providing functional support, and "*did not appear to understand the reality of their operating environment nor the importance of providing technically astute and credible security management at the operational asset level*";.

(d) Various parts of the Shell organisation, including the Managing Director of the Second Defendant, expressed the need for "*technical resources to mitigate security threats*". In parallel, the review team observed numerous examples of misspending on technical solutions: "[i]*ndividual asset and business units have, for years, been purchasing security equipment which is either not suited to the task required, the environmental climate, pervasiveness of theft, or computer literacy of individuals operating it*" and was also not adequately maintained. The review team opined that the proposed solution of the Second Defendant's Security Leadership Team – namely, to employ a new "Technology Team" to address these issues – was "*simply representative of the observed tendency to overstaff activities without a clear plan or organizational direction*".

359.3. Competence:

(a) Overall, the receptiveness of the Security function to feedback was low, and it did not demonstrate a willingness to learn or change.

(b) Additionally, the Security function lacked experience "*as well as necessary exposure to other high risk environments*.

359.4. Risk Management:

(a) *Physical Risk*: Threat levels appeared only to increase and were not actively reassessed when they changed, which was indicative of an immature and unconfident organisation.

(b) *Transparency Risks*:

(i) Direct payment by the Security function to the GSF lacked transparency and created "*tremendous*" exposure to the US Foreign Corrupt Practices Act.

(ii) The risk of TPI was being "*insufficiently managed by use of 'surveillance' contracts*", including because: it was "*impossible*" to verify how many local surveillance contractors were engaged; there was no consistent understanding between the Second Defendant's departments as to the extent and scope of surveillance activities; contracts were paid without evidence of service, with the review team observing that numerous surveillance posts on the Rights of Way were unoccupied; and use of information gained from such surveillance was not clear. Overall, the surveillance process was "*ineffective*".

(c) <u>*Intelligence Management*</u>: The Second Defendant's in-house Security Intelligence and Surveillance Team (SIS) did not provide clear value to Business Leaders or Security Operations Managers and it appeared to the review team "*that SIS mainly scans and summarises open source news reports before sending them out daily in an annotated summary*".

359.5. <u>Reporting:</u>

(a) Fountain Incident Management for Security Incident Report was not used reliably which made "*tracking of the security situation impossible and potentially prevents embedding of lessons learned from incidents resulting in changed behaviours*".

360. Various recommendations were made following the August 2011 Security Review. In particular:

360.1. "*Ideally*", Regional Operational Security Managers were to report to the new Corporate Security Manager to enable effective supervision and support.

360.2. The Assurance function required embedment within the Security Department.

360.3. Leadership from a new head of Security plus "*properly thought through rules*" were required to build confidence and ensure security was "*treated with the same seriousness as HSE*".

360.4. Upskilling of the Second Defendant's security team, through professional development initiatives such as mentoring and tailored training, was required.

360.5. "*Longer tenure*" in the function was "*essential to develop a cadre of talent*".

360.6. To enable central advice to be provided on solutions, the "*newly appointed Corporate Security focal point for technology* [needed] *to be aware of the specific issues the review witnessed in Nigeria*".

360.7. The Second Defendant should only be managing Right of Way maintenance contracts, and the "*so called 'surveillance contracts need renaming or reframing. These contracts need to be established via the local community nominating a company to contract them, and providing a mechanism to report suspicious activity. Shell Nigeria Gas use and have proven such an approach works and could be used as a model*."

361. Following receipt of the review, over the following months and years but on dates unknown, various changes were made at the First Defendant's direction including:

361.1. Replacing the JGA VP Security with a General Manager Security at **JG1. Agans Aganmwonyi was appointed to the position

361.2. Putting security under Tony Attah's supervision at Nigeria Leadership level.

362. The creation of the role of Regional Security Manager Sub-Saharan Africa which was filled by Brian Mair.

363. In August 2011, the United Nations Environment Programme ("**UNEP**") published its report, "*Environmental Assessment of Ogoniland*" (the "**UNEP Report**"), an independent scientific assessment of oil pollution in Ogoniland undertaken by a team of experts assembled by UNEP at the invitation of the Nigerian government. The findings in the report, which correctly described the circumstances to which they related, included:

363.1. Oil spills in Ogoniland happened "*with alarming regularity*". Oil contamination was "*widespread and severely impacting many components of the environment*". In light of the extent of pollution, it was "*a fair assumption that most members of the Ogoniland community have lived with chronic oil pollution throughout their lives.*"

363.2. The control, maintenance and decommissioning of oilfield infrastructure in Ogoniland were inadequate. In particular:

(a) Some facilities which were out of use had never been formally decommissioned; they had been abandoned, had not been maintained, were exposed to the elements and vulnerable to corrosion, and were "*highly prone*" to damage in the context of irregular security incidents and commonplace unauthorised access.

(b) The way in which some of the facilities were left did not adhere to the Second Defendant's own standards. UNEP's reconnaissance had routinely come across oilfield resources which had "*evidently been abandoned in an uncontrolled fashion*". This *"varied from pipelines left open and lying in trenches (possibly deserted midway through pipe laying operations), to oil facilities left standing but without subsequent maintenance."* The control and maintenance of oilfield infrastructure in Ogoniland was "*clearly inadequate*".

(c) A number of defunct wells in Ogoniland still contained oil and were self-flowing, allowing for crude oil to be produced. UNEP observed people tapping into these wells and transferring oil to barges on one visit.

(d) UNEP concluded that "*Industry best practice and SPDC's own documented procedures have not been applied and as a result, local communities are vulnerable to the dangers posed by unsafe oilfield installations. The oil facilities themselves are vulnerable to accidental or deliberate tampering*

363.3. Refining activities were proliferating in "*full view of the enforcement agencies*" indicative of a lack of preventive measures or collusion.

363.4. The Second Defendant was an oil company with decades of experience in Nigeria, and was *"backed up technically by Shell which provides a broad policy framework with corporate guidelines and specific technical assistance through Shell Global Solutions"*.

363.5. RENA, the only remediation method used by the Second Defendant and endorsed by SGS, was ineffective. In particular:

(a) The use of RENA was hampered by temperature, rainfall and topography; not all hydrocarbons were amenable to bacterial biodegradation making the process unfeasible in certain soil types and circumstances.

(b) "*The RENA process is failing to achieve either environmental clean-up or legislative compliance. As seen in the analyses and case studies presented in this report, it is also failing to achieve compliance with SPDC's own procedures*".

(c) The Second Defendant applied RENA to surface level soils only (0.5 metres to 1.5 metres) on the unsustainable assumption that hydrocarbons would not move deeper. Observations by UNEP showed that contamination could often

penetrate deeper than 5 meters and had reached groundwater in many locations.

(d) In practice, the top one metre of topsoil was not being tilled and mixed properly.

363.6. The Second Defendant's soil remediation criteria were inadequate. In particular:

(a) For its recommended values for clean-up, the Second Defendant used 5,000 mg/kg TPH as its remediation criterion for soil, reflecting the EGASPIN intervention value of the same.

(b) The EGASPIN criteria suffered from internal inconsistencies, "*in one section defining a 'target value' of 50 mg/kg TPH as the desired end point for restoration after oil spill, while in a section on remediation of contaminated land an 'intervention value' of 5,000 mg/kg TPH is given for remediation closure"*.

(c) While the Second Defendant stated that its close out value of 5,000 mg/kg was based on a risk assessment, the Second Defendant had overlooked several key issues, such as (i) the varied geology of the Niger Delta, which was not amenable to applying a uniform close out value, (ii) the 5,000 mg/kg threshold was inconsistent with international standards, and (iii) there was a "*paradox"* in that remedial intervention and target values were set at the same level.

363.7. The Second Defendant's selection criteria for appointing contractors to undertake remediation work was inadequate, giving insufficient weight to technical competence and placing too much weight on past performance in obtaining certification for completed sites.

363.8. UNEP's experts had discovered "*dozens of locations where oil spill incidents had occurred in the past. The spills may have happened decades ago*

or weeks ago, with multiple spills at some locations. Some of these locations had actually been documented by the operator as assessed and cleaned up, while others were still waiting to be cleaned up. The difference between a cleaned-up site and a site awaiting clean-up was not always obvious."

363.9. The Second Defendant had wrongly classified sites as remedied; 10 out of the 15 sites investigated which the Second Defendant's records showed as complete, continued to have pollution exceeding the Second Defendant's and the Nigerian governments remediation closure values. At eight of the sites, contamination had migrated to the groundwater.

363.10. The Second Defendant's January 2010 RMS was an improvement but still did not meet Nigerian regulatory requirements or international best practice. In particular:

(a) The new remediation intervention value of 3,000 mg/kg TPH was an improvement on the EGASPIN intervention value of 5,000 mg/kg TPH, but "*the use of an 'intervention value' as the 'target value' for remediation close-out is not in line with EGASPIN philosophy and its interpretation by DPR. The proposed SEPCiN value, while certainly an improvement on the previous value, does not represent full compliance. Expert-level discussions are needed between DPR, NOSDRA* [National Oil Spill Detection and Response Agency] *and the oil companies to arrive at a technologically feasible target value".*

(b) The proposed ex situ RENA approach was an improvement over in situ RENA, but still suffered from the "*major limitations*" of RENA identified in the report.

(c) While sediments and groundwater had been brought within the purview of materials to be remediated, the proposed modifications were incapable of resolving the limitations identified by UNEP.

(d) The following three "*minimal operational interventions are absolutely necessary in the event of an oil spill*" before cleanup is initiated:

1. *Ensure that the source of the spillage is shut off by closing the valves on the facility*
2. *Contain the oil within the spill site to prevent runoff by blocking culverts and digging interceptor gullies*
3. *Clean up pooled or standing oil which presents a safety hazard*"

363.11. In UNEP's visits, it was observed that there was "*always a time-lag between the spillage being observed and dealt with. In the worst case situations, standing oil left on the ground posed an imminent safety hazard and an ongoing environmental hazard"*. Further, where intervention measures had been taken, such as laying containment booms, the equipment was observed to be in poor condition. Further, "*[a]ny delay in cleaning up an oil spill will lead to oil being washed away by rainwater, traversing communities and farmland and almost always ending up in the creeks".*

363.12. The recommendations of the UNEP report included:

(a) The Second Defendant's procedures for oil spill clean-up and remediation needed to be fully reviewed and overhauled so as to achieve the desired level of environmental restoration.

(b) For the Second Defendant to conduct a comprehensive review of its assets in Ogoniland and develop an Asset Integrity Management Plan and a decommissioning plan.

(c) Based on the plan, the Second Defendant should initiate decommissioning of the facilities that were no longer in use.

(d) The Second Defendant should initiate a campaign to end illegal oil-related activities across Ogoniland.

(e) An Oil Spill Contingency Plan ("**OSCP**") should be prepared to ensure oil spills, regardless of cause, are dealt with in the shortest time possible.

(f) The Second Defendant's approach of cleaning up contaminated sites through remediation by RENA should be discontinued, and the revised RMS did not address UNEP's concerns. Instead, procedures should be put in place for any new spills to be assessed within the shortest possible time and heavily contaminated soil excavated and sent to a centralised facility for treatment and disposal.

(g) The Second Defendant was recommended to work with Nigerian regulators to clarify the paradox of remedial intervention and target values being the same, and work on agreeing a consultative approach to setting site-specific clean-up values.

(h) In the event that the Second Defendant made a decision to restart oil exploration and production activities in Ogoniland, the region should be treated as a green-field site of high environmental and social sensitivity. This would mean applying the latest technologies and environmental guidelines, such as re-evaluating pipeline routes to minimise environmental damage and allocating a percentage of all project costs for environmental and sustainable development initiatives in Ogoniland.

(i) Detailed technical recommendations were also made for environmental restoration.

364. Following the publication of the UNEP Report, Amnesty International wrote to Peter Voser in August 2011, urging the First Defendant to take swift action to implement the recommendations of the report and address the human rights impacts of oil pollution in Ogoniland.

365. On 8 August 2011, following publication of the UNEP Report, Malcolm Brinded briefed Peter Voser and senior Shell Group staff on initial reactions and substantive

issues raised. Mr Brinded noted UNEP's concerns regarding the Second Defendant's remediation performance and compliance with its own standards, the need to distinguish legacy asset integrity issues, and noted the gap between Nigeria remediation standards and Shell's global standards as being a *"key area for detailed study with wide implications"*. Mr Brinded confirmed coordinated crisis management at both First and Second Defendant levels.

366. The First Defendant responded to the report by establishing a Nigeria task force to coordinate its response to the UNEP Report. Ahead of a coordination meeting, Ian Craig circulated an agenda including the need to "*review the RDS resources for both the task force effort and the support SPDC requires*", set up coordination of information flow between the Defendants' teams to establish any *"big rules"* to limit RDS legal exposure:

366.1. On 9 August 2011, draft Terms of Reference (TOR) were circulated. The TOR recorded Malcolm Brinded as the sponsor, with Ian Craig the steering team chair. The TOR state that, by accusing the Second Defendant of failing to apply its own health, safety and environmental procedures, the UNEP report *"calls into question Shell's ability to ensure global performance as it relates to oil spills and remediation"*, thereby creating an urgent need for Shell to review and respond to the report's conclusions and recommendations.

367. In August 2011, the Flowline Integrity Management System ("**FIMS**") findings (as set out in a presentation dated 1 August 2011) showed that:

367.1. No proper data records regarding flowlines leak repairs were maintained after FIMS was abandoned in 2007. Thereafter no sampling and ultrasonic testing measurements records were available, which had hampered the full integrity assessment work.

367.2. Previous replacement recommendations from the integrity group were not fully implemented.

367.3. Quite a substantial number of flowlines in the East were not in use and an abandonment strategy for these lines was yet to be developed.

367.4. Sand production and erosion was a common threat for the integrity of the flowlines.

367.5. Up to 140 flowlines needed to be replaced, and another 150 needed urgent physical verification to determine the urgency/need for replacement.

367.6. Flowline corrosion leaks averaged about one p/m and were usually pinhole leaks. Corrosion leaks were likely to continue until verifications were complete and worst lines were replaced.

368. By at least August 2011, the Fix Programme completion deadline had slipped to 2012, as stated in a presentation titled "*Nigeria 2012 Business Delivery Strategy*" by Tony Attah.

369. On 16 August 2011, James Stark emailed Solomon Asen noting that Ian Craig had *"instructed"* the need for increased security protection for the NCTL. Mr Stark recorded that CAST-type community based surveillance would not be used *"as this opposes the strategic direction set by Shell Group HSE"*.

370. In August and September 2011, Patrick Agbo Corporate Manager, Oil Spill Response, SPDC), the Second Defendant's Head of OSR, requested assistance from Ron Boyd (Health, Safety, Environment Performance and Reporting Manager, Upstream International, SIEP) in acquiring "Spitfire" software to enable better spills management analysis. He explained that the Second Defendant was required to analyse spills by causes (sabotage or operational), flowlines, pipelines and well heads, and the response and clean-up. He provided Mr Boyd with sample weekly and monthly reports produced by the Second Defendant. The material provided to Mr Boyd included slides with statistics of spills between 2008 and 2010. These provided:

370.1. For TPI spills: crude oil theft accounted for 159 incidents, and hacksaw cuts accounted for 143 incidents.

370.2. For "controllable" spills, it identified major issues as corrosion (51 incidents), equipment failure (45 incidents for which clamps caused 22 and saver pits caused 9) and human error (10 incidents).

371. Reported spill incident ID 699120 was reported by the Second Defendant to have taken place on 10 August 2011, with the cause reported as Operational. Full details are provided in Spill Annex 699120.

372. Reported spill incident ID 700229 was reported by the Second Defendant to have taken place on 13 August 2011, with the cause reported as Operational. Full details are provided in Spill Annex 700229.

373. On 17 August 2011 a *"significant spill"* estimated in the region of 480 barrels occurred on the Old NCTL during flushing of the line. A spill incident notification was circulated to Ian Craig and Malcolm Brinded, copying in a number of Shell Group staff, on 6 September 2011. On 7 September 2011, Ian Craig forwarded this notification to Mutiu Sunmonu and Bart Lismont describing it as a *"deeply disturbing incident"*, with the operation having been delayed for almost a year *"to ensure that we got it right"*. He considered the spill to have been *"avoidable"*, suspecting flaws to the risk assessment process. Mr Craig requested a thorough investigation to be undertaken, with the results presented to him before any decommissioning operations that present an environmental risk were resumed.

374. On 19 August 2011, following a Netherlands and UK leadership visit to Nigeria after publication of the UNEP report, Graham van't Hoff (Chairman, Shell UK Limited) circulated the *"frank thoughts"* of the visiting delegation to Malcolm Brinded, Mutiu Sunmonu and Ian Craig. The delegation (including Robert Dencher (Head, Netherlands Government Relations, Shell International), Thijs Jurgens, Leon Tops (Manager External Relations, Shell International) and Dick Benschop (President-Director, Shell Netherlands) advised Shell to treat the UNEP report as *"an opportunity for fundamental change"* and to position Shell as a major part of

the solution. They observed that "*the business case for embracing UNEP is very strong. Not only is the future project potential for Shell in Nigeria huge, but so also is the value that can be released from restoration of full operations of our existing portfolio.*" They recommended acknowledging that the condition of onshore oil facilities was *"unacceptable"* and that *"the situation in Ogoniland is a disaster"*, and proposed that the Second Defendant agree to fund cleanups, framing remediation expenditure and social investment as an investment necessary to restore operations and long-term value rather than a cost.

375. On 22 August 2011, Thijs Jurgens emailed Ian Craig regarding the "*opportunity for fundamental change"* identified by Graham van Hoff following the UNEP Report, stating that *"RDS needs to take a policy decision on this."* Mr Jurgens recognised the UNEP Report as "*a detailed, credible statement from an independent body*" and that "*the nature and scale of the damage that oil has done to Ogoni is shocking and unacceptable*." He suggested that fundamental change depended on *"genuine efforts"* to stop bunkering and illegal refining, improving security and access, effective governance and funding clarity, and rebuilding trust. One element of the "*game-changing goal*" he suggested was for the Second Defendant to make clear that "*We will stop production rather than allow spills and theft to continue.*" Mr Jurgens argued that meaningful progress would require improved alignment between the Federal Government, oil companies and affected communities. He proposed that a credible external third party could help broker this alignment.

375.1. On 29 August 2011, Mr Jurgens forwarded his views, marked legally privileged, to Malcolm Brinded and Ian Craig referring to a note from Mr Brinded titled *"Getting the balance right…"* and a brainstorming session held on ways to obtain change in the Niger Delta. Mr Jurgens set out further policy proposals on this issue. He suggested the c. USD 1 billion clean-up fund may be a *"logical next step to bring in a third party"*, such as the UN or an NGO.

376. At the end of August 2011, Ian Craig, James Hall and Osagie Okunbor discussed the Nigeria Security situation, including the proposed reporting structure.

376.1. In an email of 21 August 2011, Mr Hall noted that: "*It is clear there are some significant problems to address with implications for how we staff the senior security positions. It would be worth us discussing it sooner rather than later and certainly before we get too far with the recruitment of a successor to Mason* [Oghenejobo]".

376.2. In an email of 24 August 2011, Mr Hall further explained that the review of corporate security had concluded that *"[t]he current threat to our operations in Nigeria is unlikely to change significantly for the foreseeable future. The current security operation is seriously flawed. Examples include significant over-staffing; ad hoc and poorly thought-through responses to security incidents; ineffective management of relationships with government security forces; failure to build up skills and capability; unsatisfactory approach to intelligence gathering and assessment. There are others. There is no proper due diligence applied to the C and P process for the circa 80 contractors who provide logistical support to the Joint Task Force. This raises serious questions about inappropriate payments and ineffective cost control. We look vulnerable on FCPA [*Foreign Corrupt Practices Act*] and VPSHR* [Voluntary Principles on Security and Human Rights] *grounds".* Mr Hall recommended that Nigeria be managed in the same way as the First Defendant's operations elsewhere in the world, namely, by:

"*[A]ppointing an expatriate JG1 RSM* [Regional Security Manager] *for the SSA region. This person would work with the C Chrs* [Country Chairs] *and key business leaders to ensure security across the region is managed in accordance with the Group Security Standard, helping them identify and close gaps."*

"Replacing the current VP Corporate Security with a Nigeria Country Security Manager (CSM), probably also at JG1 because of the scope of the role. Not an expat position. Ideally this person would be managed by the RSM but there are examples around the world where Country Security

Managers are accountable to the C Chr and functionally managed by Corporate Security."

"Appointing an expat JG2 to be Security Operations Manager in SPDC (the old Mark Courtnell role). This person would report to the Nigeria CSM but line manage the three area security managers (responsible for the eastern and western Delta and Lagos/offshore)."

376.3. In an email of 24 August 2011, Ian Craig stated: "*I support the direction you have outlined but we may ask the country manager to report into the VP HSE/SD/CX instead of CCh".* He explained that he had already asked *"Osagie to start working the details with particular care around sequencing so that it does not appear that we are squeezing out Mason*."

376.4. Email discussions continued in the following days as to how best to achieve the goal of having an expat RSM functionally manage the Nigeria Security Manager without sending a negative signal to the organisation.

377. On 24 August 2011, the UILT held a meeting. Mr Brinded opened the meeting, acknowledging that it had been a difficult month with the release of the UNEP Report. He "*stressed the importance of maintaining a sense of chronic unease and addressing issues related to inadequate supervision and oversight of staff and contractors working in remote areas.*" Ian Craig provided an update on the UNEP report and the Bodo spills. He observed that although Shell had not produced in Ogoniland since 1993, a major pipeline ran through the area. He stated that problematic access over the last few years has led to challenges in asset integrity but added that 100 wells had been capped to avoid tampering. On the UNEP report he explained the initial findings of a Shell internal review *"and potential implications for the rest of our operations in the Niger Delta*". Maarten Wetselaar noted the need to review the structure of Shell's remediation as high profile activity, while Mr Craig acknowledged the importance of increasing focus and rigour in this area. Harry Brekelmans (EVP Strategy & Planning, RDS) questioned whether Shell had carried out a benchmarking of its remediation standards against those of other operators or international standards. Andrew

Brown (then appointee to become Executive Director and Business Head of Upstream International, SIEP) asked whether some of the issues raised pointed to "*delta-wide problems*" .

378. On 24 August 2011, the Second Defendant and other IOCs operating in Nigeria agreed on an "Industry Action Plan" in response to the UNEP report. While the action plan purported to seek to implement the majority of the report's recommendations, the proposed actions in respect of plans for control, maintenance and decommissioning of oilfield infrastructure did not address the recommendation that "*for the assets that SPDC would like to retain, the plan should specify risk levels, inspection routines and maintenance schedules*". In respect of the recommendation that RENA be discontinued, the action plan only set out an action to *"Propose the use of appropirate remediation techniques that take into account the depth of impact, be risk based, and site specific and submit to DPR for approval."* As is clear from the chronology below, the Defendants continued to use RENA as its primary remediation method until at least the end of the spill period.

379. Meanwhile on 24 August 2011, Ian Craig received a copy of a presentation that included recommendations by the Technical Committee, a committee made up of representatives of International Oil Companies and NNPC with the mandate of jointly reviewing the UNEP report and establishing recommendations to address and close-out the report's issues. Mr Craig was *"very concerned"* at the apparent disconnect between the Technical Committee's recommendations and the *"steer re SPDC's role we have given"*, stating the Second Defendant *"simply cannot execute"* many of the recommendations and emphasising the need to *"rain [sic] this in quickly"*.

380. Between 25 and 28 August 2011, actions arising from Vincent Holtam's presentation to Ian Craig concerning the Ekulama corrosion leak were addressed in a series of emails. One concern raised by Mr Craig was that the Ekulama leak had initially been temporarily clamped but subsequently re-leaked a few centimetres away weeks later, and that, had a more robust repair- strategy review been applied (including appropriate Ultrasonic Thickness inspection), temporary clamping would not have been approved.

380.1. Arie Dijksman acknowledged that repair decisions had previously been left to the maintenance team alone, and confirmed that, going forward, the integrity team would prescribe repair methods where corrosion was involved, with expanded ultrasonic thickness testing requirements.

380.2. In response to Mr Craig's challenge as to how the Second Defendant D could maintain confidence in statements that corrosion was not a major issue more generally, given the failure to detect external corrosion at Ekulama, Mr Dijksman stated that this comparison was *"not really fair"*. He explained the limitations of manual ultrasonic thickness measurements, which provide only highly localised wall-thickness data, and acknowledged that badly corroded sections had been missed during inspection. While the Second Defendant relied on a large ultrasonic thickness dataset from sabotage repairs to support general statements about pipeline safety, Mr Dijksman stated that full assurance would require intelligent pigging, which was not available for all pipelines.

381. On 25 August 2011, the Terms of Reference for the Global Subsea and other Asset Integrity Review were published. The review was intended to provide a view on whether the First Defendant's control framework for subsea asset integrity programmes was in place and operating as intended and map the assessment onto the First Defendant's overall upstream integrity programme. The terms of reference included: to establish the integrity status of subsea systems and controls including the physical condition, design practices, management systems/operating, inspection, maintenance and planning, compliance with regulatory requirements and the First Defendant's global standards, gaps, mitigation, timeline and progress against plans; determine whether the right expertise was in place to manage assets; determine if asset managers use and respond to technical authorities appropriately; and determine whether there was information of sufficient quality and quantity to support risk-based decisions and provide adequate assurance of the overall asset integrity system to senior management and the Board. With reference to the global review of the Upstream Assets Integrity Programme, the Terms of Reference included: review asset integrity audit coverage and robustness of existing and

planned follow-up, and determine whether asset integrity standards were adequate and/or whether the perception of onerous standards had *"an unintended consequence of delaying maintenance activities*".

382. On 28 August 2011, Jurgen Janzen provided Ian Craig with information on operational spills for 2011. In response, Mr Craig observed that if the prevailing trend continued, the Second Defendant would record approximately 55–56 operational spills for the year, representing a 73% increase on 2010 and the worst result in a four-year period. He identified a *"major issue"* in the Second Defendant's management of flowlines, noting that 22 of the 37 operational spills that year involved flowlines, equating to an operational flowline leak almost every ten days, and stated that *"we simply cannot continue like this",* requiring a *"step change in our approach immediately"*.

383. On 30 August 2011, the ExCo held a meeting. Malcolm Brinded provided an update on Nigeria, including the UNEP Report and production, and an Upstream International HSSE update. Matthias Bichsel provided a HSSE update.

384. On a date unknown to the Claimants in August 2011, the Second Defendant's Right of Way Strategy and Planning prepared and/or delivered a presentation titled "*Framework for Pipeline Asset Protection – under GMoU: Governance Structure (New Style Surveillance)*". It recommended change after recognising flaws in the approach to surveillance and that the Second Defendant's pipelines had become increasingly vulnerable to leaks and damage as a result of TPI. It contained a proposal for the Second Defendant to pilot a new style of surveillance contracts with increased community participation in "clusters", including oil spill containment in surveillance contracts as incentives for sabotage and leak Cluster Development Board monitoring performance, the appointment of technical partners and strengthening of the response of Government Security Forces and intelligence service. The presentation identified numerous additional things that should be done differently, including implementing 24/7 contractor patrols, maintaining vegetation low, installing barriers on the right of way, logging all calls from and to surveillance and response teams, providing necessary equipment, training and orientation of surveillance personnel.

September 2011

385. In early September 2011, the First Defendant assembled a global team to conduct the Global Asset Integrity Review ("**GAIR**") in line with the Terms of Reference described at paragraph ** above. The team comprised operations, pipelines, HSSE, behavioural, legal and communications specialists. The GAIR was initiated at the request of Malcolm Brinded and was subject to the approval and oversight of Mr Brinded, the ExCo and the Board.

386. In September 2011, senior executives from both Defendants, led by Malcolm Brinded and including the CSRC Chairman, Chad Holliday, met with representatives from NGOs and other organisations.

387. On 7 September 2011, the Board held a meeting. The Board was updated through the CEO's Report on the UNEP Report, including related publicity and responsive action being taken by Shell companies and the industry.

388. On 7 September 2011, the HSSE & SP Executive held a meeting. It made a "*strong request*" for robust deployment of DEM in all businesses. The Executive "*strongly supported"* the introduction of Process Safety competencies, which would be made available to Businesses as guidance. The Executive endorsed the new HSSE&SP Control Framework Oil Spill Response Manual, subject to some clarifications in the wording.

389. On 8 September 2011, Jurgen Janzen and James Stark received an update on the status of intelligent pigging. It noted that the plan for the month of August had not been delivered due to unavailability of lines because of leaks, and routine pigging in some locations because of budget constraints.

390. On 9 September 2011, Tony Attah (VP for Safety & Environment, SPDC) sent Ian Craig, Bart Lismont and Mutiu Sunmonu a preliminary investigation report into a spill that occurred during the decommissioning of the Old NCTL on 17 August 2011.

390.1. On 10 September 2011, Ian Craig responded that he had *"real difficulty understanding how our management system allowed this to happen",* and called for discussion of consequence management and completion of the full investigation without delay.

390.2. On 26 September 2011, ahead of a scheduled presentation to the Independent Review Panel ("**IRP**") on 28 September, Mr Craig further interrogated the circumstances of the 17 August spill. He raised a series of questions concerning the decision to proceed with pressurising the line, the rejection of alternative de-oiling options, the adequacy of mitigation measures given the known risk of leakage, and the failure to depressurise promptly once a pressure drop was detected. Mr Craig concluded that, given the length of time available to prepare for the project and the fact that the *"primary risk"* was an oil spill, it was *"difficult to understand why management from the DRB downwards did not ensure sufficient rigour in minimising this risk"*, and indicated that these issues should be addressed in the final investigation report.

391. On 17 September 2011, Tony Attah emailed Jurgen Janzen with a picture of a section of pipeline with four clamps side by side. He noted that "*with 4 clamps side by side we are bound to have a leak sooner or later*" and wondered "*how many of such we have in our system*". He noted the NCTL decommissioning spill was from a clamp. He asked "*What's our policy on clamps? Do we threat [sic] clamps as permanent fixtures?*" and said to Mr Janzen "*Am sure you will take a clamp inventory and go for sectional replacement in such areas*". He flagged that Mr Janzen would "*be getting operational spills target coming from MD soon*" and that "*HSE is fully ready to work with you as this is an area that give* [sic.] *chronic unease*". In a response on this email chain Mutiu Sunmonu wrote that his understanding was that SPDC still treated clamps as permanent repairs and "*We have to stop*". A further response from Rik Prager (Remediation and Oil Spill Response Manager, SPDC) on 19 September 2011 stated:

"*The principle of treating clamps as temporary repairs is good industry practice. Every time a clamp is installed, there is an assessment of the integrity of the clamp and the anticipated lifetime. In many cases this then leads to a*

time at which a permanent repair is required. It then becomes a deviation, which should be tracked, e.g. in FSR [Facility Status Reporting]. *Failure to do this adequately has led to the fatalities at Brent Bravo a few years ago. Replacement of clamps is then typically done on an opportunity basis and if we look at a platform of production facility, which may have been the population the OU was describing, such opportunities are clearly offered by both planned and unplanned facility SD's* [shut downs].

On the pipeline system in SPDC, however, we should not adopt this philosophy without adequate cost-benefit analysis. Many clamps is [sic.] *SPDC have been extremely reliable for many years, because the pipeline fluids are very benign to the seal materials and they have obviously been installed well. Clamps are quick and installation is relatively low cost. They allow us to maintain a reasonable availability of our transportation system. The cost of replacing clamps with sectional replacements would have a serious impact on deferment, potentially against a limited leak reduction. We will need to carefully address this for the conditions we are facing here in SPDC.*

It all starts with an effective register of the clamps. I would expect that we know of many of our clamps, but by no means all. We have seen a number of failed clamps recently. I don't think we have investigated why these failures occurred. There are a number of possible causes, including tampering. We will need better RCA [root cause analysis] *to help us assess this point*."

392. On 18 September 2011, Godson Njoku sent an email to Ian Craig, Malcolm Brinded, Mutiu Sunmonu, Tony Attah and David Martin with a document containing discussions from their meetings earlier in the month. The document recorded the "*ECMB's* [Malcolm Brinded's] *Steer*" for various issues, including (in an item designated as urgent): "*We need to think of how to radically change the mindset of SPDC middle management on environmental and social performance issues – as reflected in the recent oil spill on a decommissioned line. To be discussed* at UIG LT. *Important to create a sense of chronic unease with regard to environmental management in Nigeria and to inject more resources as appropriat*e" .

393. On 19 September 2011, the ExCo held a meeting. Malcolm Brinded reported "*on an oil spill in Nigeria, asset integrity and process and personal safety"* and *"production, asset sales and meetings with Non-Governmental Organisations".* He also provided an Upstream International HSSE update.

394. Reported spill incident ID 722516 was reported by the Second Defendant to have taken place on 30 September 2011, with the cause reported as Third Party Interference. Full details are provided in Spill Annex 722516.

October 2011

395. On 1 October 2011, the First Defendant introduced a "Oil Spill Preparedness and Response Manual" as an addition to its HSSE Control Framework.

396. Bunkering and crude oil theft on the NCTL increased throughout the third quarter of 2011, as bunkerers set out multiple bunkering points and illegal refineries along the line. According to a document titled "Terms of Reference: 3rd Party Deferment Reduction Team", the increase in bunkering caused "*massive environmental damage around Krakama, Cawthorne channel, Awoba axis*" .

397.. The Upstream International Quarter 3 2011 Risk Report summary dated 10 October 2011 noted that pipeline remediation work in Nigeria was hampered by access issues and lack of qualified contractors.

398. On 3 October 2011, Wendel Broere circulated a news article published by the Guardian regarding an accusation that Shell was fuelling violence in Nigeria by paying militant gangs. Godson Njoku forwarded the article to Malcom Brinded, who responded on 4 October 2011: "*Like to discuss some time. Basically - do you think we really understand what is going on re this in SPDC - or is this something to probe more deeply?*"

399. Reported spill incident ID 722864 was reported by the Second Defendant to have taken place on 4 October 2011, with the cause reported as TPI. Full details are provided in Spill Annex 722864.

400. On 6 October 2011, James Stark wrote to James Hall "*in strictest confidence*" that the "*the bunkering industry is thriving, demonstrably beyond the capability of SPDC to control. Severe production impacts seem almost inevitable at this stage"*. Mr Hall responded on 22 October 2011 and confirmed that he was aware of the "*acute problem*". He explained that "*we are working on putting extra expat expertise into the Nigeria security team and making some management changes which will hopefully allow us to get a better grip on these problems*", though the new team would not be in place until early 2012.

401. On 8 October 2011, Erewhata Emakpo (Business Analyst to EVP-Sub Saharan Africa, SEPA) sent Ian Craig, Rob Donnelly (VP Health, Shell International) and others an email with an update on an independent assessment of remediation test results following the UNEP Report. As regards the validity of lab testing in Nigeria, he stated that *"SGSI conducted tests on blind Oil and water samples and had the test/analysis done in some 51 laboratories across the world. The test results from the selected lab(s) in Nigeria were different from results from the EU, US labs. This observation emphasizes the need to fully access the credibility and capacity of the in-country laboratory testing/analysis."*

402. Reported spill incident ID 725931 was reported by the Second Defendant to have taken place on 11 October 2011, with the cause reported as Operational. Full details are provided in Spill Annex 725931.

403. On 11 October 2011, Roland Evborokhai (Senior Adviser, Governance, Risk, Assurance, SNEPCO) requested an update from Arie Dijksman about an outstanding item from the 2009 BAL letter which required for the "*pipeline Fix*" programme to be completed by 2017. He sought an update to give to the UIG Business Assurance Committee. On 12 October 2011, Mr Dijksman discussed this with Jurgen Janzen who stated that "*if the Fix programme is the same as our*

backlog programme then please inform them as such that we will be closing out by 2012".

404. An unreported spill incident near Bille at a point on the NCTL (4.567748, 6.875075) was active as of 11 October 2011. Full details are provided in Annex 012.

405. An unreported spill incident at the Krakama flow station (4.552424, 6.900641) and/or Krakama wellhead 001 (4.551215, 6.900340) was active as of 11 October 2011. Full details are provided in Annex 014.

406. An unreported spill incident at the Krakama wellhead 004 (4.555117, 6.904153) was active as of 11 October 2011. Full details are provided in Annex 015.

407. An unreported spill incident at the Krakama wellhead 008 (4.549929, 6.908057) was active as of 11 October 2011. Full details are provided in Annex 017.

408. An unreported spill incident at the Krakama wellhead 009 (4.542031, 6.905251) was active as of 11 October 2011. Full details are provided in Annex 018.

409. An unreported spill incident at the Krakama wellhead 010 (4.547136, 6.886251) was active as of 11 October 2011. Full details are provided in Annex 019.

410. An unreported spill incident at the Krakama wellhead 011 (4.559131, 6.911355) was active as of 11 October 2011. Full details are provided in Annex 020.

411. An unreported spill incident at the Krakama wellhead 012 (4.550234, 6.921655) was active as of 11 October 2011. Full details are provided in Annex 021.

412. An unreported spill incident at the Krakama wellhead 015 (4.538567, 6.909118) was active as of 11 October 2011. Full details are provided in Annex 023.

413. An unreported spill incident in Ogini-Ama at a point on the NCTL (4.561417, 6.845272) was active as of 11 October 2011. Full details are provided in Annex 009.

414. An unreported spill incident in Oruama at various points on the NCTL (4.567772, 6.869805; 4.567775, 6.869883; and 4.567764, 6.869968) was active as of 11 October 2011. Full details are provided in Annex 037.

415. An unreported spill incident in Enesirama at a point on the NCTL(4.563204, 6.850171) was active as of 11 October 2011. Full details are provided in Annex 040.

416. On 12 October 2011 Raymond Asuquo raised concerns with Jack Mpakaboari (Team Lead, Pipelines Surveillance and Leak Prevention, SPDC) about months of delays in mobilising surveillance guards to guard the NCTL.

417. On 14 October 2011, Paul Randall emailed Crockett Oaks and Bernard Bos, seeking input from them before he took action to approve security contracts "*following on from our conversations recently, regarding security related contracts, and also our concerns about the recent intelligence gathering contract for SiS* [Security Intelligence Contracts]". His concerns included that the scope of the contracts was vague as to how information about reporting spills, theft, vandalism and damage was gathered and reported.

418. On 18 October 2011, the ExCo held a meeting. Malcolm Brinded reported on Nigeria including on "*a pipeline leak arising out of apparent sabotage*". He also updated the ExCo on the Second Defendant's response to the UNEP Report and provided an Upstream International HSSE update. James Hall provided an overview of global security trends, to which the ExCo provided feedback.

419. On 19 October 2011, Tony Attah emailed Ian Craig and Mutiu Sunmonu detailing a meeting he had attended on behalf of the Second Defendant with the Chief of Defence Staff. All managing directors of the major oil companies were present. He addressed the key highlights of the meeting which included that the President of Nigeria had instructed the Chief of Defence Staff to take charge and rid the Delta of illegal bunkering and refining.

420. Also on 19 October 2011, the UILT held a meeting. Ian Craig updated the UILT on HSSE performance in UIG, noting "*worrying trends in lagging indicators as well as first line supervision*", areas of concern following David Martin's visit to Nigeria, and a fragile security situation. Mr Martin updated the UILT on discussions with IUCN on remediation techniques used by the Second Defendant in Nigeria.

421. On 19 October 2011, the GAIR provided an interim report to the ExCo.

422. In advance of its meeting in October 2011, the CSRC was provided with a Note titled *"Nigeria Update*". The note:

422.1. Described the "*substantial criminal element*" and "*massive thefts of crude oil*". It noted that despite the overall security situation remaining relatively calm following the 2009 amnesty, well organised criminal groups continued to engage in large-scale crude theft, pipeline vandalism, theft of flow lines and sabotage and that the incidence of illegal refining appeared to have increased after the amnesty as former militants gang members were looking for new sources of revenue.

422.2. Attributed 75% of all spill incidents and more of 70% of oil spilled from the Second Defendant's facilities in the Niger Delta between 2006-2011 to sabotage, theft of equipment or bunkering of pipelines and wellheads; and described those spills as beyond the Second Defendant's control.

422.3. Referred to operational spills from the Second Defendant's facilities remaining a major concern, with 48 spills by the end of September 2011 (compared to 32 for the whole of 2010).

422.4. Stated that the Second Defendant's business plan had allocated 485mln in 2012 and 2013 to permanently abandon 11 shut-in wells in the eastern division under its pilot plan on well abandonment and restoration; 40 shut-in wells awaited abandonment and restoration after completion of the pilot project.

422.5. Provided an update to the CSRC about steps taken to address the findings in the UNEP Report and on the September 2011 meeting with Nigerian NGOs and other organisations.

423. Also on 19 October 2011, a Shell document, titled "IS CLAMP USE EFFECTIVE IN PIPELINE INTEGRITY; THE SPDC EXPERIENCE", set out the Second Defendant's approach to pipeline leak repairs, reflecting the revised SPDC Pipeline Repairs DEP. The document noted the Second Defendant's experience of recurrent sabotage at clamp positions. The failure of 45 clamps on west pipelines between 2007 and 2011 was said to imply the "*need to have a Clamp Maintenance Plan*" to make the Second Defendant's response to clamp failures proactive rather than reactive and help track clamp performance. The document concluded:

> *"As long as uncontrollable factors such as malicious sabotage and bunkering remain the cause of more than 90% of spills, the use of clamps without doubt will continue to be an effective repair method for responding to the peculiar need for the "quick-fix" of pipelines in SPDC operation, though the challenges involved in its use are enormous. […] Though the most recommended method of pipeline repair globally is sectional replacement, because of the terrifying frequency of leaks on our pipelines, clamping is the most viable repair method for our peculiar working environment."*

A. On 25 October 2011, the CSRC held a meeting at which Ian Craig provided an update on the UNEP Report. The CSRC noted that the number of operational spills had increased in 2011, which was attributed to bringing dormant flowlines back into service as the security situation in Nigeria had improved.

424. Also on 25 October 2011, the Second Defendant's leadership approved a pilot project, titled "Pilot Project – Asset Integrity Production with Video Field Monitoring", across five locations chosen by Continental Alarm Limited, including Cawthorne Channel. This followed from a presentation in March 2011 by Continental Alarm Ltd. The document which outlined the project set out, in its executive summary, that the initiative sought to "*leverage technology (as nonintrusively as possible) to immediately improve and safeguard Asset integrity, thereby optimizing the company's operations in the short term and keep the total lifecycle cost of equipment in check, in the longer term".* The project document highlighted several "*Improvement drivers*", such as wireless intrusion cameras, wireless pressure gauges, CCTV cameras that can be viewed remotely, electronic access control, and real-time alerts.

425. On 26 October 2011, the Board held a meeting. The Board was updated by Malcolm Brinded on the Upstream International Business, including Nigeria.

426. On 27 October 2011, a Root Cause Analysis for the old NCTL leak reported on 17 August 2011 was completed:

426.1. The source of the leak was identified as a previously clamped point (explosive damage) which had been a result of induced pressure into the line from de-oiling activities in preparation for abandonment. The leak was adjudged to be due to equipment failure.

426.2. The slides setting out the RCA, under pipeline history, stated *"Date of Last Inspection – 2006??*?".

426.3. The slides referred to the line having been shut down due to loss of integrity since 2008 with stagnant inventory and no functional cathodic protection system and recommended for replacement.

426.4. The slides made reference to pressure testing and de-oiling executed based on the strategy approved by "*project DRB*" which *"does not guarantee loss of containment*".

426.5. The slides stated that the primary protection (coating) was known to have a lifespan of 25 years and was prone to disbondment thereafter.

426.6. The recommendations included to stop further work on the old NCTL and properly abandoning the pipeline in line with the statutory requirement

427. A "*Nigeria Strategy Implementation Planning*" presentation dated 27 October 2011, under "*Commitments to the RDS Board (as per Nigeria Strategy review)*", referred to the Board having supported "*the choice for growth in Nigeria*" conditional upon resolution of several issues, including security ("*ability to work safely in the field*"), response to the UNEP Report and funding. An update to the ExCo on these issues was scheduled for April 2012. The presentation noted the expectation to give an update on "*progress towards Nigeria growth to the RDS Board in Q2 2012*".

428. On 28 October 2011, Captain Soji Ajala (Training Captain EC155 / Acting BMP, Shell Operations PHC) provided a report of the NCTL Pipeline Observation/Inspection to Wenike Princewill (Head, Right of Way Management, SPDC) and James Stark, setting out the locations of illegal bunkering activities. He noted two of the locations, "Enroute Krakama Manifold from Awoba (N04 34.12, E006 51.88)" and "Enroute New calabar river from Krakama (N04 43.47,E 006 56.630)."

429. In or around the end of October 2011 Malcolm Brinded visited the Niger Delta where he met with Craig and Mutiu Sunmonu and participated in an over flight of the swamp area where he witnessed *"significant visual evidence of ongoing*

pollution", which he presumed to be from bunkering sites. He identified spill clean-up remediation in the mangrove swamps as a particular concern. During this visit, During the visit he also reviewed various aspects of the Second Defendant's operations, including new projects, funding, oil spills and remediation, and the response to the UNEP Report. Mr Brinded and Mutiu Sunmonu had private discussions with the President of Nigeria and the Minister of Petroleum. The Defendants' documents state that a result of his shock at "*the scale of bunkering and associated damage"*, he brought forward what is referred to as the security quarterly meeting.

November 2011

430. In November 2011, the Second Defendant published the third version of its Remediation Management System (SPDC-2009-11-0000013), following Mid Project Review Findings. The remediation standard of the EGASPIN Intervention level (5,000 mg/kg TPH), and the reference to the internal SEPCiN benchmark of 3,000 mg/kg TPH, were retained. Key updates included:

430.1. Revision of triggers for detailed investigation, including groundwater monitoring, to circumstances where oil penetration was observed at depths of 2.0m or below, and/or where free phase oil is encountered on groundwater (Procedure 4.3, Risk Based Site Assessment).

430.2. Introduction of Procedure 4.5, the Procedure for Detailed Soil and Groundwater Investigation. It was to be followed where crude oil impacted soil could be viewed, or laboratory results confirm EGASPIN Intervention Levels being exceeded, at a depth of 2.0m or more.

430.3. Introduction of Procedure 4.9, Remediation Execution, requiring a Remediation Action Plan (RAP) to be developed for every remediation project. The RAP was to be based on the results of the site assessment. Minimum objectives of the RAP were to include details on the remedial objectives and remedial technologies.

430.4. Introduction of Procedure 4.10, Laboratory Testing, requiring accredited laboratories capable of producing "*legally defensible data of known quality through the use of analytical measurements that are accurate, reliable and complete"*.

431. In November 2011, the IUCN agreed to establish an independent advisory panel to advise on improved remediation of oil spills (the "**IUCN-NDP**").

432. On 6 November 2011, James Hall emailed Andrew Ross and others about Malcolm Brinded's concerns and asked for suggestions as to what could be done to address the issue. Charles Winge-Main (Regional Security Manager, Europe & CIS, Shell International) responded as follows:

432.1. He stated that he had been a part of an Anti-Bunkering Task Force in the Second Defendant in 2005, tasked with developing an understanding of how bunkering worked, including "*who the key players were*".

432.2. He referred to having been able to "*identify some of the key players which included the 'Bunkering Barons', government officials at the regional and national levels as well as very senior military officials and a hand full of Lebanese business men. The list of alleged players was like a who's who of Nigerian society. Most concerning was the number of senior ranking military officials.*

432.3. He explained that he had told the Second Defendant's then Managing Director (who had tasked him with looking into surveillance technologies including UAVs and satellite imagery systems) that its main problem related not to intelligence but to the Quick Reaction Force and their inability to locate and engage with bunkering teams. He noted that Mark Powell (Security Department, SPDC) appeared to be dealing with similar problems to those he had dealt with in 2005. As for security measures, he stated:

> "*We reviewed a range of pipeline hardening measures including enhance situational awareness (seismic and fiber optic IDS, CCTV,*

floodlighting, pipeline coating systems, community surveillance patrolling etc) but ruled most options due to the high likelihood of community and/or militant sabotage. SPDC recently launched a review of community based RoW patrolling and discovered it had almost no tangible benefit and so agreed to cut all surveillance contracts until a more effective system is developed.

Interestingly, SAIPEM in Nigeria has decided to experiment and has invested in a series of physical counter measures to protect a limited stretch of pipeline. SPDC Security were invited to monitor the experiment but, according to the ENI technical lead, chose not to get involved. I think this is something that we should encourage SPDC to get actively involved with and what's more, it's free. I spoke to ENI colleagues in Rome who confirmed that CS at the corporate level is welcome to have visibility of this project. (Contact details available)"

432.4. He recommended exploring options such as aerial surveillance platforms and UAVs. He further recommended that a technical team be established to frame the scope and methods of bunkering and sabotage.

432.5. He noted that "*while the issues related to a reliable QRF are likely to be the same, there may be some benefit in reviewing the latest technology in pipeline security and looking at creative ways improve the JTF's effectiveness."*

433. On 7 November 2011, Malcolm Brinded emailed Peter Voser and Simon Henry with a Proposal to Commence Negotiations ("**PCN**") in respect of MCAs in Nigeria "*in line with the Nigeria Strategy as agreed earlier in the year*". He also provided an update from his Nigeria visit, confirming that he had discussed it with Mr Voser:

433.1. He confirmed that he and Mr Sunmonu had had private discussions with both the Nigerian President and Minister of Petroleum.

433.2. His view was that "*we are on the right track in Nigeria on most fronts although we need to inject a renewed sense of urgency in some areas (especially on asset integrity, environmental management, and "designing-in" increased security to our pipelines and facilities)*".

433.3. On cleanup, he referred to partnering with third parties to try out new products/technology to enhance RENA by accelerating remediation. He commented that the remediation work was "*going reasonably*" but there remained "*major challenges ahead especially for sites in swampy areas, as the rains make it even more difficult to contain run-off and cross-contamination"*.

433.4. He described the overflight he had done of the wider area around Bodo as a "*sobering experience*" with "*significant signs of residual oil on water and the mangroves - presumably from major ongoing bunkering activities*".

434. He stated that Ian Craig was looking into seeking an accelerated solution to the spill in collaboration with third party experts like the IUCN, and he suggested possibilities of leveraging EU funding for environmental monitoring to put pressure on the Nigerian government to reduce bunkering.

435. He stated: "*As Peter suggested, we will look further to see how we can use external journalists to draw attention to the bunkering scale and impact"*.

435.1. He noted that the "*strong opportunities*" available in Nigeria remained *"most impressive*" but "*fraught with major challenges – funding, security, contractor capability etc.*"; referred to the team in Nigeria paying increased attention to addressing bunkering / sabotage.

435.2. He referred to his requests for the evaluation of new technical and environmental solutions including the possibility of using an "*offshore laybarge*" construction approach on the TNP down the river estuary to significantly shorten the route, and reduce bunkering vulnerability. He also stated that he had asked for consideration of retrofitting increased bunkering-proof solutions (concrete covering and fibre optic intrusion monitoring) on the

NCTL "*to existing critical lines as well as the new ones*". He stated that "*[i]t is important that we are not only reactive in tackling oil spills but equally robust and proactive in our designs*".

435.3. On funding he stated that the aim was to leverage the full menu of JV funding and that he had pushed the team hard to deliver an alternative to seeking funding from the First Defendant through MCAs, but he noted "*we may ultimately have to revert to this*."

435.4. He forwarded his notes of meetings with the Nigerian President. Those recorded that he had informed him that the Shell Board had supported in principle a strategy of renewed growth in Nigeria including for onshore, by growing oil and gas production by 300+ kboe/d by 2015. He wanted to tell the President as the news of Shell divestments had been so prominent.

435.5. He referred to his requests for the evaluation of new technical and environmental solutions including the possibility of using an "*offshore laybarge*" construction approach on the TNP down the river estuary to significantly shorten the route, and reduce bunkering vulnerability. He also stated that he had asked for consideration of retrofitting increased bunkering-proof solutions (concrete covering and fibre optic intrusion monitoring) on the NCTL "*to existing critical lines as well as the new ones*". He stated that "*[i]t is important that we are not only reactive in tackling oil spills but equally robust and proactive in our designs*".

436. On 9 November 2011, Peter Voser responded to the proposal to commence negotiations confirming his support "*in line with strategy discussions"*. However, he noted that the plan would add to $330m in capital expenditure for 2012, which he stated he did not support and would need further discussions. On funding he wrote:

> *"if we get difficulties with our IOC partners on this one I think we should not be shy to make it clear that we will be quite outspoken publicly who is blocking investments in these vital and sensitive projects and hence*

needs to take full responsibilities here. We should make sure that the burden is more and more shared from a reputation point of view".

437. On 13 November 2011, Simon Henry responded, confirming his support and endorsing Peter Voser's input. Subsequently, on 21 November 2011, Mr Henry signed the PCN.

438. Reported spill incident ID 741104 was reported by the Second Defendant to have taken place on 14 November 2011, with the cause reported as Operational. Full details are provided in Spill Annex 741104.

439. On 18 November 2011, Andrew Vaughan (Managing Director, Shell Development Kashagan, SIEP) emailed a draft of a note for the ExCo note on the GAIR to Malcolm Brinded and Greg Guidry , seeking their input. Mr Vaughan explained that he had not made any reference to the status of red banded assets in the note but that was explained in the accompanying set of slides. He expressed the opinion that this was a distraction but he could see "*there may be a wish to see that status*". As to the content of the draft note:

439.1. The draft note set out the GAIR methodology and timeline, including the intention to finalise its report and present it to Malcolm Brinded, the ExCo and the Board.

439.2. The note commented on evidence of "*over-tolerance of risk across our assets*" and reliance on multiple deviations without a corresponding consideration of the cumulative risks on some assets which would lead to an unacceptable and unquantified exposure.

439.3. As to "red-banded" pipelines, it noted that "*Shell has a clear definition enshrined in global standards but during the course of the review, up to fourteen regional variations to the definition were identified which has the consequence that the assessments reaching leadership are ambiguous*."

439.4. It noted that the AIPSM leadership team had identified it as an action for its immediate attention to consider rule-based constraints limiting the duration or number of deviations in respect of assets.

439.5. The note referred to emerging new technologies in respect of corrosion monitoring and leak detection which could provide additional confidence in the ability to prevent and detect spills but noted that "*no focused plan*" was in place to mature those.

439.6. The note recommended:

(a) A restructuring of existing discipline organisations with a view to delivering independence from asset lines for assurance purposes and a line of sight of Technical Authorities to a global functioning authority in P&T.

(b) A comprehensive review of the AIPSM programme to redefine the roadmap and determine the resources required to meet the target of calculative status by end 2012.

(c) Considering means by which deviations can be constrained by "*"rule based" constraints*" which limit either the time period over which a deviation can be maintained or the absolute number of deviations an asset can sustain.

440. On 19 November 2011, Ian Craig emailed Mutiu Sunmonu, noting that the Group faced "*a significant shortfall in production in Q4 and Nigeria is a major contributor to the problem*". He wished to discuss "*the forecast for the remainder of the year and what options we may have to boost production*." Mr Sunmonu forwarded the message to Obi Akosa, Vincent Holtam and Akin Ogunkoya to coordinate a detailed response, noting "*[w]e need creative thinking to make sure Nigeria does not let down the Group".*

441. On 22 November 2011, Mr Holtam forwarded the email to Bernard Bos, stating:

"In order to improve the likelihood of keeping 3rd party deferment low in Q4 and thereby helping Shell with 2011 production performance, I need your help to pursue the security Intelligence contracts, which are being held up on your instruction (I am told) due to perceived FCPA issues.

These contracts are held in security, but PD is the one that suffers the deferment.

At present our p/l and f/l security relies on community surveillance and JTF. These are effectively reactive forces or a deterrent. The community surveillance are a pair of eyes that walk the lines and generally (but not always) reports bunkering after it has happened. The security intelligence contracts are intelligence gathering that pro-actively reports 3rd party activity around our RoW before it results in a spill.

In spite of attempts to get them unblocked, they are not progressing. Without these contracts, one of the weapons we have against bunkering is stalled."

442. On the same day, Mr Bos responded stating that "*the due diligence of these security contracts had raised a number of issues*" and needed to be looked at.

443. On 21 November 2011, the Upstream International HSE Steering Committee held a meeting chaired by Ian Craig. Highlights of the meeting record one of the major discussion points as relating to *"managing deviations"*. This aspect of the meeting identified the need to have a clear system of articulating all deviations in wells and all other operating facilities, while *"particular concerns"* were recorded regarding approximately 1600 inactive wells *"which are out of sight and possibly out of control"*.

444. Reported spill incident ID 746242 was reported by the Second Defendant to have taken place on 26 November 2011, with the cause reported as Operational. Full details are provided in Spill Annex 746242.

445. On 27 November 2011, the SIA issued an audit report on the Second Defendant's pipeline management (including the NCTL), "UIG-2011.005 SPDC Asset Management – Pipelines (i.e. NCTL, TNP, GPHSL, RP, TFP, TEP)". It was given an unsatisfactory rating. The report:

445.1. Referred to security issues and TPI in which had resulted in "*significant backlog of pipeline maintenance and severely impacted the overall technical and operational integrity of the pipelines*."

445.2. Identified "*significant weaknesses in the overall control framework for managing pipeline assets",* and observed that "*the high significance of the control weaknesses observed require substantial improvements with necessary prioritisation of life cycle asset management*".

445.3. In respect of audit finding no.1, "*Inadequate Risk Review and Management Process"*, found that many risks were not formally analysed and documented. There were also inconsistencies between the pipeline team's risk assessment and the higher-level Production Directorate's assessment. This was rated as a "*High*" risk, resulting in a potential loss of license to operate and a loss of technical integrity.

445.4. In respect of audit finding no.2, "*Inadequate assurance program for contractor personnel competence, pipelines clamp integrity and pipelines manuals/document control*":

(a) There was inadequate assurance about contractor and personnel competence.

(b) There was no verifiable process to give assurance that surveillance of pipeline clamp locations was being carried out for early detection of clamp failure. A particular concern was the "*known lack of clarity as to the actual number of clamps on SPDC pipelines, including legacy clamps with yet unknown location coordinates*". Over 1,600 clamps were estimated to be

registered, with 534 clamps installed from 2010 in the Second Defendant's Eastern Division alone.

(c) There was inappropriate follow-up, tracking and close-out of remedial action, including evidence that certain HSSE actions were closed out inappropriately.

(d) There were "*significant weaknesses*" in the management and control of key pipelines manuals, technical standards and guides, including use of different version of the Pipeline Asset Inventory with conflicting numbers of pipelines, and obsolete documents being accessible to the Pipelines team. There were inconsistencies in documented approaches for the use of clamps set out in the Revised Pipeline Repair DEP and the September 2010 HSE case.

(e) The above findings were rated as "*High"* risk, with the risks identified including incompetent pipeline operators, significant process safety exposure, and loss of technical integrity.

445.5. In respect of finding no.3, there was ineffective performance management with key internal stakeholders like production asset teams and logistics, with many service level agreements not in place or not being properly monitored.

445.6. Finding no.4 was that there was incomplete pipeline asset reference planning.

446. On 30 November 2011, the SIA issued an audit report, "UIG-2011.001 SPDC/SNEPCo Asset Reference Pl / Management Controls Audit". It found an inadequate leadership framework for structured regular review and updating of asset reference plans ("ARPs"), inconsistencies in the content and quality of ARP documents and the grouping of facilities and assets for the purpose of developing an integrated ARP. This was found likely to be attributed to the loss of focus on full cycle asset management due to militancy and sabotage.

447. On 30 November 2011, James Hall requested to be added to the distribution of the Second Defendant's SIS Executive Intelligence Briefs.

448. On 28 and 29 November 2011, the ExCo held a meeting. Malcolm Brinded reported on Upstream International's production, and on Nigeria including "*security bunkering and divestments*". Matthias Bichsel provided a HSSE update, including a fatality in Nigeria. The ExCo discussed the Operating Plan 2012/2013, and provided "*detailed further feedback*" on production, costs, capital investment, and cash flows from operations. The ExCo also provided *"[d]etailed comments*" on the GAIR.

December 2011

449. In December 2011, GAIR reported to the Board.

450. On 12 December 2011, an email exchange took place between James Hall and Wayne Pearce (VP Health, Safety, Environment and Assurance, Projects and Technology, SGSI), discussing concerns raised by an audit about Shell's security governance and assurance models. Mr Hall explained that the audit, which looked at security management in Nigeria, China and Pakistan, found gaps in Shell's ability to require and monitor business compliance with security. The audit recommended that Mr Hall review Shell's security governance and assurance models, which he explained he was in the process of doing. He noted that the current "*HSE-style approach to compliance is not appropriate to security threats which are external and where there is no linear relationship between threat and mitigation".*

451. Also on that date, a spill of 245bbls was reported on the New NCTL at the Tora manifold. This was reported to be due to two failed 6" bunkering connections. The New NCTL was shut down while repairs were undertaken but continued elsewhere.

452. On 14 December 2011, the Board held a meeting. Through the CEO's Report, the Board received an update on *"a number of"* Nigerian OML divestments. Malcolm Brinded also gave an update on the performance and *"major matters"* in the

Upstream International Business since the Board meeting in October, including regarding production and forecast.

453. On 15 December 2011, the UILT held a meeting. Ian Craig provided an update on the restart of production at the Imo River facility, which had been shut down as a result of major bunkering activities.

454. On 20 December 2011, a major oil spill at Bonga occurred, in response to which the Defendants assembled over 70 staff across the Shell Group to support the Second Defendant in responding to the spill.

455. An unreported spill incident at the Cawthorne wellhead 052 (4.564728, 6.998856) was active as of 23 December 2011. Full details are provided in Annex 028.

456. The CSRC self-evaluation report for 2011 confirmed that Nigeria had been one of the CSRC's key topics and prominent feature of their focus, which was to remain the case in 2012.

2012

457. As at the beginning of 2012, there was a backlog of at least 280 sites impacted by oil contamination from the Second Defendant's operations that required remediation.

458. Levels of crude oil theft, TPI and related oil spills remained high across 2012. There were at least 154 oil TPI-related spills, with 24,500 bbls reported to have been spilled, and level of oil theft averaged approximately 45,000 bbls per day. Further, there were a significant number of operational spills across 2012. Further, as at the beginning of 2012, there was a backlog of at least 280 sites impacted by oil contamination from the Second Defendant's operations that required remediation.

459. Throughout 2012, the Defendants continued their policy of only shutting down red banded pipelines with illegal bunkering points if they detected that those bunkering points were leaking, and only removing and repairing illegal bunkering points when they were actively leaking or on an "*opportunity basis*"

January 2012

460. At a date unknown in January 2012, the IUCN–NDP was formally established, at the request of the Second Defendant, to provide science-based recommendations for the remediation and rehabilitation of biodiversity and habitats of oil spill sites in the Niger Delta.

461. On 3 January 2012, Richard Hibbert (Corporate Shipping & Export Manager, SPDC), emailed Ian Craig and Mutiu Sunmonu requesting *"advice"* on whether the Second Defendant should be declaring force majeure (FM) at Bonny [Terminal]. Mr Hibbert warned that if there were other *"planned maintenance"* activities that would further reduce production from current levels, then declaration of FM might be necessary, though he warned this would reduce the confidence of the international oil market and *"further damage the reputational credibility of Bonny Light"*.

462. On 10 January 2012, the ExCo held a meeting. Malcolm Brinded (Executive Director and Business Head, Upstream International, RDS) reported on Nigeria, including security.

463. Reported spill incident ID 765510 was reported by the Second Defendant to have taken place on 15 January 2012, with the cause reported as TPI. Full details are provided in Spill Annex 765510.

464. Between 16 January 2012 to 20 January 2012 inclusive, there was a full shut down of the Bille section of the New NCTL.

465. On 23 January 2012, the Q4 2011 UIG Business Assurance Committee ("**BAC**") held a meeting. The minutes record extensive discussion of the Risk Committee

recommendations to the BAC and a decision by the BAC to keep separate the UIG Risks relating to (i) Oil Spill Response and Clean-Up, and (ii) Asset Integrity & Process Safety. A new Decommissioning & Restoration Risk was also approved, to be owned by the VP Finance with technical support from VP Production.

466. Reported spill incident ID 768442 was reported by the Second Defendant to have taken place on 23 January 2012, with no reported cause. Full details are provided in Spill Annex 768442.

467. On 23 January 2012, following shut down in the Tora region as a result of the spill on 24 December, the First and/or Second Defendant restarted production on the New NCTL. However, following the restart there were multiple facility trips caused by pressure drops resulting from illegal bunkering activities and/or oil spills.

468. On a date unknown, the First and/or Second Defendant decided to shut down some sections of the NCTL (although not those running through Bille) to take out crude theft points, with reopening planned for the week commencing 27 May 2012.

469. On 24 January 2012, the ExCo held a meeting. Malcolm Brinded reported on Nigeria and provided an update on oil spills around the Bonga Floating Production Storage and Offloading Unit and the Gamba Terminal (in Gabon).

470. Also on 24 January 2012, the Second Defendant undertook site visits, identifying oil spill impacts around areas described as CAWCW43, CAWCW45, CAWC 45 F/L CawC2, Well24 FL CawC2, difficulties in accessing wellheads, heavy bunkering activities around Krakama well 13, and illegal refineries "*all along the horizon*".

471. On 25 and 26 January 2012, the UILT held a meeting. Minutes from the meeting show that:

471.1. The UILT noted an increase in oil spills in 2011.

471.2. Ian Craig (SSA EVP, Upstream International, SEPA) highlighted the response to the Bonga oil spill in Nigeria and globally, and that spill incidents were beginning to challenge the First Defendant's asset integrity credentials. He *"stressed the importance of extending the chronic unease message"* and noted ongoing work on putting in place a more effective offshore leak detection system and *"additional focus on Management of Change"*.

471.3. Malcolm Brinded noted that the Bonga incident had highlighted the need to move to a culture of *"prudent overreaction*" in response to spills rather than an apparent "*hope for the best outcome"* approach.

471.4. David Martin provided an HSE update noting overall improvement but expressed concern about the increased number of spills in 2011. Greg Guidry highlighted that Shell's organisational design meant that *"multiple groups are involved in most processes which therefore necessitates extra vigilance to manage"*. Ann Pickard highlighted that *"[Shell] faced a similar challenge with the Iriama [oil spill] incident*."

471.5. Mark Carne (EVP**, Middle East and North Africa, RD**S) acknowledged the need to pay greater attention to asset integrity, but highlighted "*the importance of adopting an ALARP approach to avoid a 180degree pendulum swing*" and noted "*the importance of fully understanding the implied cost of leak avoidance*".

471.6. Andrew Vaughan noted the importance of relying on emerging technologies to address issues raised by non-piggable pipelines.

472. On 27 January 2012, Shell Global Solutions ("**SGS**") published a report on the use of Egba split clamp. The report noted that a split clamp repair was one of the methods used by the Second Defendant to repair damaged pipelines. It stated that on the request of SPDC, "PTE-EMMI" had reviewed the design, documents, certificates and installation procedure of the Egba clamp and determined the use of these clamps was not supported unless a number of recommendations were

implemented, mainly relating to quality management. The report confirmed that, "*needless to say*", a split clamp repair is not a permanent repair and is considered as a temporary repair, and permanent repair must take place at the earliest planned opportunity.

473. Between 26 and 30 January 2012, frequent low-pump line pressures were recorded on the NCTL as a result of high levels of crude oil theft and/or oil spills, leading to upstream flow-stations tripping. The Second Defendant set up a reconnaissance team comprising of its pipeline and surveillance staff and representatives from the JTF team, intended to*, inter alia*, strengthen monitoring and supervision, underscore activity patterns and devise required control measures, physically verify locations/type of bunkering connections on the NCTL to elucidate the causes of the recent low pump line pressure, scope the extent of repairs required and assess the extent of impact of the bunkering on people, assets and the environment.

474. On 29 January 2012, the CSRC requested that the *"company considers if the Board review on Nigeria could be conducted in March 2013, with review by the CSRC occurring before review with the full Board."*

475. On 30 January 2012, Vincent Holtam convened an NCTL Security meeting with staff from the Second Defendant in response to repeated bunkering on the NCTL, including two station trips over the previous four days, resulting in a "*major spill*". He proposed a meeting with Solomon Asen, Meshach Maichibi (Operations Manager, Trans Niger Pipeline Area, SPDC), Munuchim Okpara (External Relations Security Manager, SPDC), James Stark, Raymond Asuquo, Mark van Latum (Senior Procurement Manager, Production/Engineering/Logistics/Health, Safety, Environment, SPDC) and Jurgen Janzen to discuss: (i) effectiveness of newly awarded surveillance contracts; (ii) intelligence contract discussions; and (iii) additional security measures. In a subsequent email that day, Mr Holtam set out notes of the meeting. He noted that the JTF were ineffective in the area and suspected of complicity in the bunkering, and that intelligence contracts were "*now nearing completion*". The agreed actions from the meeting included: reviewing the effectiveness of the JTF; inventorising bunkering points;

developing risk and position on continuing operation until the removal of bunkering points; resolving issues on surveillance contracts; deploying additional JTF and security for the NCTL through more effective deployment; and improving communication between the JTF and surveillance contractors.

476. On 31 January 2012, Vincent Holtam notified colleagues in the Second Defendant of "*constant bunkering on the NCTL*" and that he was seeking the support of Finance on raising an account. In response, Amos Gagar (Business Finance Manager, Production Onshore, SPDC) confirmed plans to raise this at the next "BCC" or to seek special operating expenditure "*depending on the scale of security operations to safeguard the barrels".*

477. On 31 January 2012, the CSRC held a meeting. The CSRC agreed that it would conduct a site visit to Nigeria in 2012.

478. Also on 31 January 2012, the Audit Committee held a meeting. The Chief Internal Auditor discussed the unsatisfactory audit opinions of the Second Defendant's asset management and pipelines. The Audit Committee asked questions on Nigeria and reputation risks.

February 2012

479. In February 2012, the First Defendant issued a Run and Maintain Practice publication on "Pipeline Integrity" (the "**Pipeline Integrity RMP**"). The Pipeline Integrity RMP was created as a result of the GAIR, reflected the views of SGS and SIEP, and was designed to ensure alignment with the HSSE Control Framework and the AIPSM. It served as a transitional replacement for the former DEP 31.40.00.11-Gen until operational requirements for pipeline integrity were fully adopted into the operational frameworks of Upstream. The practice was applicable to all Shell Companies that operated pipelines. It provided recommended guidance aimed at assuring the integrity of pipeline assets during the operations phase. Pipeline integrity was identified as "*essential*" to sustaining Shell's broader business objectives, including preventing harm to people and the environment, and as directly relevant to achieving many of the commitments in

the Shell Group HSSE Commitment and Policy.

480. On a date unknown in February 2012, a pilot project of intrusion detection and warning supplied by the vendor Videofied, was put in place in select locations in three areas (Imo River, Cawthorne Channel and Bony CLP).

481. On a date unknown in February 2012 the Second Defendant executed a contract with Bureau VERITAS, an independent international standards verification agency, to review SPDC's emergency spill response and clean up practices.

482. On 1 February 2012, the Board held a meeting. As part of the Board and Directors' Performance Review, the Board considered the CSRC report, which noted that Nigeria should remain as a key topic on the agenda for 2012, with consideration given to an annual site visit. Malcolm Brinded also provided the Board with an appraisal of the 2011 performance of the Upstream International Business. The minutes further record that the Board was informed that the CSRC and Remuneration Committee had agreed that the spills target for the 2012 Scorecard should be made more demanding, and the Board agreed. Under Any Other Business, the CEO reported on his proposal that Andrew Brown be appointed to succeed Malcolm Brinded as head of Upstream International, which was approved by the Board.

483. On 2 February 2012, Vincent Holtam emailed Tony Attah, and Mason Onhenejobo following an overfly of the NCTL, and a visit to Beleme, stating "*I desperately need your help".* He stated:

> "*The level of bunkering between Bonny and Awoba is shocking. It is on an unprecedented scale. This is not something that can be solved with surveillance, but needs major military action. There must me [sic] >100 barges and refineries in the area. This is easy to see for [sic] the air and should not be difficult to wipe out. This is not a mobile force, but bunkering on an industrial scale. During the overfly, I saw no evidence of GSF, but lots of bunkerers going about their business undisturbed, apart from the surveillance guys walking the line to confirm there are no leaks. The area is*

black with smoke and the rivers are covered in oil sheen. We need immediate and serious action, otherwise we will never get producing again. Last night 5 stations tripped again, including Beleme. These are still down, as we cannot restart until we have walked the entire line to confirm there are no spills".

484. On 3 February 2012, Malcolm Brinded submitted the Business Assurance Letter for Upstream international for 2011 to Peter Voser. The letter relevantly provided:

484.1. *"Nigeria continues to require significant attention due to prevailing security risks"* and *"growing international attention on environmental issues including the [UNEP Report]",* follow up for which was a high priority for 2012.

484.2. An increase in the number of oil operational spills by 66% over 2010 was noted *"almost entirely due to the reinstatement of flowlines in Nigeria, closed during the militancy period (28 out of 29 additional spills)"* as there was inadequate cathodic protection.

484.3. In respect of the SGBPs and Code of Conduct:

(a) A qualification was entered in line with the 2008, 2009 and 2010 qualifications regarding to payments to the JTF, noting work on ensuring payments were made in line with the Arms Lengths Approach, registering the JTF contractors within the Shell contracting system, and reviewing the JTF contracting strategy and due diligence of contractors.

(b) A commentary was entered noting that ongoing investigations in Nigeria had indicated that awareness and compliance with anti-bribery and corruption compliance was in need of reinforcement and embedding into the Defendants' operations in Nigeria.

484.4. In respect of the statement "*The HSSE & SP Standards have been implemented in accordance with the relevant manuals and Business/Function and location implementation plans*", a regional qualification was entered

summarising the conclusions of the UNEP Report and actions stated to be taken by the Second Defendant in response to the same. A commentary was entered stating that: the HSSE Control Framework required HSSE competence assurance for HSSE&SP professionals and employees in HSSE critical positions or doing critical tasks by the end of 2011, but this assurance was not fully complete and an exception was being sought aiming at full implementation by the end of December 2014. A further commentary was entered in respect of Nigeria noting that security continued to be challenging, with crude theft and vandalization still prevalent, and Upstream International were putting mitigation measures in place to reduce security risks to the Business to ALARP.

484.5. A commentary in relation to oil spill response noted that oil spill response capabilities were being improved and Upstream International was actively supporting creation of the Oil Spill Expertise Centre ("**OSEC**").

484.6. In respect of the statement "*any asset under operational control meets the requirements of technical integrity necessary to commence or continue operations*", a qualification was entered noting the delays in the completion of the Fix Programme for Nigeria (pipelines expected in 2015, and facilities and wells in 2014). The qualification entered in respect of Nigeria noted that pipeline integrity remained an issue of concern, with significant backlogs of asset integrity work and continual TPI and encroachment on assets and facilities. Pipelines had been shut in, because the risks of operating had been too high. The letter noted that in 2011 the Second Defendant had identified significant gaps in flowline integrity management. It further noted the Unsatisfactory opinion of the SIA's pipeline audit.

485. Also on 3 February 2012, five flow stations on the NCTL tripped as a result of low pipeline pressure caused by high levels of crude oil theft and/or oil spills.

486. On 5 February 2012, Cor Koster (Crude Surveillance Project Manager, SPDC) circulated a presentation, titled "Bunkering CAWC and Creek-6 areas", regarding the Second Defendant's patrolling of the pipelines to identify bunkering. The

presentation shows that the Second Defendant was attempting to estimate where bunkering was occurring using pressure drops. The graphs presented by Mr Koster indicate that the Second Defendant was able to differentiate between pressure at the Nembe and Cawthorne Channel areas.

487. On 8 February 2012, the UILT held a meeting. Ian Craig expressed concern over a "*huge increase in bunkering activities onshore in Nigeria, especially on the NCTL line which is creating pollution on an industrial scale*". He noted that the line might have to be shut down for repairs.

488. On 10 February 2012, Malcolm Brinded emailed members of the ExCo including Peter Voser, stating: *"Bunkering and illegal refining continues in Nigeria. There are regular focused purges that tend to displace the activity but often only temporarily".*

489. From about 11 February 2012, Solomon Asen (by then, Security Operations Manager West, SPDC) and others began to plan "*sting operations*" to clear bunkering and illegal refining at the Krakama section of the New NCTL.[1] On a date unknown before May 2012, Johnson Erewa was granted management approval to conduct the clearance, after joint reconnaissance of the NCTL by the Second Defendant and the JTF. The Second Defendant's Management also agreed to provide funding to the JTF to conduct the clearance. The Second Defendant's arrangement with the JTF resulted in the destruction of illegal refineries at Krakama in May 2012 (see further paragraph ** below).

490. On 14 February 2012, a document titled "Confidential NCTL Integrated Reconnaissance & Management Facility Inspection (MFI)" reported on findings of daily visits conducted by the reconnaissance team between 6 and 9 February 2012. The team had observed numerous bunkering points, including multiple points at Awoba, Krakama and Cawthorne Channel and "*massive refining activities_behind Krakrama (Bille) FS [Flow Station]… Assessed "refining*

[1] Johnson Erewa (Area Security Advisor, Pipeline East, SPDC) was granted management approval to deploy the JTF to clear illegal bunkering and refining at the Krakama section of the NCTL after a joint recce of the NCTL by the Second Defendant and JTF. The Second Defendant provided funding to the JTF to conduct this raid.

village" behind Krakrama FS". These included connections piped with control valves between Nembe -1 Tie-in and Tora Manifolds circa 1.2km away from the Right of Way "*to a conspicuous point suspected to be used for loading vessels/barges*". General observations included "*[m]assive water pollution of crude oil and its sheen was visible on water and through the creeks especially around Bille,"* heavy impact to vegetation from TPI "*on the entire stretch of the new NCTL*" and discovery of "*clusters of illegal refineries*" around the Bille 1 field. A suite of recommended immediate and short-term actions included review of surveillance strategy, clearing of illegal refining camps, monthly reconnaissance of the new NCTL Right of Way (including overflies), and improved resourcing of surveillance guards.

491. Also on 14 February 2012, Amnesty International sent Peter Voser a letter regarding the UNEP Report and the Defendants' operations in Nigeria, which referred to *"an appalling level of pollution with serious consequences for human rights*", and noted that the First Defendant had taken very little action in response to the UNEP report, and requested swift action on its recommendations.

492. Also on 14 February 2012, the ExCo held a meeting. Malcolm Brinded provided a detailed update concerning Nigeria "*including production, Bonga, bunkering, blocks*" in addition to his regular Upstream International HSSE update. Matthias Bichsel provided a HSSE update.

493. Also on 14 February 2012, Malcolm Brinded emailed Ian Craig, Mutiu Sunmonu and others with an extract from "*the EC highlights*". He quoted:

493.1. *"There is an alarming increase in crude oil theft and illegal refining activities on the NCTL. Over 50 bunkering points have now been discovered on the NCTL after completion of the recently repaired leaks caused by 2(two) failed 6" bunkering connections. The repairs were completed on 23 January 2012 after 4 weeks of repair work involving the installation of coffer dams. The new bunkering points are suspected to have been installed during the Dec/Jan shut down window.*

493.2. *The security provisions for the line have been tightened, including detailed conduct of a reconnaissance survey. The Government has been notified by SPDC management to address this spade of theft and utter disregard for the environment through illegal refining activities. Further engagement with the government to effect control over the situation planned for the week of 13 February.*

493.3. *An extended shutdown of the NCTL, will result in a loss of 140kbopd from 10 Production Flow stations and 8 Compressor Stations and Gas Plants*."

494. Mr Brinded added: "*I knew this was getting bad, but this seems even worse than I had realised/ This is a new pipeline. Can we increase surveillances and security efforts even further*? (*I do see we say we have done this)*." He queried whether the Defendants had "*lowere(ed) our guard*" during the shutdown window.

495. On 17 February 2012 Erewhata Emakpo emailed attendees of a Nigeria Security Telecon held on 15 February 2012. Attendees included Malcolm Brinded, Mutiu Sunmonu, Ian Craig, Thijs Jurgens, David Martin, James Hall and Susannah Pierce (VP Communications, Upstream International, SIEP). The email recorded steers and action points from the meeting, including that a question was raised re *"How come 50 plus bunkering points?"* and *"Why no security in place previously on the new NCTL?"* The meeting's response was that the Second Defendant had not properly anticipated getting surveillance, security and infrastructure in place for the new NCTL, and it was decided that security should be incorporated in the design of facilities from inception. The meeting notes that there was good progress managing the NCTL security situation and the JTF had mobilised and destroyed illegal refining operations, and following a reconnaissance, survey provision had been provided for infrastructure, houseboats and the deployment of further security. Questions were asked about how to conduct appraisal of the surveillance activities in Nigeria and the strategy on *"Bunkering and Encroachment".* Actions in response to these questions were assigned to the VP Security and VP Production.

496. On 20 February 2012, Jurgen Janzen delivered a presentation titled "Oil Spill Management – Pipeline Asset Organisation – Oil Spills Response / Remediation Improvement Plan 2012" to the UIG-LT. This recorded plans to "[a]*ward all contracts to Host Community Contractors irrespective of whether the spill cause is Operational or 3rd Party"* and to reduce time to certification of sites classified as remediated post-impact from 203 to 165 days through measures including the streamlining of clean up and remediation.

497. On 20 February 2012, Tom Martin (Principal Inspection and Integrity Engineer, Projects and Technology, SGSI), on behalf of Edwin Blom and Luis Cosme (Global Discipline Head & General Manager - Pipeline, Flow Assurance and Sub-sea, Projects & Technology, Shell Global Solutions US ("**SGS US**")) and Mechanical, Materials and Integrity (MMI)) sent an email with a presentation titled "Pipeline Integrity Status Reporting: Communications Pack", explaining the First Defendant's red traffic light definition for pipeline integrity following the GAIR. In particular:

497.1. The covering email commented:

> "*We realize that the new definition may result in a possible increase in pipelines/flowlines with red status. It is being presently communicated to the business leadership that there will be a peak of red pipelines reported after adoption of this red definition. The requirement for reporting red pipelines/flowlines, as per this definition, is Q1 2012*."

497.2. The presentation explained that, following the North Sea Gannet spill on 10 August 2011, GAIR collated the status of "*red-banded*" pipelines throughout *"RDS",* that is, pipelines likely to be outside its established parameter limits within one year and hence requiring a remedial action. Numerous definitions of "red-banded" pipelines were observed across the Shell Group, and Business leaders requested that the definition be reviewed and aligned across the Shell Group to allow for consistent status reporting, both locally and to the Board. The GAIR recommended that AIPSM and subsea/pipeline leadership define consistent pipeline status (banding)

terminology and, in particular, have an "*unambiguous definition of 'red' status and associated action (Q1 2012) which is universally applied*".

497.3. One of the GAIR objectives was described as "*Red is leak and stop: Red should mean there is an imminent risk of a leak and operations should stop. Appropriate risk mitigations shall be put in place*".

497.4. The "*Approved Red Definition*", described as a "*minimum standard",* was as follows:

> "*Pipeline system has an integrity issue resulting in an imminent risk of a loss of containment, or failure of the safeguarding system, and therefore requires immediate remedial action by the Asset Manager.*

498. On 21 February 2012, Arie Dijksman updated colleagues at the Second Defendant about the new traffic light system and 'red' definition: "*From now on RED means close in immediately, while in the old system it indicated that repairs needed to be done within a year.*"

499. Also on 21 February 2012, draft recommendations from the secretariat of the Norwegian Council of Ethics were sent to the First Defendant for comment, noting the frequency and volume of oil spills and the Defendants' long-standing awareness of operational problems in the Niger Delta, as well as the connection between their operations and environmental damage. The Council did not consider significant changes likely in the short to medium term unless there were "*major changes*" in one or more of the following:

> *Governance within the JV and the inadequate funding for major investments in the JV operations. B) The ability and willingness of the Nigerian authorities and the operator to control unauthorised third parties, especially oil theft, at the same time as sabotage is kept at a low level. C) Shell's willingness and ability to use the instruments available to the company in the JV (e.g. vetoing budgets, plans and operations that experience has shown leads to extensive spills; shut-down of production / infrastructure when high risks so dictates).* [...]

500. The Council recommended placing the First Defendant under observation for a period up to four years, during which it would attach importance to whether there was a substantial reduction in oil spills, governance within the JV, including the First Defendant's role, and clean up and remediation of spills in Ogoniland.

501. On 21 February 2012, Vince Holtam wrote to Agans Aganmwonyi and separately to Mutiu Sunmonu expressing grave concern about high third-party deferment. He explained that he had five existing third-party leaks on the TNP, having already repaired another five in the last week, on top of those on the NCTL. He commented that the JTF and other security measures seem ineffective. He wrote: "*I am at my wit's end. I think we are in crisis but no one seems to recognise that. My gut feel is that this is out of control and perhaps we have one last chance to do something before the only remaining course of action is a complete shut-down until we can regain control"*. A brainstorming session was set up as a result which took place on 12 March 2012 (see paragraph ** below).

502. On 22 February 2012, the Second Defendant issued the "SPDC 2012 Remediation Project Execution Plan", authored by Andy Lee (Head, Project & Technical Services Remediation and Oil Spill Response Manager, SPDC) and approved by Jurgen Janzen, as a reference containing instructions and guidance on remediation strategy and management for Shell personnel and contractors. The plan noted the Second Defendant's "*sub-optimal*" spill response and site restoration.

503. On 27 February 2012, Jurgen Janzen delivered a presentation titled "Pipeline Asset Overview" in advance of the HHSE & SP Control Framework Audit. This recorded challenges concerning the Second Defendant's pipelines, including that there was "*no proper preservation of lines when abandoned*", "*continuous*" TPI, and aging infrastructure.

504. On 28 February 2012, Kyle Jarton (Investor Relations Officer, RDS)) circulated a proposed response to the Norwegian Council of Ethics draft recommendations to John Joseph Traynor (EVP Investor Relations, Shell International) and Godson Njoku, who then shared it with Rupert Thomas and David Martin. Mr Jarton

suggested that the goal of Shell's response should be to "*increase the likelihood that* […] *the Council will not issue a divest recommendation*" and that it should focus on "*areas of recommendations which are out of SPDC's control such as spills due to third party interference (either sabotage or bunkering) or government actions*".

505. On 29 February 2012, a note was prepared for the CSRC titled "Council of Ethics for Norway Update" which was based on the proposed response. The note confirmed that the Council of Ethics had informed the First Defendant of its concerns at the highest level including via letters and discussions with the CEO since 23 April 2010.

March 2012

506. In March 2012, the Second Defendant published its 2011 Annual Pipeline Integrity Report (the "**2011 Pipeline Report**"). The 2011 Pipeline Report:

506.1. Noted that the preferred method for repair was bolt on clamps in most cases and with very few exceptions, only clamps had been applied for repair of leaking defects.

506.2. Recorded that the maintenance reference plan was not being met due to access challenges, and sabotage/bunkering attacks on the pipelines, and that pipelines within restricted areas were not being maintained due to security and community issues. The 2011 Pipeline Report also noted that the percentage of pipelines for which the action plan from the previous annual review had been completed was 67%.

506.3. In relation to resourcing, the 2011 Pipeline Report noted issues with resourcing, including a lack of experience and availability of necessary integrity management skills, which represented a threat to integrity management. Relatedly, it noted that there were competency gaps which prevented full execution of the Pipeline Integrity Management System. In particular, it noted a "*a serious concern with respect to corrosion monitoring,*

inhibition, MIC [Microbiologically Induced Corrosion] *and fluid chemistry competence levels".*

506.4. Noted that an increasing number of emergency repair activities diverted resources reserved for planned maintenance operations.

507. In March 2012, the Second Defendant published its 2011 Annual Flowline Integrity Report (the "**2011 Flowline Report**"). The 2011 Flowline Report found:

507.1. In relation to data management:

(a) No proper data records regarding flowline leak repairs were maintained after FIMS [Flowline Integrity Management System] was abandoned in 2007. Thereafter no sampling and UT [ultrasonic testing] measurement records were available, which had hampered the full integrity assessment work;

(b) There was no indication that approved clamps were being used for leak repairs (by brands such as PLIDCO or TDW); and

(c) Several lines appeared on both the decommissioned line list and the BP11 producing line list. The Asset Team was to clarify this discrepancy to facilitate more accurate integrity assessment of the flowlines.

507.2. In relation to repair of flowlines, that sectional replacements were carried out with uncoated line pipes.

507.3. In relation to abandonment and decommissioning, that a substantial number of flowlines with decommissioned wells were not properly abandoned and disconnected.

507.4. In relation to cathodic protection, that some flowlines were not protected by cathodic protection.

508. In March 2012, routine pigging operations were carried out in the Second

Defendant's East Division, with low compliance, activity and performance reported, and vandalization recorded at the Bille II (Awoba) Flow Station.

509. On 3 March 2012, Jurgen Janzen delivered an *"*Awareness Presentation*"* on *"*Oil Spill Response and Remediation Management in SPDC*"*. The presentation confirmed that "*with most"* oil spills, *"the principal remediation action is to reduce TPH and other oil related compounds to less than EGASPIN intervention levels"* and that *"RENA is the most commonly applied soil remediation technology in SPDC"*.

510. On 5 March 2012, the ExCo held a meeting. Malcolm Brinded provided the ExCo with a detailed update concerning Nigeria, including bunkering and "*an update concerning the Delta*", in addition to his regular Upstream International HSSE update. Matthias Bichsel provided a HSSE update. Martin ten Brink presented a review of Shell's control system for 2011, and Armand Lumens presented the Chief Internal Auditor's Annual Report for 2011. The ExCo concluded that the First Defendant had an effective system of risk management and internal control in place.

511. On 12 March 2012, a brainstorming session was held following Vincent Holtam's email of 21 February 2012. Among those invited to attend were Ian Craig, Mutiu Sunmonu, Bernard Bos, Tony Attah, Vincent Holtam, Jurgen Janzen and Agans Aganmwonyi. The agenda included discussion of bunkering trends, security deployment and effectiveness, and feedback and recommendations. The presentations delivered including an "Anti-Crude Theft & Reconciliation Factor Improvement Workshop". This identified various problems with the Second Defendant's response to TPI, including that outcomes from previous efforts to address TPI had not been worked to completion and that there were "*Uncoordinated actions/strategy to address bunkering*". The report outlined the need to establish a Decision Review Board ("**DRB**") to address TPI, comprising the Second Defendant's MD, VP Production, VP Corporate Affairs and VP Finance. A slide headed "Options" depicted various solutions including remote surveillance technologies, pipeline intruder and leak detection trials, and positioning of GSA along with pipeline network.

512. On 13 March 2012, the Audit Committee held a meeting. The Chief Internal Auditor explained that an audit of the Second Defendant's security payments processes had been postponed while organisational changes were made.

513. Also on 13 March 2012, the CSRC held a meeting. David Martin provided the CSRC with an update on safety, including in respect of Nigeria. The CSRC noted that most audit findings in 2011 related to asset integrity and process safety and requested clarification regarding access to the Shell Internal Audit on "*SPDC Asset Management – Pipelines*" in Nigeria.

514. Also on 13 March 2012, Rik Prager proposed a schedule for March – December 2012 DRB meetings, concerning pipeline maintenance and replacement, and well securing/integrity.

515. On 14 March 2012, the Board held a meeting. The Board received a presentation on the Asset Integrity Process Safety Management Update (AIPISM) project for the Downstream and the Upstream Business, the minutes note that the Board noted and discussed the presentation.

516. On 15 March 2012, Maarten Wetselaar emailed Bernard Bos to propose further discussion about the NCTL and share his reflections on their discussion the previous day. He stated that: *From your description I do think that we should not delay action for too long. I am happy to come over with Andy to provide a fresh perspective and help inform what would be a big decision for us. If you and Ian want us to come pls let us know and we will find a way"* and "*Would be good to see the pros-cons of shutting in from your joint perspective. Don't think UI production targets should feature high on that list." and "Key is to give President a chance to take action to intervene as part of any escalation....think "just" shutting down would be lethal."*

517. On 15 March 2012, Bernard Bos participated in a flight over the NCTL Krakama/Cawthorne Channel areas.

518. A "Facilities/Pipelines Decommissioning Update", dated 15 March 2012, recorded that the decommissioning of the 98km Old NCTL was in progress but work had been suspended in August 2011 following a spill during leak testing. A revised strategy had been approved by the DRB and the contractor was ready to recommence work. A total backlog of 667km of disused pipelines was identified, of which 367km were in East. The backlog included pipelines at Krakama in respect of which there had been no progress on the survey because of resource constraints in Geomatics.

519. On 16 March 2012, Bernard Bos and Ian Craig exchanged emails regarding the extent of illegal bunkering and refineries on the NCTL. In particular:

519.1. Bernard Bos emailed Mutiu Sunmonu and Ian Craig in relation to what he had observed on the overflight, stating that "*the bunkering and illegal refining issues we saw along the NCTL were shocking, and talking to the teams, it has never been this bad before. It becomes a key financial/ environmental exposure for us, and I think we need to get Andy* [Brown] */Maarten* [Wetselaar] *down to see this."*

519.2. In a later email sent that day, to Mr Sunmonu, Mr Craig and Barbara Blum (Assistant General Counsel, Upstream International, SEPA), Mr Bos added:

> "*[T]he environmental damage around the NCTL line from the illegal theft and bunkering make the Bonga oil spill look like a minor event. Talking to Vince [Vincent Holtam] and Jurgen [Janzen] and others, it has never been this bad before. We could potentially be exposed to significant clean-up costs. Also with (according to Jurgen) between 40-60k of our crude stolen, I really start to wander [sic] whether or not we are in crisis territory."*

519.3. In response, Mr Craig suggested: "*we do not exchange any more emails on this. Let's have a discussion, preferably face to face*".

520. Also on 16 March 2012, an "Asset Integrity & Process Safety" report was produced by Upstream International.

520.1. The report stated:

> *"A significant progress has been achieved in our efforts towards clearing the backlog of legacy integrity issues that had accumulated as a consequence of lack of security, facilities access constraints and insufficient funding (due to legacy NNPC budget allocation and funds release timing constraints). The improving security situation in the Niger Delta as a result of the Federal Government's Amnesty Program has resulted in improved access to many hitherto restricted swamp and land facilities. This and improving partner funding have contributed and are continuing to support our maintenance activities and refurbishment program's positive progress. We continue to strengthen our Management Systems and leverage our Group asset integrity process safety management processes to drive embedment and sustenance of this resuscitated Asset Integrity focus. We remain mindful of the significant amount of pipeline replacement work outstanding for execution. A significant amount of funding is required in the BP to fully complete the overall improvement program and sustain their integrity.*

520.2. It was stated that 97% of 3894 asset integrity items of the legacy Focused Asset Integrity Review (FAIR) FIX Program had been completed, and work was continuing on the remaining 3%.

521. From about 21 March 2012, James Hall informed Tony Attah that Brian Mair and Dean Emmanuel were *"now in country"*. The Claimants understand that the First Defendant had created the post of Regional Security Manager Sub-Saharan Africa for Brian Mair, so too it arranged for Mr Emmanual to be placed in Nigeria in the role of Corporate Security Operations Manager, to assist the Second Defendant with security management and response.

522. On 22 March 2012, the UILT held a meeting. Ian Craig informed the team of an

upsurge in criminality related to illegal bunkering of crude oil and noted that actions were being taken to mitigate the increased risk. Malcolm Brinded *"stressed the importance of agreeing accountabilities in Oil Spills"* and *"urged EVPs to […] ensure that there is clarity on what happens in the first twenty four hours in the event of a major oil spill"*. He provided an update and "*some personal feedback*" from the First Defendant's Board meeting. The meeting noted that there was *"High trust from RDS Board on the AIPSM agenda despite challenges in 2011"*.

523. On 22 March 2012, as part of the GAIR, a draft "Integrated Technology Plan for Integrity Management and Leak Detection of Pipeline and Subsea Asset Class" was published. The Plan:

523.1. Was described as a "*focused technology execution plan*" developed to address the GAIR recommendation to mature the most promising technologies that can provide the *"ability to prevent leaks and to detect them quickly when they occur*".

523.2. Identified as the biggest gaps in Shell's ability to demonstrate integrity and detect leaks: (i) "*an inability to inspect unpiggable pipelines […] inadequate monitoring of equipment for corrosion wall loss, third party intrusions, and geohazards*"; and (ii) a "*lack of rapid response leak detection systems*".

523.3. Identified ten key technologies that could close these gaps. The recommendation made was that all ten key technologies were to be brought to the deployed stage within the time frame and at the funding level detailed in the plan.

523.4. In relation to the Second Defendant, the plan identified two pipelines that could be used to test for intrusion detection using fibre optic sensing. This technology had been used by Shell in wells for more than ten years and could detect both leaks and third-party intrusion. It was estimated that $1.5 billion/year could be saved by providing early warning of third-party

intrusion. The plan recorded that the Second Defendant had the budget to implement the technology but not to fund Projects and Technology's time. The Plan noted that activities were proposed for 2013.

524. On 23 March 2012, as part of the current HSSE&SP audit of Swamp East, Andrew Harvey (Principle Lead Auditor, Health, Safety, Security, Environment & Social Performance Assurance, Shell International) sought from Mark Powell, Security Risk Assessments for Swamp East. Over the ensuing days he came to realise that such assessments had not been completed for the majority of the Swamp East assets including Awoba and Krakama. Those that had been completed had not been updated when changes occurred to a security threat or to an Asset that impacted security risk, and the controls identified in them had not been systematically monitored to ensure implementation. In an email response, Asen Solomon explained the reason for the lack of security risk assessments as follows: "*Risk assessment was the responsibility of Geoff Clark. He did not do much because according to him he was also doubling as PPO to Ian Craig. The situation is the same for all our facilities because the past 2 expats charged with this responsibility, Geoff Clark and Ian Currie, did not do this work as expected. They all complained off inadequate staff*."

525. On 26 March 2012, James Hall shared recommendations from the August 2011 Security Review with Ian Craig and Tony Attah and proposed key questions for their upcoming Nigeria Strategy Review discussion, including "*How do we tackle the marked increase in pipeline sabotage and theft?"* and *"Where does Nigeria stand in terms of Security Control Framework Compliance and how do we identify and tackle the gaps?*.

526. On 27 March 2012, the ExCo held a meeting. Malcolm Brinded reported on Nigeria, including on "*two recent leaks, illegal bunkering*" and the anniversary of the UNEP report, in addition to his regular Upstream International HSSE update. Matthias Bichsel provided a HSSE update.

527. On 27 March 2012, the First Defendant's Executive Vice President of Investor Relations, John Joseph Traynor, responded to the Norwegian Council of Ethics

review, stating that JIVs provided a best estimate of the Second Defendant's spill volumes, much of the pollution was caused by TPI and much of the oil spilt was cleaned up by the Second Defendant. The First Defendant's response also disputed the recommendations of the Council of Ethics, including by stating:

527.1. The Niger Delta as a whole had not experienced the same environmental damage as Ogoniland.

527.2. The Second Defendant was part of a joint venture which required strategic decisions to be "*taken on a unanimous basis between all shareholders*".

527.3. That as TPI could happen on "*virtually any piece of infrastructure*", it was "*impossible to stop with purely technical solutions*".

528. That the revenue oil and gas generated was necessary for the Federal Government of Nigeria, given the size of the domestic population and scale of poverty; and that the Second Defendant employed 9,000 surveillance contractors to guard its Rights of Way.

529. On 30 March 2012, Ian Craig, Tony Attah, and James Hall had a meeting to discuss the Nigeria Security Review. Agreed action points in relation to pipeline sabotage and theft included: keeping under review a project to improve security on the NCTL; the importance of embedding security at the design stage; investigation by Corporate Security into "*new thinking on pipeline protection*"; and reviewing the effectiveness of the framework for surveillance contracts. Actions agreed in relation to Control Framework compliance included establishing whether any major sites were missing Security Risk Assessments and Facilities Security Plans, and reviewing existing plans. The need to review security staff competencies and close competency gaps was acknowledged. Action points were also identified to ensure that Brian Mair (Regional Security Manager) was properly connected, including with Ian Craig and other regional business leaders.

530. On 30 March 2012, a handover email from Jimoh Umoize (Pipeline Discipline, SPDC) to Raymond Asuquo notes the need for "*flowline training*". This was due to the fact that failures had been recorded in some flowlines in the West which had been in service for less than 3 years. The email records that the failure investigation report suggested a combination of corrosion and poor construction practices as major threats. Mr Umoize noted this round of training would focus on "*acceptable field construction practices, material handling, etc*".

April 2012

531. On or around 1 April 2012, Andrew Brown took over from Malcolm Brinded as Executive Director and Business Head of Upstream International (still employed by SIEP).

532. On 2 April 2012, a presentation titled "PIPELINE RT SURVEILLANCE TECHNOLOGIES" was delivered within the Second Defendant on real time pipeline surveillance. In particular, the presentation:

532.1. Identified community-based surveillance, unmanned aircraft surveillance, poverty alleviation programs, leak detection monitoring and acoustic intruder trails as solutions either in use or proposed.

532.2. Stated that different forms of fibre-optic cable intruder and leak detection, involving the use of cables buried alongside the pipeline to detect intruders and leaks, had been trialled in 2009 by NAOC, in December 2010 along the Komkom line and at the Soku gas plant in December 2011, and deployed along the Imo river axis of the TNP. These trials were described as "*successful*".

532.3. Stated that deployment of OnRamp technology, involving the installation of wireless pressure transmitters at selected pressure points on the pipelines and manifolds to enable pressure to be transmitted wirelessly to the Second Defendant, had been approved along the entire TNP by Second Defendant's management.

532.4. Stated that "*FOC [fibre optic cable] Technology is not a panacea but is key to success of any intervention*" because "*[y]ou know sooner, intervene faster*" and "*Onramp will enable pipeline hydraulic model from which leaks, failures and diverted flows can be inferred*". The benefits were described as "*[m]inminiz[ing] environmental pollution*", loss of revenue, destruction of assets and reputational damage.

533. On 3 and 4 April 2012, Peter Voser visited Nigeria and accompanied Ian Craig on site visits. He took part in an overfly of the NCTL to see the scale of oil theft, illegal refining and associated environmental pollution. Business reviews were held on reputation topics including the UNEP Report and follow up, oil spills and flares management. Action points and steers arising from the visit included: (i) obtaining satellite imagery of oil theft and illegal refining impacts; (ii) getting the story out before the UNEP anniversary showing the connection with updated data for sabotage/oil theft/illegal refining leading to oil spills, environmental pollution, production deferment, and loss of revenue; (iii) addressing what other international oil companies were doing in respect of spills/spills management to see what can be learned; and (iv) revisiting not permitting communities with sabotage spills to receive contracts for clean-up.

534. On 6 April 2012 SIA issued 'Audit Report UIG-2012.007 on SPDC Lands Rights Protection / Management – re: 3rd Party Encroachment on Facilities' (the "**Land Encroachment Audit**"). The audit assessed the status of the control framework around the end-to-end management, processes of land acquisition, ownership administration, HSSE&SP and land relinquishment, following field visits. The rating of the audit was *"Unacceptable"*. The Land Encroachment Audit made a series of findings, which were correct, including:

534.1. There was inconsistent and inadequate management and accountability for land, restoration and relinquishment, and a lack of attention to non-producing assets led to ineffective management of encroachments.

534.2. Land restoration and relinquishment had not taken place, and facilities

had become the object of encroachment by settlers, including at *"well slots"*.

534.3. The Second Defendant was inhibited in its ability to prevent encroachment and/or evict trespassers from assets and/or rights of way.

534.4. The verification and documentation of land titles and facilities was incomplete.

534.5. There was an ineffective framework for administration and management of the Second Defendant's land. The audit team saw *"no evidence of Lands management oversight to restore/relinquish these lands, which may constitute safety and environmental hazards if left unattended and at the mercy of third parties when no longer required for operations"*.

535. On 7 April 2012, Andrew Brown emailed Ian Craig and Mutiu Sunmonu about the Land Encroachment Audit. He referred to photos collected by SIA for the audit and stated *"[f]or me the encroachment on abandoned wellheads is the most disturbing with no real assurance on abandonment status."* He asked to know the scale of the issue, suggested setting up a task force and mapping out initial ideas on responsive measures, and said he would brief the ExCo ahead of the Audit Committee meeting and discuss it at the UILT meeting on 19 April 2012. He said he would like *"to understand what help you may need (money, people) to get on top of the issue"*.

536. On or around 12 April 2012, the Defendants established a Petroleum Revenue Task Force.

537. On 12 April 2012, Bernard Bos delivered a presentation titled "Petroleum Revenue Task Force Presentation – Shell Nigeria", which stated that bunkerers used facility shutdowns as an opportunity "*to install bunkering points and lay pipelines/hoses*" and that the current level of incursions on the NCTL could "*no longer be tolerated*". The economic impact of TPI on the NCTL and TNP was estimated as equivalent to a loss of around $14m per/day.

538. On 13 April 2012, the Second Defendant, the JTF and surveillance contractors attended an NCTL security briefing held at the JTF headquarters. The surveillance contractors asked the Second Defendant to allow them to use smaller speed boats for their surveillance work, so they could more easily enter the creeks; they also suggested that lines in the swamp be left open to fill with water thereby making access for bunkerers more challenging. The JTF Commandant urged contractors to monitor their lines 24/7 as he understood was required by their contracts.

539. On 15 April 2012, Ian Craig emailed "GX SEPA UIGLT" about the forthcoming workshop on 25 April 2012 to take stock of progress against the strategy that was endorsed by the First Defendant's Board in July 2011. He noted:

> *"Much has changed in the external environment since this work was presented and, as was discussed with Andy [Brown] and Malcolm [Brinded] when they visited, we have made less progress against the planned actions that we had hoped to. When Peter Voser visited at the beginning of April, we briefly talked about progress and agreed that we would have a fuller discussion later in the year. I would therefore like to use the workshop to understand what the progress has been, the main blockers we face, and to hear your thoughts on what further we can do to unlock the full potential of Shell's resources in Nigeria."*

540. On 16 April 2012, Vincent Holtam conducted an overflight of the NCTL. On 17 April 2012, he wrote to Tony Attah, Bart Lismont and Bernard Bos, copying in Ian Craig and Mutiu Sunmonu, stating that "*we have lost a lot of time on inaction*", "*I see limited progress since February*" and that bunkerers had returned to parts of the NCTL, with an overflight the day before showing "*many new sites in Krakama*". Mr Holtam volunteered to be the Business Opportunity Manager for the third-party deferment reduction project. He suggested a number of staff who should form core members of the team and sought advice from Mr Bos on non-core members addressing finance, contracts, IT and projects.

541. On 16 and 17 April 2012, the ExCo held a meeting. Andrew Brown reported on Nigeria in addition to his regular Upstream International HSSE update. Armand

Lumens presented the Q1 2012 Chief Internal Auditor's Report and Martin ten Brink presented the Q1 2012 Business Control Incidents report, which the ExCo "*reviewed*" and in respect of which it "*provided detailed comments*". Matthias Bichsel provided a HSSE update.

542. On 17 April 2012, Jimmy Ahmed (General Manager, Business and Government Relations, SPDC) emailed employees of the Second Defendant, SNEPCO, and SEPA inviting comments on Shell's response, as cleared by Corporate Relations, to a "GMD" text message stating that the Second Defendant had failed to repair over 56 bunkering points which had been identified over the previous four months, with comment: "*SPDC claims it* [repair] *is highly technical and that experts abroad must be contracted before the pipelines are repaired."* Shell's proposed response stated that: approximately 52 bunkering points were on the NCTL; safe removal "*would require multiple, lengthy shut downs of the NCTL, each deferring about 100kb/d for about 10 days*"; the Second Defendant was seeking to minimise such shut downs by removing multiple points per shutdown, with four shutdowns planned for 2012 and three to five more for 2013; the JTF had committed, to the Second Defendant's Security Team, to provide "*a permanent security deployment*" on the NCTL; and that the Second Defendant planned to "*adopt the same strategy deployed in securing the DOMGAS* [Domestic Gas] *Line in the Western Delta, which has recorded resounding success from 2010 to date.*"

543. On 19 April 2012, the UILT held a meeting. Ian Craig noted that Nigeria had been impacted by continued crude oil theft. He updated the team on the Second Defendant's awareness campaign addressing the environmental impact of illegal bunkering.

544. On 24 April 2012, the Audit Committee held a meeting. The Chief Internal Auditor ("**CIA**") explained the unacceptable audit findings of the Second Defendant's Land Encroachment Audit. The Audit Committee expressed concern about the audit findings and management assured the Audit Committee that the matters were being addressed. An action item is recorded in the minutes stating: *"Include a deeper "Nigeria" review, possible for the October meeting, including a review of controls and provisioning."* The CIA recommended that the Audit

Committee conduct a site visit to Nigeria. The External Auditors presented their audit plan and explained that the priority areas included Nigeria.

545. On 24 April 2012 Amos Gagar emailed members of the First and Second Defendants concerning cost recovery for activities in response to crude oil theft and stated that they would be proposing these activities to the Joint Venture partners as *"extra ordinary opex [...] if we cannot accommodate in the base opex budget"*.

546. On a date around 24 April 2012 the Second Defendant established a crude oil theft Decision Review Board (the "**COT DRB**") to address the heightened risks of illegal bunkering and provide greater oversight and coordination over the Second Defendant's response to crude oil theft. In particular:

546.1. The assembled team to take forward the COT DRB, comprised of senior management of the Second Defendant from across its departments, was to meet weekly. The initial Decision Executive for the COT DRB was Tony Attah, and other members included Vincent Holtam (Business Opportunity Manager), Agans Aganmwonyi (Project Manager/Security) and Cor Koster (Sustainable Solutions).

546.2. Monthly COT DRB meetings would seek input and direction from core UIG leadership and be attended by Tony Attah, Mutiu Sunmonu, Bernard Bos, Bart Lismont, Ian Craig, Vince Holtam and Agans Ehiosu (also known as Agans Aganmwonyi).

546.3. The COT DRB set objectives to achieve a significant impact on third party deferment within one month, and to restore third party deferment to the Business Plan 2011 target of 6% and Facility Reliability to above 85% within three months.

546.4. On 24 April 2012, Terms of Reference ("**TOR**") for the Crude Theft DRB were circulated. They noted that crude oil theft had become progressively worse since the third quarter of 2011, with bunkerers moving to

the NCTL setting up extensive operations at multiple points along the pipeline, "*with massive environmental damage around Krakama, Cawthorne channel, Awoba axis";* the estimated deferment as a result of TPI was in excess of 100kb/d. The stated purpose of the DRB was to "*ensure the issue of crude theft and illegal refining is managed in a focused and concerted manner to reduce deferment and restore operations reconciliation factors*." The initial focus was to be on working closely with *"the local, state and federal government, as well as close and routine communications with the government security forces"*, removing the bunkerers' equipment and restoring "*a level of stability to production operations*". The plan was for the team to be initially managed under the security function but later become more focused on an integrated "*sustainable solution model*" to include community surveillance and involvement, intelligence gathering and technology solutions; this was to take place in mid/late Q3 of 2012. It was also noted that *"[t]here will also be a need to develop a comprehensive communications plan, to de-glamourise crude theft and change the perception of crude theft from a "Robin Hood crime" which seems to benefit the communities."*

547. In 2012–2013, the Second Defendant responded to inquiries from the Nigerian Government's Petroleum Revenue Special Task Force concerning operational, regulatory and security issues. In its draft responses dated 27 April 2012, the Second Defendant described crude-oil theft and illegal refining as being at an *"alarming proportion"* with serious impacts on the environment and on SPDC's operations. The Second Defendant reported that a dedicated project team had been established to address crude-oil-theft challenges through an integrated approach including security and technology workstreams. The security approach was divided into short- to medium-term physical deployment and a longer-term programme of technology-based solutions. Technical options under consideration included real-time pipeline-surveillance technologies (such as leak detection and pipeline-pressure monitoring using portable Remote Terminal Units ("**RTUs**"), "Wolf System" technology, security-in-design measures, and crude-oil fingerprinting.

548. The Second Defendant further explained that illegal bunkering occurred at wellheads, along flowlines and on the station-to-terminal export lines. While the amounts removed at wellheads and flowlines could not be quantified, losses from station export lines were estimated at approximately 50 kb/d, with additional sabotage-related crude-oil deferment of approximately 65 kb/d.

549. On 30 April 2012, Brian Mair emailed Nike Olafimihan (Head of Legal Nigeria and Company Secretary, SPDC) (copying Bernard Bos and Agans Aganmwonyi), setting out improvements that could be made to address the security challenges occasioned by oil theft. The email noted that that the NCTL had over 50 illegal bunkering points along its 100km route, despite deployment of JTF, 47 community surveillance contracts and 357 community workers conducting surveillance, and regular helicopter overflights. The email stated that the Second Defendant was to take the following steps to address the issue:

549.1. In respect of physical security:

(a) "*[R]eview the Security Risk Assessments of all facilities (wellheads, pipelines, trunklines etc) in order to assess security vulnerabilities*".

(b) As Shell does not control or operate a private guard force, it is "*completely reliant upon the GSF (the JTF in particular)".* Ongoing dependency created its own dilemmas because some officers are "*clearly complicit in illegal activity*". However, the Second Defendant will execute an "*enhanced deployment strategy"* using "*persistent patrolling*" and destruction of TPI equipment such as barges and hoses.

549.2. "*New and novel technology*", including plans to "*deploy reliable and tested technical security solutions such as Pipeline Real Time Surveillance Technologies"* and *"Wolf System Technology – a system designed to detect, deter, delay and defend"* and "*embed security in the design phase of any new project – this will eliminate the entirely unsatisfactory situation that exists today of always being in a reactive mode*".

549.3. A medium to long-term public communication strategy and awareness campaign on crude oil theft.

549.4. Mr Mair noted that the majority of stolen oil left the Niger Delta by barge, and expressed the view that interdicting this route would have a detrimental effect on illegal operations.

550. Also on 30 April 2012, Richard Hibbert emailed Bernard Bos, copying Ian Craig and other senior SPDC staff, asking whether a force majeure should be declared on the Bonny May and June offtake programmes as production was being *"continually affected by suspected illegal bunkering / crude theft"* on the NCTL. He estimated demurrage costs of approximately USD 2.3 million. Later that day, Mutiu Sunmonu advised that any declaration of force majeure must be *"thoroughly discussed with GMD"*, noting the government's sensitivity to frequent FM notices.

550.1. On 2 May 2012, Ian Craig stated that if cargoes were being lost or delayed because of shutdowns required to remove or repair thieves' tap-in points, or because of community problems, *"this is clearly FM"*, whereas reductions due to high levels of normal deferment would not qualify. He asked Vincent Holtam to advise on the anticipated losses from each category *"so we can land this"*.

May 2012

551. In May 2012, routine pigging operations were purportedly done in East, with 49% performance recorded.

552. In May 2012, the Pipeline East Operations Team at SPDC prepared a "position note on chemical injection and corrosion monitoring", which was signed by John Okojie. Challenges to corrosion management included limited manpower to effectively execute the necessary chemical injection and corrosion monitoring work. As part of the 'Way Forward' the position paper recommended "*sustained monitoring*" of bacteria; upgrades of sampling points; installation of bioprobes; and

"*commence*[ing] *aggressive corrosion monitoring and control awareness campaign in the Area Teams*".

553. On 1 May 2012, members of the Petroleum Revenue Task Force exchanged emails regarding the Second Defendant's efforts to address TPI. Brian Mair repeated the contents of his email of 30 April 2012. Cor Koster responded that a fibre optic intrusion detection system was being considered, new GMOUs were being introduced with host-communities providing surveillance and intelligence services, pursuant to which communities would be paid for surveillance activities in an incentive-based scheme instead of individual surveillance contractors, and the instigation of an Second Defendant Security Control Center to collate information and coordinate responses. He further noted that considerable volumes of oil were being stolen from wells, but this was not being measured or reported, "*hence the total volume of stolen oil may well be a magnitude higher compared to the 150 kb/d reported*".

554. On or around 2 May 2012, a JTF raid on oil theft camps on local refineries in Krakama, funded by the Second Defendant as aforesaid, commenced, running for at least five days and resulting in the destruction of refineries and equipment in Krakama.

555. On 5 May 2012, Joshua Mitchell (Security Operations Land East)) emailed with an update on security operations, including the JTF raid. He stated that the JTF were cleaning up the illegal refinery debris at Krakama and that Vince Holtam had approved a two-week extension to this operation.

556. On 6 May 2012, Brian Mair wrote, in his personal work notebook: "*Several emails were sent by Dean* [Emmanuel] *to Agans* [Aganmwonyi]. *I sent one and tried to call him – no response. Weekends seem to be complete 'downtime'. We are not managing security: we are managing to be lucky*."

557. On 7 May 2012, Brian Mair wrote, in his personal work notebook: "*Dean* [Emmanuel] *feels we lack expertise in Nigeria. I am considering making the Business* Case for *a Country Security Manager (Nigeria/Gabon). When you look*

at Iraq, it does not have anywhere near the complexities of Nigeria yet they have a massive CS [Country Security] *footprint*."

558. On 7 May 2012, the JTF special patrol team detained two vessels illegally siphoning oil at Awoba riser. 26 suspects were arrested. Each vessels capacity was said to be 650,000 metric tons.

559. Also on 7 May 2012, the HSSE & SP Assurance Team issued the HSSE&SP Control Framework Audit, "Shell Petroleum Development Company Swamp East Asset" (the "**2012 Swamp East Audit**"), whose scope included all of the Second Defendant's facilities in that area (19 flow stations, 10 gas plants, 12 compressor stations, and 5 field logistics bases) including in the Cawthorne Channel area in which Bille is situated. The report made three "*High*" findings, in respect of override mitigation controls, identification and correction of hazards and security risk assessment implementation. It made ten "*Medium*" findings, identified in areas such as process safety, environment and contractor HSSE management. Further, the "*Controls*" for the "*Risk Areas*", such as process safety, security and environment were assessed as "*insufficiently robust, and in need of improvement"*. Key findings of the 2012 Swamp East Audit, which were correct, include:

559.1. Finding no.3 on "*Management of Override Mitigation Controls*" was classified as "HIGH". The report found that the management of overrides of process safeguarding systems observed at Soku gas plant was not robust, noting deficiencies in risk assessments. The report directed the Second Defendant to take corrective actions, including updating override management procedures and risk assessment processes.

559.2. Finding no.4 on "*Process Safety – Implement"* was classified as "*HIGH*". The report found that *"[t]he controls to detect operating hazards and provide corrective action were not fully effective within the Swamp East asset*", as evidenced by *inter alia* observed pressure envelope integrity controls not being fully effective and access hazards. The report directed the Second Defendant to take corrective actions.

559.3. Finding no.5 on "*Process Safety - Asset Integrity — Process Safety Management Application Manual*" was classified as "*MEDIUM*". The report found that "*[t]he process for setting and monitoring operational limits for HSSE Critical equipment had not been completely implemented"*, with deficiencies observed in respect of maintenance work orders, overrides, recurring maintenance work and Permits to Work. The report directed the Second Defendant to take corrective actions, including setting up a process for setting and monitoring operating limits for HSSE Critical Equipment.

559.4. Finding no.7 on "*Process Safety – Self-Assurance Robustness*" was classified as "*MEDIUM*". The report found that *"[t]he process utilised to manage process safety self-assurance activities within the swamp East Asset were not robust"*, as evidenced by *inter alia* a lack of transparency on accountability for process safety assurance and follow-up and a lack of performance indicators to track progression against assurance completion or action item close out. The report directed the Second Defendant to take corrective actions, including appointing a single focal point to track audit recommendations.

559.5. Finding no.8 on "*Process Safety — Implementation of Management of Change*" was classified as "*MEDIUM*". The report found that *"[t]he Management of Change process adopted by the Swamp East asset was not robust"* as not all components of the Management of Change procedure had been fully implemented, specified timeframes were not complied with, and KPIs to monitor Management of Change activities did not capture overrides and temporary repairs. The report directed the Second Defendant to take corrective actions, including the implementation of a training program.

559.6. Finding no.9 on "*Completion of Security Risk Assessments and Security Plans*" were classified as "*HIGH*". The report found that *"[t]he process for identification, assessment, control and monitoring of Security risks within the Swamp East asset has not been completed nor fully effectively implemented"*, as evidenced by the fact that: (i) "*Security Risk Assessments had not been*

completed for the majority of Swamp East assets"; (ii) the assessments which had been completed for such assets had not been updated in the previous three years or when changes occurred to security threats or to an Asset which impacted security risk; (iii) the controls identified in the completed Security Risk Assessments *"were not systematically monitored to ensure implementation"*; and (iv) the controls in Security Plans developed for project activities occurring on Swamp East assets outside the boundary fence were *"not systematically implemented"*. The report directed that the Second Defendant take corrective actions, including completing security risk assessments for all facilities and remote locations, updating security plans, monitoring security risk assessment status for facilities and remote locations, and commencing monitoring and enforcement of strict compliance with security controls.

559.7. Finding no. 11 on "*Environment – Implementation of Soil and Groundwater Assessment, Monitoring and Remediation*" was classified as "*MEDIUM*". The report found that *"[t]he control of soil and groundwater risks within the Swamp East Asset were not fully effective"*. In particular: (i) the *"[t]he risk of soil and groundwater contamination had not been recently assessed for all Swamp East assets"*; (ii) "*[g]roundwater monitoring wells had not been installed to detect or monitor offsite migration of contaminated groundwater at the perimeter of all Swamp East on-shore Major Installations with the potential for groundwater contamination*"; (iii) "*[n]ot all groundwater monitoring wells installed at Swamp East assets were sampled at least annually*"; and (iv) "*[n]ot all controls established to reduce the risk of soil and groundwater contamination to As Low As Reasonably Practicable had been effectively implemented"*. The report directed the Second Defendant to take corrective actions, including conducting soil and water impact assessments for all facilities, installing ground water monitoring wells at all locations identified in risk assessments as critical, developing an assurance program to drive compliance with sampling requirements, and implementing risk reduction measures in the risk assessment register to reduce groundwater contamination to ALARP.

559.8. Finding no. 13 on "*Contractor Monitoring and Assessment – Classification*" was classified as "*MEDIUM*". The report found that the *"[t]he management of Contractor HSSE performance within the Swamp East asset was not fully effective"*. In particular, Medium and Low-risk Contract holders did not regularly discuss Contractor HSSE plans contractors in order to confirm compliance to the controls and activities in the plan. Further, *"[i]ndividual Contractor HSSE performance was not monitored and routinely discussed with individual Contractor company representatives"*. The report directed the Second Defendant to take corrective actions, including establishing a risk-based performance review program.

560. On 11 May 2012, Brian Mair wrote, in his personal work notebook: "*We discussed physical hardening. My point was while we may have kit what we don't have is the people trained to the appropriate level to operate/maintain it*" and "*CCH highlighted the recent increase in JTF activity in fighting crude theft. Dozens of refineries closed down. However, he did say that he felt that it would be impossible to maintain operations at this intensity*".

561. On 14 May 2012, the ExCo held a meeting. Andrew Brown provided "*detailed*" updates about Nigeria, including oil theft, the UNEP Report, fatalities and onshore activities, in addition to his regular Upstream International HSSE update. Matthias Bichsel provided a HSSE update.

562. Reported spill incident ID 815926 was reported by the Second Defendant to have taken place on 17 May 2012, with the cause reported as Operational. Full details are provided in Spill Annex 815926.

563. On 17 May 2012, St Iyke Maxwell Ndubuisi (Senior Business Advisor, Upstream International, SPDC) attended a Nigerian Security Council Meeting with the President of Nigeria, also attended by the Minister of Petroleum and all the Military Security Chiefs among others. It became clear in the course of the meeting that the President had not appreciated the full extent of the oil theft that was taking place. After the meeting, Mr Ndubuisi sent a detailed note to Ian Craig and Mutiu Sunmonu among others and set out his view that the Security Chiefs

felt that they did not yet have adequate capability to police the maritime environment. He added that the Chief of Defence Staff "*alluded to what might have been a 'deliberate' lack of attention previous years*" and noted that there had not been any follow through. He also reported that the Chief of Army Staff stated that "*his boys re-occurring complaint was that the SPDC was slow in pipeline repair intervention after crude oil thieves had been dislodged".*

564. Reported spill incident ID 819485 was reported by the Second Defendant to have taken place on 18 May 2012, with the cause reported as TPI. Full details are provided in Spill Annex 819485.

565. Reported spill incident ID 816017 was reported by the Second Defendant to have taken place on 19 May 2012, with the cause reported as Operational. Full details are provided in Spill Annex 816017.

566. On 19 May 2012, the HSSE & SP Assurance Team issued the HSSE&SP Control Framework Audit "Shell Petroleum Development Company – Pipelines Asset" (the "**2012 Pipeline Audit**"), whose scope included pipelines and pipeline operations, management and maintenance of pipeline Rights of Way, and oil spill response and groundwater remediation. The Report made three "*High*" and nine "*Medium*" findings, and the "*Controls*" for the "*Risk Areas*" of process safety, security and environment were assessed as *"insufficiently robust, and in need of improvement"*. Key findings of the 2012 Swamp East Audit, which were correct, include:

566.1. Finding no.2 on "*Security Risk Assessment*" was classified as "*MEDIUM*". The report found that *"[t]he Security Risk Assessment study and review process does not meet the requirements of the HSSE&SP Control Framework and the Baseline Security Performance Criteria"* in that: (i) *"security risks have not been assessed for the full extent of the pipeline network (pipelines, block valves stations, manifolds)"*, nor in line with the Security Risk Assessment Manual; and (ii) there was *"no full risk assessment for the asset and (hence) no complete security risk ranking of assets"*, nor was there any *"consistent identification of control measures to mitigate*

bunkering", and *"[t]he current Right of Way surveillance program is not fully effective"*. The report directed the Second Defendant to take corrective actions, including implementing the Security Risk Assessment process as per the HSSE Control Framework and assessing each part of the asset and network, including the risks of TPI and mitigation plans.

566.2. Finding no.3 on "*Security Plan*" was classified as "*HIGH*". The report found that *"[t]he required planning of security efforts through Facility Security Plans (as per Baseline Security Performance Criteria - BSPC) and Remedial Action Planning (items that follow from the Security Risk Assessment) are not fully adequate"*. In particular, aspects of the BSPC for assets were not in place and asset risk studies did not lead to asset-specific mitigation strategies. The report directed that the Second Defendant take corrective actions, including preparing asset-specific security plans for all assets and investigating *"options for use of technology and remote observation or sensing capability that replaces or augments the incomplete intelligence derived from human sources associated with the surveillance contracts, and plan implementation accordingly."*

566.3. Finding no.4 on "*Asset Integrity / Process Safety – Statement of Fitness*" was classified as "*MEDIUM*". The report found that *"non-operational pipelines (including 'abandoned' pipelines that have not been adequately decommissioned)"* were not included in annual Technical Integrity assessments. Further, there was no documented Statement of Fitness that meets the requirements of the HSSE Control Framework. The report directed that the Second Defendant take corrective actions, including recording all non-decommissioned pipelines in the 2012 annual pipeline integrity report, implementing the GAIR traffic light definitions, and establishing a current Statement of Fitness for all assets. The report further directed that if the Statement of Fitness could not be maintained due to illegal bunkering, the Second Defendant should establish which pipelines could not meet performance criteria, define, document and implement risk mitigation to address bunkering points, and raise an Exception from the requirements of the AIPSM of the HSSE Control Framework.

566.4. Finding no.5 on "*Asset Integrity / Process Safety – Maintain Asset*" was classified as "*MEDIUM*". The report found *"SPDC Pipelines asset has seen the number of operational leaks (corrosion + equipment failure) increase from 2010 to 2011"* and that "*[t]he leak frequency for corrosion is higher than industry average"* (6E-3/km/yr vs 4E-5/km/yr). Further, the report found that the HSSE Critical Equipment had not been repaired within defined periods in cases where *"performance deviates from the agreed minimum Performance Criteria*". The report directed the Second Defendant to take corrective actions, including establishing a procedure, processes and/or guidelines to manage maintenance activities, stopping its practice of replacing non-executed work orders with new work orders, and setting a 100% target for completion of maintenance work.

566.5. Finding no.6 on "*Asset Integrity / Process Safety – Organisation*" was classified as "*MEDIUM*". The report found that the pipeline asset organisation was "*not adequately resourced to respond to the sabotage / bunkering leaks in addition to the "normal" preventative and corrective maintenance of HSSE critical equipment"*. The report directed that the Second Defendant take corrective actions, including conducting an organisational capability review to improve the effectiveness of the pipelines organisation due for completion in December 2012, considering emergency response and repair requirements and ongoing efforts to reduce the backlog of asset integrity work and efforts to reduce operational spills.

566.6. Finding no.9 on "*Contractor HSE Management*" was classified as "*MEDIUM*". The report found that *"[w]eaknesses [...] in the effective management of the contractors that work for the pipeline asset, both for the remediation and mechanical maintenance contractors"*. In particular, HSSE risks associated with contracted activities had not been consistently identified and assessed to determine how they be managed, and there were weaknesses on verification of contractor compliance with HSSE requirements. For example, the audit found that OIS-Gredor, a contractor used by the Second Defendant on the NCTL, was awarded a "*Cluster B"* high-risk contract for

maintenance and repairs without their capability being reviewed, and OIS-Gredor did not report HSSE performance as required. The report directed the Second Defendant to take corrective actions, including reviewing all pipelines contracts to ensure that risks were assessed and documented, reassessing the capability of contractors to deliver scope, and re-training contract holders on hazard identification and assessment.

566.7. Finding no.12 on "*Common Processes – Management of Change*" was classified as "*MEDIUM*". The report found "*weaknesses in the Management of change process […] that have led to some procedures and HSSE critical documents not being up to date or appropriately communicated"*. Those weaknesses included evidence of multiple versions of pipeline isolation protocols and manually updated copies of schematics for pipeline isolation planning. Additionally, some pipelines were shut in for prolonged periods without being recognised and managed as a change. The report directed that the Second Defendant to take corrective actions, including conducting training on management of change, and auditing the implementation of the management of change processes in the pipelines asset.

566.8. A work in progress finding on "*Environment – Soil & Ground Water*" found that there was *"a known weakness in the implementation of the Remediation Management System (RMS) with regards to groundwater assessment"*. While the Remediation Team had started to use the revised site assessment forms, the forms evaluated did not all have sufficient information to understand the decision-making process. The report directed that the Second Defendant take corrective actions, including driving timely completion of RMS updates to ensure that soil and groundwater risks were assessed, and verifying the effectiveness of improvements to JIVs to more accurately estimate volumes of oil spills (including through taking soil samples at JIVs).

567. A Shell Group Risk Information Sheet and Definitions for "Staff/Asset Security", created on 20 May 2012, recorded a significant increase in TPI in Nigeria, as well as a Group-wide risk "*that sub-optimum design and communication of security governance and accountability results in serious business failure to manage*

security risks." Existing Risk Responses included "[n]*ew security team in place for Nigeria and action plan agreed following comprehensive security review*" and "*pro-active management of high-risk operations*". Planned Risk Responses included for Corporate Security to "*upgrade the competency of the security skill pool and wider function*" and to complete Security Risk Assessments and Facility Security Plans for all high threat and materiality sites by Q4 2012.

568. On 21 May 2012, representatives from the First and Second Defendant attended a "Workshop to Address Rising Security and Asset Integrity Issues in the Oil Industry" in Lagos, Nigeria, hosted by Nigeria's Minister of Petroleum Resources. The First Defendant and other oil companies canvassed initiatives including introduction of hotlines to report TPI, and "*responsiveness of industry players to removing hot taps and management of associated oil spills/pollution*". The Second Defendant reported that there was a "*lull in scheduled asset maintenance"* in the militancy era due to a lack of access, but that a cathodic protection restoration programme was ongoing to clear its backlog of pipeline maintenance, with completion scheduled for June 2012.

569. An unreported spill incident at the Awoba wellhead 005 (4.525514, 6.826254) was active as of 22 May 2012. Full details are provided in Annex 007.

570. An unreported spill incident at the Cawthorne flow station 3 (4.557992, 6.977933) was active as of 22 May 2012. Full details are provided in Annex 030.

571. An unreported spill incident at Awoba welhead-004 (4.536821, 6.855657) was active as of 22 May 2012. Full details are provided in Annex 039.

572. On 23 May 2012, the Board held a meeting. Andrew Brown updated the Board on the Upstream International Business.

573. On 24 May 2012, representatives from the Second Defendant met with JTF Commanding Officers in the Second Defendant's East Operations to discuss TPI responses and challenges and agree next steps. The JTF representatives stated that there were moles within the Second Defendant who were sabotaging the JTF's

efforts to deal with illegal refining. They complained that the JTF conducted successful sting operations, but the Second Defendant failed to evacuate recovered products from barges and took too long to fix the vandalised lines and tap points. Among the identified actions were seeking technological aid to complement human effort in the fight against illegal bunkering and *"an in-house cleansing to eradicate the moles in SPDC system"*.

574. On 26 May 2012, Tony Atah attended a four-hour session convened by the Petroleum Revenue Special Task Force focusing on crude theft and illegal refineries. Subsequently, Tony Attah summarised the discussions in an email to, among others, Ian Craig, Mutiu Sunmonu and Bernard Bos.

575. At a date unknown in or after May 2012, the Second Defendant produced a note titled "Business Challenge – Intrusion and Sabotage Detection", describing the need substantially to reduce or prevent TPI and consequential impacts including environmental pollution at the Second Defendant's facilities. It provided detail about a potential solution, namely an intrusion detection and warning system supplied by Videofied. The system, which employed "*a combination of cameras and motion detectors which record intrusions and send e-mail and text message alerts to operations and security personnel*" was being tested at three of the Second Defendant's installations, starting in February 2012. Initial tests had shown the technology to be "*promising*", despite the caveat that security personnel could not always be mobilised promptly to sites where there were intrusions. The note also recorded plans to further develop the technology to include: (i) automatic or remote downhole well shut-in (i.e. closing a well near the point of production, rather than at the surface) upon intruder detection; (ii) auto/remote rotation of the cameras so that they could also play a role in operational wellhead and flowline monitoring; and (iii) acoustic intruder deterrence (i.e. generation of an "*unbearable noise*").

<u>June 2012</u>

576. On 1 June 2012, Ian Craig took an overflight from Krakama through Cawthorne Channel to Ogoni (near B'dere) and on to Bonny Terminal.

577. On 1 June 2012, a "Shell Corporate Security VPSHR [Voluntary Principles on Security and Human Rights] Inventory Nigeria" (the "**Inventory**") was circulated by Elsine van Os (Manager and Global Head of Intelligence & Assessment, Shell International) to James Hall, Nico den Boer, and employees of the Second Defendant including Brian Mair. The Inventory identified Nigeria as a "VPSHR Critical" country. A section on "Audit findings" recorded "*a huge back lock* [sic] *in SRAs in SPDC*" which was being addressed "*on a RSM level*" by Brian Mair.

578. On 2 June 2012, Ian Craig noted in an email to Tony Attah, Mutiu Sunmonu, and Vincent Holtam that his overall impression from the overflight over the Krakama area on 1 June was that illegal refining levels had reduced but they remained active, huge amounts of equipment remained and pollution in the area was "*very bad*".

579. An unreported spill incident in Ogini-Ama at two points on the NCTL (4.557147, 6.825271 and 4.557147, 6.825558) was active as of 3 June 2012. Full details are provided in Annex 044.

580. An unreported spill incident at the Awoba wellhead 009 (4.529738, 6.835754) was active as of 3 June 2012. Full details are provided in Annex 005.

581. An unreported spill incident at the Awoba Manifold (4.556600, 6.812992) was active as of 3 June 2012. Full details are provided in Annex 011.

582. On 4 June 2012, the Second Defendant's Security and Pipeline teams met to discuss NCTL and TNP protection. The minutes of the meeting record:

582.1. Special Intelligence Surveillance were constrained by a lack of resources to be able to provide more in depth and specific actionable intelligence but were advised to "*latch onto*" the budget provided for the Anti-bunkering project team. Pipeline agreed to equip the surveillance team with communication gadgets to enable them to meet the high level of intelligence and communication networking required. The teams identified

an "*urgent need for security to introduce 'non JTF dependant, non-combat Intel and sea watchers' group, for effective policing and protection of the NCTL*". It was agreed that the JTF should use speed boats through the creeks to monitor TPI, with comment that "*it takes several hours for barges/vessels to be loaded with crude, but if there is effective patrol and monitoring bunkering activities will be reduced"*. The meeting concluded with a plan for Security "*to continue with the techniques used to manage the JTF and their informants within the past 24 hours, because it appears to be working as no shut-down or pressure drop have been reported on the NCTL"*.

583. On 11 June 2012, Erewhata Emakpo circulated photographs of the overflight which took place on 1 June, to senior SPDC and SEPA staff. Mr Emakpo reported a *"reduced level"* of illegal refining activity "*particularly in the Krakrama and near B-Dere area"*, but described the pollution generally as being *"terribly bad"*. Brian Mair forwarded this to Dean Emmanuel on 12 June, describing the situation as *"horrendous"* and noted that, although the JTF had interdicted some sites, security should continue to follow up. Mr Emmanuel responded noting that earlier JTF activity had been halted after two weeks. He referred to the *"huge"* scale of the task and remarked that *"it looks like Michael Jackson's earth song out there"*.

584. Also on 12 June 2012, the ExCo held a meeting. Martin ten Brink presented, and the ExCo provided comments on developments in the Group's risk profile in 2012. Matthias Bichsel provided a HSSE update.

585. Between 7 and 16 June 2012, a series of Shell Group Risk Information Sheets and Definitions were prepared. In particular:

585.1. A Shell Group Risk Information Sheet and Definitions for *"Pipeline Network Integrity / Availability"*, dated 7 June 2012, recorded that pipeline leaks due to third party activities had been on the rise and pipelines had suffered several failures due to TPI and degradation from delayed inspection and asset upgrade activities. Additionally, there were increased corrosion rates on the Second Defendant's pipelines, and many of the pipelines were more than 35 years old and required major upgrades to restore. Mitigation

measures included securing uninterrupted oil and gas supply, improving integrity assessments and reducing / eliminating hydrocarbon releases. The risks were assessed as high impact and medium likelihood and were assigned a yellow rating for risk acceptability.

585.2. Between 9 June 2012 to 27 June 2012 inclusive, there was a full shut down of the Bille section of the New NCTL.

585.3. A Shell Group Risk Information Sheet and Definitions for *"Flow line and Well-Head Equipment Theft"*, dated 13 June 2012, records that there were significant increases in flowline and wellhead equipment thefts in the past year, leading to oil spills and asset integrity issues. It notes that there was an *"increasing risk that if this trend of theft continues the company wills [sic] into cyclic reactive mode that prevents effective implementation of proactive improvement initiatives. Ultimately there is a Group reputation risk from failure to deliver Production promises and other targets that are visible globally."* The risks are described as medium impact and high probability and assigned a red rating for risk acceptability.

585.4. A Shell Group Risk Information Sheet and Definitions for *"Illegal bunkering / Crude theft on the Pipelines"*, dated 16 June 2012, recorded that *"[p]ipeline integrity is mostly impacted by incessant crude oil theft, third party malicious damage/vandalization and by equipment failure. The spills are capable of adversely affecting the environment hence non-compliant with SPDC's policy and government environmental regulations"* and notes that *"[p]ipeline leaks due to third party theft and vandalization has been on the rise"*. The document stated that actions taken to manage the risks included deployment of the JTF to three locations, all of which were outside Bille, and surveillance of pipelines. It noted that "*[c]rude theft and vandalization of pipelines and flow line [sic] appears not to be reducing despite increased deployment of [government security forces] and surveillance especially in the east operations"* and identification of repairs of crude theft points on the NCTL were underway. The risks are described as high impact and high probability and assigned a red rating for risk acceptability.

585.5. A Shell Group Risk Information Sheet and Definitions for *"HSE Culture of Community Labour"*, dated 16 June 2012, recorded that *"[t]he continued use of community labour in projects execution poses a high risk to our operations. Their low/poor appreciation of HSE can lead to non adherence to procedures, behavioural safety challenges, avoidable accidents, creation of unsafe conditions at worksites, slow pace of project execution etc."* Mitigation measures noted included a Memorandum of Understanding with contractors, a desktop review of capability and a test of repair capabilities on an unspecified gas line. The risks are described as high impact, medium likelihood and assigned a yellow rating for risk acceptability.

585.6. A Shell Group Risk Information Sheet and Definitions for Vandalization of Pipelines, dated 16 June 2012, noted mitigation measures for the risk of vandalisation including a *"Protect out [sic] Asset initiative"*, *"[n]ew style (GmoU based) surveillance contracts piloted"*, *"integrated surveillance camera and response piloted"*, and *"surveillance in place for all pipelines"*. The risks are described as high impact and high likelihood and assigned a red rating for risk acceptability.

585.7. A Shell Group Risk Information Sheet and Definitions for Swamp Pipeline Surveillance, 16 June 2012, repeated assessment and mitigation controls relating to other Risk Information Sheets. The risks are described as high impact and medium likelihood and assigned a yellow rating for risk acceptability.

585.8. A Shell Group Risk Information Sheet and Definitions for *"Asset Integrity & Process Safety"*, dated 16 June 2012, reported that 98% of 3894 asset integrity items of the FAIR FIX Program had been completed, and work was continuing on the remaining 2%.

585.9. A Shell Group Risk Information Sheet and Definitions for Vandalization (Excl Militancy), dated 18 June 2012, recorded a "*significant*

level" of vandalization of SPDC assets over recent years resulting in "*significant integrity issues*" and "*loss of containment*", including of oil into the environment. Non-compliance with national statutory legislation "*with respect to associated spills and environmental damage*" is identified as a possible consequence, as is the risk that the Second Defendant "*does not fulfil".* The risks are described as high impact and high likelihood and assigned a yellow rating for risk acceptability.

586. On 21 June 2012, in response to a request from Wenike Princewill earlier that month for regular updates on existing crude theft points, Tony Aisabokhale (Head, Pipeline Maintenance (East/West), SPDC) reported three known illegal bunkering fittings on the Second Defendant's West pipelines. These fittings were described as non-leaking and as having repairs planned on an opportunistic basis.

587. On 27 June 2012, the Second Defendant submitted to the First Defendant a Group Investment Proposal for a Trans Niger Pipeline Loopline Project. The proposal sought funding of US$493 million for a new pipeline which would provide an alternative route for oil passing through the TNP and provide an opportunity for remediation of the existing pipeline's right of way, which had been *"devastated by crude oil bunkerers and vandals".* Under the proposal, risks posed by vandalism and bunkering to the proposed TNP Loopline Project were to be mitigated using a burial depth of 4.5m and partial covering of the pipelines, intruder and leak detection systems, and installation of a Security Outpost. The project was ultimately supported by Simon Henry, Matthias Bichsel (Business Head of P&T) and Andrew Brown, and approved by the CEO, Peter Voser.

588. Reported spill incident ID 835120 was reported by the Second Defendant to have taken place on 29 June 2012, with no reported cause. Full details are provided in Spill Annex 835120.

<u>July 2012</u>

589. In or around July 2012, illegal bunkering and oil theft in Nigeria entered the Upstream International list of potential exposures to Group executive

management for the first time.

590. A restricted Position Paper on Security Risk and Assurance in the Businesses, dated 2 July 2012, recorded that the unsatisfactory findings of the "2011 Risk Response Management to Physical Security Threats – China, Nigeria, Pakistan" and "2012 Management of Physical Security in Downstream" audits had "*brought the requirement for improved security risk and assurance management by Business into sharper focus".* To remedy this, Corporate Security recommended and sought Upstream International and Project & Technology's support for, "*the creation of an FTE to sit within HSSE&SP Risk and Assurance*" who would "*work closely with the global network of CS [Corporate Security] Regional and Country Security Managers who provide day-to-day support to operational security management".* James Hall circulated the Position Paper to Katharine Birtwistle (Corporate Responsibility Committee Business Advisor, SIEP) and Andrew Ross, commenting that "*[t]he narrative on threats is hard hitting but is familiar to the UILT as I have briefed them f2f in the past. They may also say that the network of regional and country security managers is available to deal with these risks".*

591. On 4 July 2012, the Second Defendant published an *"SPDC Cost Ambition"* Q2 Report on 59 initiatives aimed at reducing costs. The report noted that despite cost reductions, the Second Defendant's operational expenditure continued to rise, including because of illegal bunkering, sabotage, emergency repairs, oil spill cleanup and remediation, security, community surveillance and community development. The report was received by Brian Mair and Bernard Bos.

592. On 11 July 2012, Andrew Brown submitted a Note for Information to the CSRC, titled "Nigeria and UNEP Report Update". This attributed 98% of 2012 spills to TPI, and recorded action being taken on recommendations in the UNEP Report, including: review and verification of "*the clean-up and remediation process applied at several sites identified by the UNEP report, in line with international best practice and reinforcing supervision and performance of the contractors*"; the Second Defendant was stated to be working with Bureau Veritas to verify its oil spill response and clean up practices, and with the IUCN on remediation and rehabilitation; and had "*conducted an asset integrity review and is working on an*

asset verification and decommissioning plan."

593. On 11 July 2012, Vincent Holtam wrote to Mutiu Sunmonu and Tony Attah stating that he believed the COT DRB was only 25% effective. He noted that *"Security are doing a lot, but they keep everything to themselves and nothing they do is influenced by the team or influencing the direction of the team"* and *"*[t]*he [pipelines] guy is cooperating with Cor [Koster], but they have little impact except to report consequences."*

594. Reported spill incident ID 841203 was reported by the Second Defendant to have taken place on 12 July 2012, with the cause reported as Third Party Interference. Full details are provided in Spill Annex 841203.

595. On 12 July 2012, the COT DRB held a meeting. In particular:

595.1. Cor Koster delivered a presentation to the DRB, titled "3rd Party Deferment Reduction DRB". According to the presentation:

(a) *"Nigeria/SPDC is facing a threat akin to war"*. There was *"[s]erious environmental impact"*, *"[a]dversaries penetrated many layers of Governance"*, "*[m]ore of the same tactics will not yield results*" and "*SPDC / Government working in silos*".

(b) The issue was of "*Group Interest*", noting an email from St Iyke Maxwell Ndubuisi to Mr Koster, which stated that "*[e]very quarter, UIG provides potential exposures in relation to Upstream operations in Nigeria to Group executive management*", and illegal bunkering and crude theft had entered the list of exposures for the first time in Q2 of 2012.

(c) The COT DRB's key work plan actions involved reviewing new technologies (such as intruder detection, tracers, pressure monitoring, alternative pipeline repair methods, and drones), clearing illegal refineries, and conducting weekly reconnaissance on main lines.

(d) Key achievements included follow through on new "*BSW*", Onramp, Intrusion and Tracer technologies, increased JTF forces clearing refineries, scheduled surveillance flights. However, work remained in silos and was not structurally shared or discussed, and there was a "*[l]ack of sense of urgency*". Remarks made by senior colleagues included the following:

(i) "*We have had bunkering for a long time, so what's the issue*
(ii) *Lot's of media focus, government should take action, let other IOC's solve it*
(iii) *We'll never be able to make a difference*
(iv) *I have different priorities*
(v) *Management are desperate/need help*
(vi) *Management have given up*
(vii) *Management are not serious*
(viii) *Get real, Management won't approve positions*"

(e) Mr Koster proposed the creation of an "*Oil Theft Crisis Team*", overseen by the COT DRB, to gain a full understanding of the threat picture, formulate strategies and operational plans, to follow through on identified actions, and to drive a sense of urgency within the Second Defendant. He also proposed the creation of a "*Security Coordination Centre*" to obtain, analyse and disseminate bunkering-related intelligence on a 24/7 basis.

595.2. The minutes of the COT DRB meeting, circulated by Mr Koster on 13 July 2012, record agreement that:

(a) The "*issue is to be managed like a crisis"* although a country crisis should not be declared. "*[A]ssistance from the group*" should be sought and Andrew Brown contacted for discussion about whether the issue "*should/can be added to Groups Security agenda*".

(b) The Group was to be approached about adding a strategist, if no suitable candidate from within the Second Defendant was available.

(c) The merit of adding potential COT DRB member(s) from the Group was to be reviewed.

(d) COT DRB meetings would take place on a monthly basis.

596. On 13 July 2012, having seen the abovementioned presentation slides prepared for the COT DRB meeting, Bernard Bos emailed Ian Craig stating "*we are moving more and more into 'crisis' territory*".

597. On 16 July 2012, Hugh Mitchell signed a confidential note, titled "UNEP Report Progress and Communications Strategy", which set out the strategy for the Defendants' external communications in light of the upcoming anniversary of the UNEP report. The document noted a "*further threat to SPDC and RDS investor confidence*" and the need for the Defendants to be "*on the front foot and minimize the negative stakeholder response to the UNEP report*". This was to be achieved through coordinated briefings with each function developing their own engagement plans to be centralised and tracked by the Nigeria Campaign Manager. The note referred to raising awareness of the problem of crude oil theft as one of the most impactful results of the coordinated strategy.

598. On 16 and 17 July 2012, the ExCo held a meeting. Andrew Brown provided an Upstream International HSSE update, including reports on safety performance and leaks. Matthias Bichsel provided a HSSE update, Armand Lumens presented the Q2 2012 Chief Internal Auditor's report, and Martin ten Brink presented the Q2 2012 Business Control Incidents Report and semi-annual risk review. Minutes of the meeting record that ExCo provided comments on the Chief Internal Auditor report and on "C*SRC papers",* "*Nigeria UNEP Report Update*" and the *"UNEP Report Progress and Communications Strategy"* (amongst other issues which are redacted in the version of the notes provided to the Claimants).

599. On 19 July 2012, Peter Voser approved an $836m contract award for a Southern Swamp project, proposed and/or supported by Ian Craig, Bernard Bos, Maarten Wetselaar and Simon Henry. The proposal was made in advance of NNPC Board approval, presenting a potential risk of Shell exclusively funding the project. Mr

Voser approved the project notwithstanding the risk, commenting that any disproportionate funding and risks needed to be carefully considered and asking for ongoing dialogue.

600. Reported spill incident ID 843520 was reported by the Second Defendant to have taken place on 22 July 2012, with the cause reported as Operational. Full details are provided in Spill Annex 843520.

601. An initial plan for conducting the Security Risk Assessment (SRA), created on 23 July 2012, outlined the composition of the SRA Team, preparatory work, the need to identify principal assets, and to identify and evaluate threats.

602. On 24 July 2012, the CSRC held a meeting. Ian Craig updated the CSRC on recent developments in Nigeria. The CSRC discussed their upcoming trip to Nigeria and the activities that would be "*of greatest value*".

603. Also on 24 July 2012, the Audit Committee held a meeting. The Audit Committee discussed the Unsatisfactory outcome of the Well Management System Standard due to ineffective roll out of management change. The Audit Committee discussed Responsibility for Risk in the First Defendant's governance procedures.

604. Also on 24 July 2012, Rik Prager emailed Kieron McFadyen on behalf of the Second Defendant's pipeline department following Mr McFayden's visit several weeks before. He noted that Mr McFadyen had discussed with Jurgen Janzen that "*the Group would be ready to support and assist in a number of areas of our efforts to improve the oil spill situation"*. Mr Prager stated that Mr McFadyen recognised that *"we are up against a something really big and complex"* but were not "*getting the JV support we need in every area"*. Mr Prager added that "*we are also not always getting the P&T support as pro-actively as could be, possibly because P&T are also stretched and have to prioritize."* He summarised the areas to *"brainstorm where Group support could help, could make just that difference to our operations that may tip the balance*". These included:

604.1. Prevention.

604.2. Updating pipeline operating procedures, noting support had previously been requested from P&T, but had not been forthcoming.

604.3. Review of corrosion protection systems, noting that "*[m]any of our operational oil spills are caused by external corrosion, in effect the failure of the CP [cathodic protection] system to protect. This is specialist work and such a review, coupled with practical on-the-ground support to the teams and in particular their supervisors would go a long way in getting this under control."*

604.4. Corrosion engineering support, noting that a recent Corrosion Management Review by P&T had highlighted weaknesses in corrosion control management by the Second Defendant.

604.5. Response and updating the Oil Spill Contingency Plan, noting that the OSCP would undergo a "*major re-write*" and a 2011 effort to update the OSCP "*was not quite successful"*. "*[D]etailed support on this could be very useful"* and *"could be in the form of "coaching" the contractor that will do the work".*

604.6. JIV Leads training and spill volume estimation, noting that "*key finding from the [Bureau Veritas] Verification was that in some cases we underestimate the spill volume, especially where it cannot be seen, i.e. underground. Some work is being done by P&T now to try and develop an easy to use method to estimate the underground volume of spills".*

604.7. Analytical lab improvement programme, noting that "*the performance of the Nigerian laboratories analyzing soil samples is still erratic and such an improvement program supported by P&T, or perhaps better, by some of the global players would be useful and could need some support in setting up".*

604.8. Various strategic initiatives such as a study into the economic impact of oil theft and refining "*probably best be done "under cover" by a suitable NGO, if necessary paid by RDS rather than SPDC".*

605. On 25 July 2012, the Board held a meeting. As part of the CEO's Report, it was noted that Markus Droll (by then, VP Technical, Upstream International Asia, SARAWAK) had been appointed to succeed Ian Craig as EVP, Sub Saharan Africa, and that David Martin had been appointed VP Production, Sub Saharan Africa. The minutes record that the Board received a Nigeria business update, including reports on the impact of crude oil theft and illegal refining, and on the UNEP report one year on. The minutes further record that the Board specifically acknowledged the Risk Management Review, and that the CEO indicated a further risk overview and *"deep dive"* would be provided at the December meeting.

606. On 27 July 2012, Brian Mair wrote, in his personal work notebook:

> "*What an amazing place this is. It is rotten to the core; normal business protocols + conventions just do not apply in this country. A long conversation with [Crockett Oaks] confirmed my suspicion that there is collusion, nepotism and corruption running through the veins of SPDC. Huge pay offs for relatively junior personnel that got too close to stopping the massive embezzlement schemes patronised + condoned by more senior staff. The fact is no one bats an eyelid here. The Shell Code of Conduct is an inconvenience here; its completely ignored*."

August 2012

607. In August 2012, an updated draft Pipeline Integrity RMP was circulated by the Global Pipeline Integrity Team ("**GPIT**") and the Global Discipline Heads ("**GDH**") for Pipeline Flow Assurance and Subsea ("**PFAS**"), Mechanical, Materials and Integrity ("**MMI**") and Maintenance and Integrity. The changes in the revised Pipeline Integrity RMP included that: risk assessment should be conducted annually or when significant changes occur; new technology should be

part of the annual integrity review; and data should be collected in a consistent and integrated manner.

608. On 1 August 2012, Obi Akosa delivered a presentation titled "Metering Update". According to the presentation:

608.1. Central support was limited due to resource constraints, but improvements were being made by the Second Defendant.

608.2. Approval from the Department of Petroleum Resources approval was pending for dynamic metering at the Bonny Terminal.

608.3. Challenges included the quality, delayed installation and commissioning of Lease Automatic Custody Transfer ("**LACT**") units, (for measurement of transfer of oil) and the skills and attitude of third party injectors.

608.4. The recent group audit covering metering and crude allocation was rated unsatisfactory. Key system failures included a lack of clear ownership on metering interfaces and actions and inadequacies in documentation of roles and responsibilities for managing the various Crude Handling Agreements ("**CHAs**").

608.5. Improvement initiatives included:

(a) Upgrading of flow station export metering systems, noting the installation of Coriolis meters at locations including Awoba and planned installation at Cawthorne Channel 1, 2 and 3.

(b) Improving water cut monitoring to manage down RF [reconciliation factor] uncertainty, noting that online water cut meters for stations on the NCTL had been procured.

(c) In relation to pipeline monitoring for crude theft and leaks, pipeline pressure monitoring on Performance Indicator ("**PI**") using SCADA was planned for 15 facilities.

(d) The use of wireless transmitters to collect data from remote manifolds had been piloted successfully and full project role out was planned for the TNP in Q4 2013.

(e) A fibre optic intruder / leak detection system strategy had also been discussed for Imo River/Ebubu/TNP and agreed with NAPIMS, and was planned for Q4 2013.

609. As at 3 August 2012, the action item, instigated in response to a finding of the "Pre-SIA Review – Internal Security Management and Payment Process" that "[s]*ecurity risk assessments were not yet carried out for the 97 facilities already identified*", had been assigned to Dean Emmanuel and was recorded as 75% complete. An action item, instigated in response to a finding of the 'Review of SEPCiN Security Plan Process' that Security Plans were not aligned to the Group Security Standard, had been assigned to Solomon Asen and was recorded as 70% complete.

610. On about 7 August 2012, the Second Defendant approved a proposal detailed in a Confidential Eastern Division document, titled 'Community Security – Sea Watchers on the NCTL – Opu Toru Zone', to secure the services of Joshua Roberts and Son Ent. The contract provided for NCTL Sea Watchers, an independent and specialised force separate to the JTF, to provide surveillance on the "*NCTL RoW [Right of Way] and surrounding rivers/creeks in Opu Toru zone – Nembe 4 to Santa Barbara/Odeama Fields*" from 1 June 2012 to 30 September 2012. The initiative arose out of the ongoing "*massive crude oil theft on the NCTL*" and the need for a layer of security which was not dependent on the JTF. It aimed to replicate the "*tremendous success*" which had been "*recorded by Well Engineering's 'Binocular Watchers*'". An equivalent contract for the NCTL – Burutoru Zone was also authorised in early August 2012.

611. On 8 August 2012, an update on the installation of wireless sensor technology (Onramp) was reported to Jerry Brian and Jurgen Janzen. On the basis of the success of the pilot, the "ROCI" team was considering a roll out of the Onramp technology to the manifolds on the TNP. The email update attached a presentation on the Onramp trial, which could monitor manifold pressure, transmit it wirelessly and display results remotely. The technology would also integrate the data to PI and display this in the Office domain.

612. On 18 August 2012, Barnaby Briggs (Strategic Relations Manager, SIEP) emailed Susannah Pierce and Rob Donnelly (VP Health, Shell International) in respect of the First Defendant managing the response to crude oil theft in Nigeria through a DRB. He wrote in order to *"set up the series of activities currently being undertaken across Shell International and SPDC on crude oil theft. I think we need to have a governance mechanism to keep all this under review."* The activities included: internal technical fact-finding to identify solutions to illegal trade in crude oil, pulling together experts and government ministers to create international pressure to reduce crude oil trade, Shell International research projects, establishing a Niger Delta working group to understand the socio-economic drivers of crude oil theft, and improving oil spill response mechanisms. As to the governance of those activities, the email stated that *"[t]hese activities have their own day to day control, but an overall system is needed in order to ensure Shell International has the ability to manage this issue at a global level"* and *"[i]t is proposed that a Decision Revue [sic] Board is set up – with Susannah Pierce as the Decision Executive, with Rob Donnelly and Tony Attah on the DRB".*

613. On 22 August 2012, Rob Donnelly responded to Barnaby Briggs' email emphasising the importance of Group-level management of the response to crude oil theft. He stated:

> *"Suggest we discuss in first instance…my take is that it absolutely needs some governance and structure*
> *I support setting up a DRB although I'm not sure there isn't an SPDC one??…if we do we will need a BOM [Business Opportunity Manager] who will project manage.*

*I think crude oil theft is and will be overtly political and as such DE [Decision Executive] role probably sets better with [*Government Relations*] ....I think John Crocker* [(EVP Government Relations, RDS)] *would support my doing that as required.*
Trick will be to manage and run this from HQ rather than in country but getting Ian and especially Mutius support and simultaneously working in an integrated way with Tony and his team in country"

614. An unreported spill incident at the Cawthorne wellhead 037 (4.558128, 7.000964) was active as of 24 August 2012. Full details are provided in Annex 026.

615. On 27 August 2012, oil theft activities at "*Kalabiama/Creek 6 around the Cawthorne Channel*" were observed during an overflight, prompting "*arrest of some boats and barges*" at the site later that day. Olasupo Olageshin (Security Operations Manager Swamp East, SPDC) confirmed by email: "*The attention of the JTF High Command has also been drawn to this axis where it's obvious oil theft has spiked, with possible compromise or complacency of some JTF elements in the area*". Rebecca Hoppe updated colleagues in the Second Defendant of the same. On 28 August 2012, James Hall stated that "*the recent success of an scc led and coordinated over flight followed by the immediate response action taken by security operations [...] the SCC is taking shape against all odds and this is now the fourth success story*."

616. On 29 August 2012, the Global Pipeline Integrity Team held a meeting. According to presentation slides, titled "*Global Pipeline Integrity Team"*:

616.1. The team's goals were to strengthen the approach to pipeline integrity, help to set standards, drive implementation of the GAIR recommendations and share best practices. The *"key"* was *"to lead the various themes of interest from the business with the support and partnership from the centre*."

616.2. The Technical Function Heads met once or twice per year, with the Chief Technology Officer, the Executive Director of P&T and senior representatives to conduct a *"Global Technical Resourcing Review to ensure*

appropriate alignment between the Technical Functions and the Business" and work towards "*establishing clear resourcing priorities for the Technical Functions*".

616.3. Assurance ran horizontally between Technical Authorities and Operations Managers, while accountability ran vertically from Technical Authorities to VP Technical, and then to Global Discipline Heads. From Operations Managers, accountability ran upwards to Asset Managers, and then up again to VP Production.

617. On 29 August 2012, James Hall emailed Agans Aganmwonyi (copying Dean Emanuel, Brian Mair and Tony Attah) regarding his forthcoming visit to Nigeria. In particular:

617.1. As regards the priorities for the visit, Mr Hall stated:

> *"Nigeria remains one of two countries in the world where we judge security threats to be extreme. That puts a strong onus on the Corporate Security Organisation to provide active support to the in-country team on best practice, developing expertise and capability as well as practical expert advice and support. I want to use this visit to arrive at a common understanding of how we work and communicate to achieve this. In addition to the meetings we discussed, I would like an opportunity to brief the Security LT on developments in CS. I would like to do a similar session with the wider security organization (a kind of mini town hall) to discuss what we are doing and how we can support the in-country team. […]*
>
> *I want to take away an understanding of the relevance and applicability of the work we are doing at the centre to operational security in Nigeria and ensure you and your team understand group requirements. In short to ensure there is the right degree of mutual challenge and support between CS and the Nigeria security team.*

I would also like to get a better feel for progress made against the high-level objectives Ian Craig, Tony and I discussed in March this year."

617.2. Specific priorities included: improving risk management and security payments in light of audits; understanding efforts made to improve security on the NCTL, and the outcome of a review of the effectiveness of the framework for surveillance contracts; reviewing Control Framework compliance, and the status of gap closure plans for Security Risk Assessments and Facilities Security Plans; access control, noting circa 10,000 ID card holders and the need to reduce issuance of ID cards to permanent staff and contractors; cultivating security awareness (noting, "*Is there a need to provide security awareness training for new expat staff as part of on-boarding process?*"); and building capacity in the Second Defendant's security team, reviewing staff competencies against the new Corporate Security Competency framework and closing competency gaps.

<u>September 2012</u>

618. At a date unknown in the autumn of 2012, members of the CSRC visited Nigeria.

619. At a date unknown in September 2012, Jurgen Janzen delivered a presentation, titled 'Pipelines Performance – 2012 YTD (August)'. According to the presentation slides:

619.1. There has been pattern of low maintenance performance "*due to numerous emergencies having priority over planned jobs*" (for example, corrosion, valve replacement, manifold upgrade/rehab, riser and repair coating repairs).

619.2. In 2012 to date, there had been 145 unplanned repairs, including the removal of 32 non-leaking bunkering points and 78 leaking bunkering points, 14 emergency corrosion defect repairs and 21 general emergency repairs. There had been four instances of incorrect repairs (including use of non-approved clamps or other materials), and three instances of failures due to

corrosion (including due to prolonged outage of the cathodic protection system).

619.3. As of August 2012, there were 1,978 known clamps installed on the Second Defendant's operational network, including potentially over 100 concrete covered clamps (numbers and locations unknown). Incorrect repairs reported on the pipelines included clamps installed on bends and the use of non-approved clamps and materials.

620. A spreadsheet titled "Integrated security audits/reviews action items & Closeout status)" recorded that, as of 3 September 2012, security risk assessments were not yet carried out on 97 facilities already identified (but contact was being made with "*the centre*" to fast track this).

621. In September 2012, a draft presentation titled "Overview – Contract Environmental Analytical Laboratories" was created. The slides refer to numerous limitations of the six laboratories under review, including all of them underestimating contamination values for TPH (Total Petroleum Hydrocarbons), BTEX (benzene, toluene, ethylbenzene, xylene) and possible overestimations of PAHs (polycyclic aromatic hydrocarbons). A slide suggests that sampling protocols should be reviewed to ensure samples are not *"compromised"*.

622. Between 5 and 9 September 2012, James Hall visited Nigeria. The Claimants infer that his activities during the visit reflected his email of 29 August 2012.

623. Between 12 and 14 September 2012, Andrew Brown and the UILT visited Port Harcourt, Nigeria, for the team's quarterly face-to-face meeting, hosted by Ian Craig. They were taken on an overfly of the eastern section of the NCTL to see firsthand the scale of crude theft, illegal refining and the associated environmental impact. On 14 September 2012, Mr Brown, the UILT and the UIG leadership team, attended by staff and contractors throughout SEPCiN led a town hall session. During the visit, Andrew Brown reminded staff that Nigeria remained crucial to the Shell Group.

624. On 17 September 2012, the Second Defendant's ROCI team issued a report, titled "Close out Report: Onramp Wireless Sensor Network Pilot for pipeline surveillance". The report found that Onramp technology "*Tested Ok*" for *inter alia* the ability to measure and wirelessly transmit real time pressure at distances of 3.5km and 10km from the access point and for integration for the wireless system to PI (pressure monitoring system) in the office. The report concluded that "*the system has the potential to provide pipeline pressure surveillance for SPDC pipelines*".

625. Also on 17 September 2012, the Second Defendant and SGS US initiated a "*SPDC Laboratory Audit"* project. According to the "*COST TIME RESOURCE*" document for the project, dated 24 August 2012, *"[e]xternal support from analytical chemistry experts in Projects & Technology (Shell Global Solutions US) is required to assist SPDC in undertaking a comprehensive audit of the analytical laboratories used by the remediation team and Government Regulators".* The document noted that there had been *"[a] wide variance in laboratory soil and water test results from the same site(s) between different laboratories […] on more than one occasion, which potentially undermines the validity of the remediation work undertaken"*. The execution of the project was described as a "*business critical activity, to ensure full remediation of impacted areas within SPDC footprint, and hence improve SPDC external reputation with key stakeholders including shareholders, regulators, communities and NGOs*". The detailed scope of work for the project involved a review of laboratory standard operating procedures, implementation of those procedures, calibration of equipment, institution of quality manuals and assurance processes and creation of an improvement action plan, with priority being given to assessing TPH, BTEX and PAHs. The delivery date for the project was 19 October 2012.

626. On 24 September 2012, a compilation of questions and responses relating to the traffic light system introduced in consequence of the GAIR (see paragraph 497 above) was circulated by the Second Defendant. The responses had been reviewed by Global Discipline Heads for Maintenance and Integrity (MIE), Pipeline Flow Assurance and Subsea (PFAS) and Mechanical, Materials and Integrity (MMI). In particular, the responses to the FAQs stated:

626.1. "*An integrity status of red does not necessarily mean the pipelines have to be shut in. Remedial measures should be put in place to ensure that the possibility of a leak is ALARP and that the response to any leaks minimises the consequences of a leak. The adequacy of the remedial measures and the amount of residual risk is a decision for the business. A red does not automatically mean the pipeline is to be shut in and hence why it has not been stipulated that the remedial measure to be shut in only but also a series of examples are given depending on the situation and environment*."

626.2. If corrosion engineers determine there will not be a leak within the next year it is reasonable to state lines are not red.

626.3. Pipelines retaining inventory (i.e. oil in the pipeline) must also be reported, even if they were shut in.

626.4. In relation to applying the red definition to lines with "non-leaking" bunkering points, the integrity status should be red but this does not necessarily mean pipelines have to be shut in if remedial measures are put in place to ensure the possibility of a leak is ALARP [as low as reasonably possible].

626.5. The business (senior leaders) will review the red status pipelines and the remedial measures being taken to determine if the remedial measures (and timing) and the resultant level of risk is appropriate. The traffic lights are meant to indicate the status and the criticality of the status. The status and remedial action that have been done and other mitigation measures should be recorded in appropriate systems, the statement of fitness, and ultimately the business assurance letter.

626.6. An integrity assessment must be conducted on all flowlines and pipelines once per year as per PC006 and RMP 31.40.00.51-Gen and, in the case of non-piggable lines, the technical authority will have to determine whether there is sufficient monitoring, maintenance and inspection

information to make a determination whether there is going to be a leak now or in the next year for the red definition. Based on such an assessment, an asset will be classified as red if (i) there is sufficient information to make a determination that there is a risk of a leak in the next year, or (ii) there is not enough information to make a determination of the integrity status.

626.7. If part of a pipeline system is in worse condition than the rest, "[t]*he weakest link, i.e. the worst part of the system, will govern the integrity status of the system*".

627. On 26 September 2012, Bernard Bos admitted, in an email to Tony Attah and others, that "*NOBODY*" knew what percentage of stolen crude "*ends up being spilled in the environment*".

628. Also on 26 September 2012, the SIA issued an audit report SPDC, titled "Nigeria: Hydrocarbon Metering and Accounting" (the "**2012 Metering Audit**"). The audit was rated "*Unsatisfactory*". The Executive Summary stated that a proper metering system was "*essential*", given "*production volumes at the wells and flow stations may be significantly higher than terminal volumes because of oil theft along the pipeline*" and identified key weaknesses including "*[g]aps in the internal metering control framework resulting in potential HSSE exposures, several overdue actions regarding known metering inadequacies, backlog in maintenance, and insufficient competences with metering staff."* It stated that while the Second Defendant had made progress in closing out issues from a business review on metering in 2009, continuing "*difficulties in substantiating SPDC and TPI net volumes*" created potential legal exposure. Given the level of crude oil theft (estimated at 150,000 bbls per day), it was *"essential"* to quickly start remediating these risks. The audit made a series of findings, which were correct, including:

628.1. Finding no.1, "*Weaknesses within the Metering Control Framework*", recorded that "*SPDCs production and sales volumes are measured at various locations with several metering systems*" and found that "*there is not a robust cycle of planning, execution, appraisal and corrective action on*

improvements in measurement accuracy", and there was "*insufficient alignment*" of departments regarding metering.

628.2. Finding no.3, "*Weaknesses in hydrocarbon allocation process*", found that there were uncertainties with the Second Defendant's metering processes, with consequence that "*the volume of crude theft is a very rough estimate and the basis for estimation is currently difficult to substantiate*". Examples listed to underscore this point included:

(a) "*The audit team was informed that crude theft takes place primarily on the trunk lines feeding into the terminals but there are reports of theft upstream of the flow stations. There is no way to quantify these volumes accurately and many wells lack the instrumentation / data link to detect such an event."*

(b) *"Coastal tankers have been caught connecting to wells or manifolds, which would indicate the volumes could be significant."*

(c) *"[C]rude loss is not distinguished per trunk line as SPDC does not have inlet meters to the terminal in the East*".

628.3. Despite acknowledgement by the Second Defendant of those uncertainties, there was no "*well defined plan"* to resolve the issue.

629. On a date unknown in September 2012, an External Audit Report of International Energy Services Limited, which aimed to ascertain the accuracy of laboratory procedures for organic analysis (contamination values in respect of TPH, BTEX PAH), was issued. The auditors, Akuro Adoki (Head, Remediation - Swamp, SPDC) and Okafor Roseline (SPDC)), found shortcomings of sampling and analysis practices, including that there was "*no documentary evidence to ascertain contractor competence*".

630. On 18 September 2012, James Hall reported to Tony Attah, copying Ian Craig and Brian Mair, on his earlier Nigeria visit, noting that he saw a more collaborative relationship between the Second Defendant's security team and

Corporate Security emerging, and that Corporate Security was getting the opportunity to influence and support the local team.

631. A "VPSHR Risk Assessment" for the Second Defendant and SNEPCO operations, conducted on 25 – 26 September 2012, recorded, in a section on "Security Provisioning" that some ex-militants had established businesses "*which Shell may have to do business with"*. The document contained a Risk Register which stated that the risk of criminals threatening and bribing surveillance contractors "*to turn a blind eye leading to cont'd pollutions, asset damage and loss of production*" was a "*Catastrophic*" consequence of "*Almost certain*" probability. Possible mitigations identified for this risk included: continuous creation of development opportunities in the communities plus cooperation with NGOs and civil society organisations to work with the communities; review of the performance of pipeline surveillance teams and introduction of incentives plus sanctions for poor performance by Q1 2013; and continuous investigation of suspicious cases of "*negligence/connivance of surveillance team and local communities*". Similar possible mitigations were identified for a 'Major' risk that poor pay of GSAs and surveillance contracts would lead to complicity in TPI, with an additional proposal to "*review rates and if necessary improve company contracting and payment process for timeliness*".

632. On 28 September 2012, NAPIMs wrote to the Second Defendant, noting the success of the "*Videofied Protection of Asset*" pilot and recommending that a strategic proposal for wide implementation be pursued.

October 2012

633. In October 2012, as part of funding for deployment of new technologies, USD 550m was set aside for "*Smart Pigs for Unpiggable Pipelines*", to address the risk of pipe-in-pipe flowlines that cannot be inspected by conventional pigs or direct external assessment methods.

634. In October 2012, a "Country Security Threat Assessment" for Nigeria, authored by Brian Mair, assessed as "*Extreme*" the overall country security threat, as well as

the specific threat of "Organised Crime" with assessment of the latter noting increased TPI which was causative of "*serious environmental damage*" and had not been effectively countered by the "*sporadic*" efforts of the JTF, elements of which were also subject to "*credible allegations*" of collusion in TPI.

635. On 2 October 2012, the ExCo held a meeting. Andrew Brown provided HSSE and business updates on Upstream International, including Nigeria. Matthias Bichsel provided a detailed HSSE update.

636. On 9 October 2012, Jurgen Janzen delivered a presentation, titled "Pipelines Performance – 2012 YTD (August) – Spill Response & Remediation – Pipeline & Flowline Integrity". According to the presentation:

636.1. There had been 107 sabotage spills, 14,023 bbls, between January and August 2012, compared to 133 sabotage spills, 11,700 bbls, in 2011.

636.2. There had been 23 operational spills, 934 bbls, between January and August 2012, compared to 60 operational spills, 3,480 bbls, in 2011. The main causes of operational spills were: (i) pipeline corrosion as a result of inadequate cathodic protection, ineffective corrosion inhibition and a lack of integrity data; (ii) clamp failures and incorrect repairs, including clamps cast in concrete and use of clamps where sectional replacement was required.

636.3. The current pipeline monitoring strategy was comprised of: (i) station discharge pressures, whereby significant pressure drops result in shut-in production *("in case of line rupture/massive spill or oil theft*"); (ii) 600 community surveillance contracts to physically check the lines and maintain the right of way; and (iii) weekly helicopter flights.

636.4. Technology initiatives were listed as: (i) a trial installation of FibreOptic along selected sections of the TNP and NCTL, scheduled for Q3/4 2013; (ii) "OnRamp" wireless data transmission of manifold pressures, scheduled to be functional in Q4 2013; and (iii) "*Watercut*" metering on production station outlets on the NCTL and TNP, scheduled to be functional

in Q3 2013.

636.5. There were 62 sites remaining which required remediation.

637. On 10 October 2012, Jurgen Janzen and Tony Attah delivered a similar presentation, titled "Spills and Remediation", to the First Defendant in Port Harcourt, Nigeria. According to the presentation slides:

637.1. Oil theft loss had been on an increasing trend since Q2 2011, reaching circa 15,000 bbls in volume in 2011. However, "*[t]heft [was] measured from trunk lines only*" and an "*[u]nquantified amount [was] stolen from wellheads and flowlines*".

637.2. There was circa 3,600 bbls in volume of operational spills in 2011, despite that differing from the figures given in the presentation the day before.

637.3. The principal causes of operational spills, the current pipeline monitoring strategy and the technology initiatives were the same as those listed in the 9 October 2012 presentation slides.

637.4. There were over 150 impacted sites awaiting remediation, despite that being more than double the figure provided in the 9 October 2012 slides.

638. On 18 October 2012, Blaise Chikere (Lead Health, Safety, Environment Pipeline Assets, SPDC) emailed Jurgen Janzen with details of two actions assigned to Dean Emmanuel and due for completion by 31 October 2012; first, to implement adequate Security Risk Assessments (SRA), which were to specifically address the risk of TPI and "*incorporate mitigations that are derived from the SRA in the security plan(s)*, and second, to implement adequate Facility Security Plans.

639. On a date unknown but before 20 October 2012, the "*Pipeline Surveillance Centre"* ("**PSC**") was established. This was to be a department intended to be largely independent of main Second Defendant internal action so as to preserve its

ability to remain objective. Its primary role was to be the focal point for the collection, analysis and subsequent reporting of detailed crude oil theft activities, but also to monitor progress on identified actions issued to the relevant action parties. Information was to be collected from *inter alia* human intelligence (including surveillance contractors), technical intelligence (production pressure and flow data), imagery intelligence (such as surveillance overflights) and Open Source Intelligence. The steering committee of the PSC comprised Vincent Holtam, Tony Attah , Jurgen Janzen ,, Agans Aganmwonyi (GM Security Member) and Cor Koster.

640. On or around 20 October 2012, the COT DRB issued a document, titled "Oil Theft Reduction Strategy and Action Plans" (the "**2012 COT DRB Plan**"). The 2012 COT DRB Plan:

640.1. Identified two main elements to oil theft: (i) theft in Swamp areas leading to high revenue loss due to the large volumes of stolen oil; and (ii) theft in land areas for supply to illegal refineries, resulting in revenue loss mainly due to high deferment volumes.

640.2. Questioned Nigeria's ability to rid the country of crude oil theft because of *inter alia* "*the corrupt nature of elements in government and the army*". Despite this, the Second Defendant's response to date was described principally as "*influencing the GSA's [Government Security Agencies] in providing 'boots on the ground' at key locations along the pipelines and a multitude of high level engagements with government functionaries*".

640.3. Set out a change in strategy with objectives to reduce oil theft by 50% from 50 kb/d to 25 kb/d, and production deferment by 25%, in 2013. The "*core elements*" of the response strategy were described as follows:

(a) *"Information Collection, Collation and Analysis"*, noting the establishment of the PSC.

(b) "*Asset Protection*", including: (i) onshore security response, including GSA deployment/surveillance along the NCTL and "*a 'police the police' element, as static GSA forces are well known to often collaborate with oil thieves"*; (ii) offshore security response; and (ii) the introduction of new technology "*as an enabler to improve theft detection, as a deterrent or as a means to prove confiscated oil does in fact belong to SPDC"*, including leak detection/intruder detection, metering improvements, and tracer technology.

(c) *"Stakeholder Management"*, including: (i) community engagement, noting a new GMOU trial with five community clusters along the NCTL; and (ii) consistent dialogue with the government.

(d) *"International Engagement"* to combat the trade of stolen oil leaving Nigerian waters.

640.4. Outlined initiatives which had been completed or were due to be executed before the end of 2012, such as:

(a) Increased onshore GSA presence: "*Increased 'boots on the ground' has shown to be effective on the NCTL covering Nembe to Ekulama. Additional GSA resources will be deployed to extend the cover to the CAWN area"*.

(b) Information and reporting (PSC): "*Dedicated surveillance flights with key people on board are taking place, processes and reporting requirements have been defined and are functioning, actionable quality information is being produced"*.

(c) Theft point removal: "*In order to maximise production, pipelines are only shut down to remove leaking theft points. To date non leaking points were only removed on an opportunity basis. A method to render bunkering points unusable and difficult to re-instate will be developed and deployed"*.

640.5. Outlined medium-term initiatives planned for 2013, such as:

(a) Increased onshore GSA presence on other pipelines, "*following the success on the NCTL*".

(b) Conducting a pilot trial using a contractor to guard "*choke points*", barge/vessel exit routes from the creeks onto the ocean.

(c) Reinstatement of a GSA response team to "*'Police the Police', arrest oil thieves and confiscate their equipment*", which was set up in Q2 2012 but abandoned in Q3 2012 despite success.

(d) Embedding of ground surveillance intelligence gathering.

(e) Commencing a *"[l]eak detection trial"* in the Imo River area and, based on the results of the initial trial, a second trial would be executed on a section of the NCTL. The technology was described as follows:

"*A technology utilising installed glass fibre cables along pipelines to detect sound. The system is able to accurately pin point the location of where the sound is generated. This activity detection system has proven to work in other countries HOWEVER it has to be noted that an adequately fast response capability MUST be in place to ensure the glass fibre cable is protected from sabotage.*

(f) Initiating an *"Onramp trial"* on the TNP, followed by the NCTL. The technology was described as follows:

"*[A] system whereby pressure sensors will be installed on manifolds, ·allowing so-called pressure profiling of pipelines. Transmission of data will be wireless. Dynamic models will be used to monitor is pressures and flows against calibrated models. Deviations indicating leaks (read: theft) will results in alarms with indications of the appr. location of the leak."*

(g) Commencing a *"Wolf trial"* on the Soku-Ekulama liquid export line. The technology was described as follows:

"This system can be used to secure/project certain parts of our pipeline network without the need to have people present. Technology relies on movement detection, when movement is detected at a certain threshold distance a focused sound beam is generated making is impossible for people to go near the protected area. The system provides remote monitoring functionality."

(h) Developing and testing *"Tracer technology"* to track stolen oil of the Second Defendant's pipelines and infrastructure.

640.6. Outlined a long-term initiative of "*Metering Improvements*", noting: "*At present insufficient quality metering exists to accurately measure stolen oil volumes"* and *"detect on which pipelines oil theft takes place*".

640.7. Costed these initiatives at $32.5m (opex) and $18.9m (once off). Total implementation leak detection on all the Second Defendant's trunk lines was estimated at $230m. Installation of OnRamp Technology on the TNP and NCTL was estimated at $25m. The installation of "*Watercut meters*" at each flow station was costs at $5.6m, and terminal meters at Bonny and Forcados was costed at $30m. No overview as to overall implementation costs was provided for the Wolf system.

641. On 21 October 2012, James Hall, Rob Donnelly (then VP Government Relations, Shell International) and Mutiu Sunmonu exchanged emails regarding the Second Defendant's response to crude oil theft. Mr Hall suggested that, as a first step, "*it would be good to agree key stakeholders/helpers at group level and discuss how they might integrate/complement the existing country-level DRB*". Mr Donnelly suggested pulling key people together at a workshop to discuss options. Mr Sunmonu stated that "*we need to start to evaluate options for dealing with this menace*".

642. On 22 and 23 October 2012, the ExCo held a meeting. Andrew Brown provided an Upstream International HSSE update, Matthias Bichsel provided a detailed

HSSE update, Armand Lumens presented the Q3 2012 Chief Internal Auditor's Report, and Martin ten Brink presented the Q3 2012 Business Conduct Incidents Report. The minutes of the meeting record that the CEO and ExCo *"reviewed the papers and provided comments*".

643. On 24 October 2012, Bert Christofells (VP Engineering Europe, Middle East & Africa**,** Projects & Technology, SGS) emailed Kieron McFayden and others confirming that PTE-E had agreed (on the basis of an email of Rik Prager of 24 June 2012 summarised at paragraph ** above and various conversations with the SPDC pipeline team) a scope of work in the areas identified in the email (including prevention, updating pipeline operating procedures, cathodic protection, JIV leads training and spill volume estimation and an analytical lab improvement programme). The proposed scope was estimated at 5.4mln USD. This project was further discussed in the emails set out below.

644. Between 26 and 28 October 2012, the CSRC visited Nigeria. The CSRC reviewed, discussed and advised the Second Defendant's Management Team on matters relating to crude oil theft, pipeline management and integrity, and oil spill response, clean-up and remediation. The CSRC completed an overflight of oil theft areas and artisanal refining sites. In a "Nigeria Visit Report" prepared following the visit, the *"Committee noted that the extent of oil theft activities, and consequential environmental damage, has become worse since the Committee's last visit in 2010*", and *"[g]iven the extent of oil theft activities, the Committee asked Marvin Odum* [Director, Upstream Americas, Shell Oil Company US] *to consider if a strategy update on Nigeria is appropriate at a future Board meeting."*

645. On 29 October 2012, John Joseph Traynor sent an email to Peter Voser sharing feedback on the *"recent"* visit to Nigeria by 12 socially responsible investors (the "**SRIs**"). As part of the visit, the SRIs were taken to the Bomu remediation site in Ogoniland and given an overflight of the NCTL. The *"value and intent"* of the trip was to show the SRIs the *"true extent"* of theft in the Niger Delta and *"move the debate away from operational perormance"*. Recorded feedback included that the SRIs were *"taken aback by the scale of the theft and damage, and still*

reflecting on what it means. Concerned that your board is fully engaged in this problem."

646. On 29 October 2012, Shell Corporate Security – Nigeria issued the first Security Risk Assessment for the NCTL (the "**NCTL SRA**"), following an assessment carried out between 17 to 20 October 2012. The NCTL SRA was prepared by Johnson Erewa , reviewed by Jurgen Janzen, and approved by Olasupo Olageshin. The NCTL SRA's purpose was to analyse threats, address vulnerabilities, and assess the risk of major security-related events to determine the adequacy of existing and planned security measures. It was conducted in line with the Corporate Security Shell Global Security Standards framework. The NCTL SRA:

646.1. Identified key "*very high*" risks of oil theft, pipeline vandalization and illegal refining, noting "*GSA/local surveillance connivance, remoteness of some pipeline location, lack of political will/stiff penalty, multiple access to the pipeline and insiders collusion*". The Risk Assessment Matrix rating for those risks was 3E.

646.2. Made "*Key recommendations"* of countermeasures to address the identified risks, including:

"a) Construct canal parallel to the NCTL network to enhance surveillance patrol and quick response and where possible install barriers (movement breakers) to prevent unauthorised access.

b) Installation of Intruder detection system

c) Review security supervisors' contract mode to allow co-habit in GSA houseboat and porta cabin with a dedicated boat and review of PSS and RoW inspections work pattern, to field base, to enhance close supervision of surveillance guards and GSA, and response capability.

d) Sustained adequate JTF for static guarding and patrol, and escort and cover for personnel on transit to all pipeline work site.

e) Engage relevant government and agencies for possible enactment of law with swift penalty against culprits.

f) Improved proactive Intelligence Gathering.

g) Produce Facility Security Plans specific to the pipeline,

h) Effective management and implementation of GMOU/FTO [Freedom to Operate].

i) Centralized system for collation, processing and dissemination of surveillance information. Review communication protocol and gadgets for surveillance, intelligence and GSA, and possible deployment of SSS Officer 2 per platoon/location/camp

j) Personnel Background Checks/Re- Vetting. Create a process of ensuring all workers dues and entitlements are remitted adequately and at the appropriate time."

647. On 30 October 2012, the COT DRB held a meeting. In particular:

647.1. Cor Koster delivered a presentation, titled "3rd Party Deferment/Oil Theft Reduction". According to the presentation slides, security deployment on the NCTL had been effective, with a reduction of NCTL deferments since July 2012, fewer station trips due to low pipeline pressure, and stabilisation of overall theft/reconciliation losses. Further, weekly overflights were reported to be highly successful. The presentation outlined the initiatives and strategy in the 2012 COT DRB Plan.

647.2. A summary of the meeting, circulated on 1 November 2012 by Vincent Holtam, recorded:

(a) Agreement to continue with security deployment on the NCTL.

(b) The need to "*address concerns around developing an exit strategy as this is not a cost we want reoccurring annually, for ever*".

(c) That identification of temporary repair solutions rendering known bunkering points unusable was an "*urgent priority*".

(d) Support for the Security Coordination Centre, in principle, albeit noting a need to contract in expert services.

(e) Support for technology trials, in principle, with need for justification of each technology on its own merits.

(f) Agreement to include a budget of $30m in the Budget Plan for 2012, which "*must be funded by finding offsets. This can be done possibly by showing reductions in other areas (possible EPRS), but cannot be on top of the high levels of EPRS seen in 2012. $20mln can be committed for the security provision on NCTL/TNP, but the rest will depend on steer"* following a proposed workshop with Rob Donnelly.

648. Also on 30 October 2012, the CSRC held a meeting at which they completed a self-evaluation of the October 2012 field trip to Nigeria.

649. Also on 30 October 2012, the Audit Committee held a meeting, attended by Ian Craig and Bernard Bos. Peter Voser discussed deferred production as a result of crude oil theft in Nigeria. The Audit Committee discussed the Second Defendant's audits and the unusual level of Unsatisfactory audit findings as a result of findings relating to *"higher risk areas where audits had been carried out"* including in Nigeria. Messrs Craig and Bos *"provided an update on various issues in Nigeria"* including financial issues. The Chief Independent Auditor stated that in addition to those financial issues in Nigeria, there were other issues that could have reputational impact.

650. On 30 October 2012, Bert Chrtistoffels emailed Kieron McFadyen, requesting

funding and support for the Second Defendant from the Projects & Technology department for pipeline integrity, JIV training and spill volume estimation, oil spill contingency planning, and analytical laboratory improvements. The following day, on 31 October 2012, Mr McFadyen replied, noting that he had discussed the aforesaid with David Martin. He endorsed the proposal, commenting that *"it will represent a good pilot in terms of providing quality and intimate support for Nigeria"*. He added: *"From a PT resource point of view we should prioritize this work (i.e. top of our list) and fully resource! Funding we still need to sorted but we will find it. You should assume you have budget and allocate staff accordingly*."

651. On 30 October 2012, Shell Corporate Security – Nigeria issued the first Security Risk Assessment for the Cawthorne Channel Flow Station/Gas Plant/Field Logistic Base, following an assessment carried out between 25 to 26 October 2012 (the "**Cawthorne SRA**"). Key Risks identified in the Cawthorne SRA included TPI, and Key Recommendations included to consider building an external perimeter fence; mandatory locking of the control room; better coordination amongst all JTF deployment within the axis; and improved proactive intelligence gathering.

652. On 31 October 2012, the Board held a meeting. As part of the Group Financial Results & Investor Relations, the minutes record the Board as noting a presentation covering the *"impact of issues"* in Nigeria. The Board was also provided with a Nigeria Update, with the Chairman and each member of the CSRC reporting on their observations and findings from their visits to Nigeria. The minutes record the CEO having added that *"management would revert to the Board"* in the first half of 2013 with a *"corporate strategy and way forward"* in relation to Nigeria. The minutes further record that Andrew Brown gave a presentation on a range of issues relating to the Nigeria business, including the Second Defendant's environmental performance, which the minutes state the Board discussed *"at depth"*.

653. On 31 October 2012, Shell Corporate Security – Nigeria issued the first Security Risk Assessment for the Awoba Gas Plant and Flow Station, following an assessment carried out between 29 to 30 October 2012 (the "**Awoba SRA**"). The Awoba SRA aimed to "*strengthen the security of the facility and assets identified*

therein". Key Risks identified included TPI, and Key Recommendations included "[b]*etter coordination amongst all JTF deployment within the axis*".

654. On 31 October 2012, Shell Corporate Security – Nigeria issued the first Security Risk Assessment for the Ekulama 2 Flow Station and Field Logistics Base (EKU2), following an assessment carried out between 24 to 31 October 2012 (the "**Ekulama SRA**"). Key Risks identified in the Ekulama SRA included "*vandalism and sabotage*". Key Recommendations included installation of CCTV at the facilities, and "*establishment of communication between the surveillance groups and JTF contingent*" with comment that "*surveillance remains the weakest link in the security controls. Effective communication between JTF and surveillance groups will go a long way to improving intervention, and reducing response time.*"

November 2012

655. In November 2012, Benedict Oputa (Asset Engineering Team Lead, SPDC) and Vincent Holtam discussed the continuation of the Cawthorne Channel [Field / Further] Oil Development ("**CCFOD**") project by email. This project was commissioned 12 years previously, and was intended to be a technical upgrade for Awoba, Krakama, CawC1, 2 and 3 flow stations, part of which entailed replacement of all Emergency Shut-down valves to meet the approved standard. Six years after the original contract end date, only Awoba was completed. The budget was not available for the contractor to continue with the project, despite the fact that the completion of the Awoba upgrade improved availability and reliability of the flow station, improved the quality of data from "*smart electronic instruments*", optimised production by allowing for online monitoring of critical parameters, and made the flow station ready for implementation of ROCI by 2013.

656. In November 2012, the Second Defendant's "Corporate Security 2012 Business Plan" was issued (the "**Plan**"). The Plan included a quotation attributed to Peter Voser opining that behaviours needed to change to enable leadership performance, meaning "*fewer people make strategic decisions*" and "*more people will implement them*". The Plan recorded continuation of the "Jigsaw Strategy" for security in

2012, focused on deterrence, detection, delay, and response. A section headed "UI Delivery" identified the then-current performance of Upstream International in the bottom quartile, when compared to "*our peers*". The Plan recorded that, from 2005 – 2007, there were no Shell Expats working on security for the Second Defendant, with one Shell Expat recorded for 2008 – 2011. Additionally, there were three Contract Expats in place in 2010, and two in 2011, having declined from 13 in 2009.

657. On 12 November 2012, Arie Dijksman and Jurgen Janzen submitted a request for an exception to Requirement 14 of the AIPSM, to *"Establish and Maintain Procedures to operate HSSE Critical Equipment within its operating limits"*, until 31 December 2014 (the "**November 2012 Illegal Connections Exception**"). Further:

657.1. The application form described the reasons for requesting the exception as follows:

(i) "The Pipeline Asset organisation operates lines that as a result of numerous illegal (oil theft) connections are categorised as "red" according to the GAIR definitions. By these definitions, an illegally installed connection renders a line to be outside of it's [sic] code/standard and as such be considered to be "red", requiring immediate corrective action or shutting in of the line. Without the illegal connections these lines would be categorised as amber, orange or green.

(ii) *Due to the high number of illegal connections throughout the Pipeline infrastructure, it would take considerable system downtime to remove all connections. Experience indicates that during the shutdowns to remove illegal connections a significant number of new illegal connections would be installed elsewhere on the system.*"

657.2. The application form attached a letter, prepared by Mr Janzen, providing additional details purporting to justify the request and identify mitigation

measures. The letter stated that known connections were logged in the Pipeline Integrity Management System and *"monitored on a daily basis by our Pipeline RoW surveillance contractors who will report any observed leak following which production will be shut-in immediately".* Additionally, *"[o]n an opportunity basis, non-leaking illegal connections will be removed preventively".* Further, the letter stated that significant efforts to reduce the impact of oil theft were being implemented by the COT DRB and that, "*[t]ogether with SGSi*", work was ongoing to identify alternative methods to safely disable/remove non-leaking bunkering points without disrupting flow.

658. On 12 and 13 November 2012, the ExCo held a meeting. Andrew Brown provided a "*detailed update*" on Nigeria to the ExCo, in addition to his regular Upstream International HSSE update. Matthias Bichsel provided a HSSE update.

659. On 13 November 2012, draft engineering solutions which the Second Defendant's Projects department had devised were shared in a document, titled the "NCTL Protection Position Note", with Toyin Olagunju (General Manager Onshore/Shallow Offshore Projects, SPDC), for use in a discussion with Ian Craig. The solutions aimed to provide access to the GSF to the NCTL by installing a navigable water way alongside the NCTL, coupled with the installation of an intruder detection system. The estimated cost of canalisation was about $100m, while the intruder detection system would add $24m. The team was said to be looking at alternative ways to provide access to the right of way.

660. A Shell Group Risk Information Sheet and Definitions for "Staff/Asset Security", created on 13 November 2012, recorded that TPI remained a main threat in Nigeria, with comment: "*A military crackdown against oil theft and illegal refining over the last three months has correlated with a period of increased oil production, underlining the direct relationship between security and business performance*".

661. On 15 November 2012, the JTF issued a press release alleging that the Defendants' inability to repair or clamp known crude oil-loading points was frustrating its fight against oil theft as these points continued to be used by the oil thieves. Emails between the Second Defendant's staff the following day suggest that they sought

to contact JTF command to stifle the press release, and then to "*get across to the media people and expunge the portion that put SPDC on the spot".*

662. On 16 November 2012, P&T held a workshop for the Second Defendant, looking at how bunkering points could be removed or disabled without shutting down pipelines.

663. In response to the JTF press release above, on 17 November 2012, Vincent Holtam wrote to Philip Mshelbila (General Manager Sustainable Development & Community Relations, SPDC), stating that "*[w]e cannot at the moment remove all the bunkering points we have found, as it requires a s/d of several days and the deferral of millions of barrels to do so"*, whilst claiming that bunkerers would install more bunkering points while the NCTL was shut down. He further stated that efforts to identify a solution for removing or disabling bunkering points without a shut down were "*a work in progress*".

664. As at 17 November 2012, the Second Defendant had purported to remove a total of 135 illegal connections in 2012 (of which 96 were leaking) and was aware of at least approximately 90 remaining connections. Jurgen Janzen reported that removal of leaking connections was given highest priority.

665. As at 19 November 2012, according to a presentation titled "ROCI Pipelines & Wellhead surveillance and automation", the Second Defendant was considering and/or implementing pilots of remote surveillance facilities on facilities not associated with the NCTL. One technology, "*vMonitor"*, was stated to enable choke automation and remote shutdown at wellheads and valve automation, remote shutdown and real-time pressure monitoring at pipeline manifolds, but it was noted that the asset team was reluctant to use the equipment. The other technology, OnRamp, was stated to enable real-time wireless pressure monitoring and transmission from pipeline manifolds. Neither technology was being trialled, piloted or implemented on the NCTL.

666. On 19 November 2012, the JTF arrested two of the Second Defendant's community surveillance contractors for active involvement in TPI.

667. On 21 November 2012, Jurgen Janzen updated others in relation to the arrest of the Second Defendant's surveillance contractors reported at §** above. He noted that the indication from security was that the guards had been actively involved in the preparation of the illegal connections and hoses. He noted: *"This would not be the first time that this happens and as long as we work with the community contractors we can[not] exclude this from happening*".

668. On 22 November 2012, Felix Omofuma (Governance, Risk & Assurance Manager / Business Compliance Officer, SEPA)) asked Crockett Oaks to launch a BID investigation into a $276,000 payment to contractors for work which was not done.

669. From 19 to 23 November 2012, a PTE-E expert team – including Chris van der Beek (Integration Manager Engineering and Operational Excellence, Projects & Technology, SGSI SGSI), Sam McFarland (Cathodic Protection and Coating Systems Review, Projects and Technology, SGSI), Maarten Festen (Maintenance & Integrity Engineer, Projects & Technology, SGSI), Servie Simons (Team Lead Pipelines – Europe, Middle East, Africa, Projects & Technology, SGSI) – visited the Second Defendant in Port Harcourt, Nigeria, and agreed a scope of work for Projects & Technology ("**PTE**") support to the Second Defendant on onshore pipeline integrity, to be carried out in 2013. Further:

670. The Second Defendant shared its budget difficulties with limited operating expenditure to support the package of support. The parties discussed a back-up solution of "*RDS funding only*", and it was agreed that costs would initially be collected on a special PTE-E overheads account, with intent to charge the Second Defendant when the budget became available. The agreed scope of work included updating pipeline operating procedures, cathodic protection and coating review, corrosion training and support, updating the "ISCP", training JIV leads, JIV spill volume estimation, and advice on alternative pipeline repair methods and leak detection and surveillance.

670.1. A presentation visit, titled "Pipeline Integrity Support Visit", recorded mutually assessed problems with asset integrity, spill assessment and

response, and proposed remediation measures reliant on P&T and SGS, all due for action by 2013 at the latest. In particular:

(a) Cathodic Protection and Coating: Challenges included inadequate cathodic protection levels, poor coating maintenance, and unstructured approaches to remedial work which did not allow for proactive prevention of leaks.

(b) Corrosion: Challenges included a lack of understanding by the Second Defendant's staff in respect of the identification and mitigation of corrosion, requiring training from PTE experts, exchange of staff to build competence, and the establishment of remote/real time support by specialists in the Second Defendant and P&T to JIV teams for instances of doubt regarding failure cause.

(c) JIVs: Challenges included that the JIV Team Lead was insufficiently equipped with knowledge and tools to assess whether spills were caused by corrosion or TPI, leading to possible incorrect assessments, requiring remediation by tailor-made PTE corrosion training. Further, volume estimations for JIVs could not be quickly and appropriately estimated, and it was proposed that SGS build a simple Excel tool to address this and to contact Pernis (a Shell refinery in The Netherlands) for data on Nigeria crudes entering the refinery.

(d) Onshore Pipeline Repairs: Although clamps were in use for not-yet-leaking external corrosion issues and to prevent theft, bunkering points needed to be removed to prevent ongoing use by third parties, and a repair process taking less than 4 hours whilst keeping pipelines in operation had been proposed by the Second Defendant for non-leaking bunkering points. Proposed remediations included for PTE to advise on use of platelets as an additive to reduce leakages in case of an ongoing spill to allow current repair methods to be applied; for SPDC to make a long term plan for remaining "*clamps in concrete*" (after divestment) and to request advice if needed; and for PTE to review and advise on SPDC's proposed repair process for non-leaking points, which it approved of in principle.

(e) Resourcing: The Second Defendant's Pipeline operations had difficulties attracting pipeline engineers, and Arie Dijksman's group had vacancies and growth ambitions based on the amount of work it had to address, as emphasised by reviews and audits. PTE was to work on addressing the Second Defendant's shortage of skilled staff.

(f) Certification of Flow Lines: The Second Defendant's flow lines were supposed to be replaced every 15 years, but this process was not being followed and the Second Defendant was seeking guidance on how to proceed as it was not compliant with its own guidelines and not staffed to switch to inspection-based replacement. Proposed remediations included for PTE advice to be considered. Additionally, flowline data from 2007 to 2011 was reported missing due to abandonment of previous FIMS.

(g) Special Defect Assessment: The Second Defendant discovered two independent leaking pipelines with a relatively large opening without visible or internal or external corrosion. The root cause could not be established, and PTE were to support with an investigation by the Amsterdam lab to determine the characteristics of the damaged pipelines and advise the Second Defendant on the Root Cause Analysis.

(h) Flushing of Pipelines: The Second Defendant had a need for better guidance on how to efficiently flush pipelines with water, for effective decommissioning and abandonment. PTE had the tools and expertise to evaluate, analyse and optimise the flushing of existing old pipelines, and was to guide the Second Defendant on this.

(i) Pigging: Despite the fact that pigging was required for inspection and cleaning, the Second Defendant had many lines with defects, protrusions and diameter changes that could not be pigged with standard pigs. The Quest Free Swimming Pig, which could inspect lines with defects or bore restrictions and was funded via the GAIR Technology Plan and the Global Deployment Team ("**GDT**"), was already being deployed by the Second Defendant

(though the report did not state when it was made available, nor the extent nor locations of its use). PTE was to approach the GDT to investigate extension of these options and GDT was then to support the Second Defendant.

(j) Leak Detection and Surveillance: The Second Defendant needed better leak detection on pipelines and flowlines, and the GAIR Technology Plan had listed Leak Detection as a "*Must Have*" technology.

(k) Pipeline Integrity Data Management: The quality of the Second Defendant's cathodic protection data was questionable, and the overall pipeline integrity assessments by a multi-disciplinary team were not done. Proposed remediations included for PTE to assist on best practices and to provide experts to be part of the annual pipeline integrity review panel.

(l) Remediation: The Second Defendant remediated spills by letting natural bacteria convert the crude oil, and were interested in accelerating this process. PTE were to check if they had the expertise in this field and were to work with the Second Defendant to advise on options to speed up the process of remediation.

671. A Shell Group Risk Information Sheet and Definitions for "Poor Response from GSAs to Security Intelligence reports or Emergency", created on 22 November 2012, identified TPI as SPDC's "*biggest security threat*" and recorded that, despite "*constituting a key component of the overall strategy to contain criminal activity*" GSA response was typically either late or ineffective. Despite recognition that most TPI occurred at night, it was acknowledged that the GSAs lacked "*adequate night response capability*", and "*SPDC's quest for a technical security solution*" to TPI, which could offer better detection of TPI, was said to have been hampered by the inability of the GSAs to respond promptly and effectively. Existing Actions in place to address the risk included: regular monthly engagement with JTF leadership; "*optimising the deployment of government security forces in key SPDC locations and operations to reduce response time and distance*"; utilising key community surveillance elements; and also utilising data from Security

Intelligence and Surveillance (SIS). Planned Actions included for Dean Emmanuel to "*explore security solutions that are not entirely dependent on response from GSAs*".

672. A Shell Nigeria Corporate Security Risk Information Sheet and Definitions for "Threat to Life of Security Staff", created on 23 November 2012, recorded that organised criminals, especially those involved in TPI, considered security staff as a major threat to their operations. A section headed "Narrative Assessment" noted that security staff "*in many cases play 'safe' to avoid being identified and targeted by criminals. This attitude negatively impacts their capacity to deliver and could lead to compromise and complicity where motivation has dropped to its lowest ebb.*"

673. A Shell Group Risk Information Sheet and Definitions for "Low competence of public Security/Support Equipment availability", created on 23 November 2012, identified a "High" impact, "Medium" likelihood risk that "*equipment and personnel deployed by GSA may not be suitable for required service*".

674. Reported spill incident ID 897208 was reported by the Second Defendant to have taken place on 26 November 2012, with the cause reported as Operational. Full details are provided in Spill Annex 897208.

675. On 26 November 2012, the Second Defendant submitted two requests for an exception to Requirement 14 of the Asset Integrity Process Safety Manual to *"Establish and Maintain Procedures to operate HSSE Critical Equipment within its operating limits"* until 31 December 2014 (the "**November 2012 Operating Integrity Exception**"). One was submitted by Ambie Barango (Operations Manager, Swamp 1 East, SPDC), supported by Mesh Maichibi. The other, identical in substance, was submitted by Boma Brown (Asset Manager, Land East, SPDC), supported by Vincent Holtam. Further:

675.1. The application forms described the reasons for requesting the exception as follows:

(i) *"AIPSM_Requirement No. 14, amongst others, requires that we set operational limits for HSSE critical equipment which are accessible to staff in HSSE critical positions involved in operating, maintaining, inspecting and managing the Asset. It also requires that we establish and maintain procedures for monitoring the process conditions in HSSE critical equipment. The successful inplementation [sic] of the Group Operating Integrity (OI) programme is the accepted demonstration of compliance with this requirement. Though Bonny Oil and Gas Terminal (BOGT) has achieved the minimum OI standard on 28 June 2012, Soku achieved mechanical completion on 14 July 2012 and Cawthorne Channel, Nembe, Ekulama districts are at various stages of full compliance. OI is scheduled to complete for all Swamp East asset team by Q4, 2014. Mitigations in place prior to completion of OI are outlined in the attached mitigation note."*

675.2. Attachment A to the application forms provided additional details purporting to justify the November 2012 Operating Integrity Exception and identify mitigation measures. It was stated that lessons learned from demonstrating compliance with the Operating Integrity Standard (the "**OI Requirements**") at the Soku Gas Plant and Bonny Oil and Gas Terminal would be shared with the other facilities in the Swamp East Asset to enable them to demonstrate compliance with the OI Requirements. In addition, the following steps would be taken:

(a) Deploying experienced persons to facilities yet to meet the OI Requirements.

(b) Improving awareness of OI Requirements.

(c) Facilities would be required to demonstrate compliance with: Permit to Work effectiveness; communication and handover, and Statements of Fitness by the end of 2012.

(d) Management of key OI Requirements would be effected through daily reporting on alarm rates, active overrides and tracking age to reduce cumulative risks.

(e) Asset-specific KPIs to track compliance, monthly site reviews, gap closure plans and fast tracking updates and deployment of critical documentation.

676. On 22 November 2012, Crockett Oaks and others discussed the proposed response to media reports about arrests made by JTF. The proposed response stated that the arrested persons were "*employees of one of the several community based contractors who undertake pipeline surveillance work on SPDC's behalf in the Niger Delta".*

677. As of 27 November 2012, numerous bunkering points had been identified including 47 bunkering points on the NCTL still requiring repair, and points at the far west of the Bille area on the Sombriero River and on Gogobo-Ama Creek.

678. On 29 November 2012, the Second Defendant and NAPIMS held a meeting to discuss the Videofied technology initiative referred to at paragraph ** above. The Second Defendant recapped the success of the pilot project in stemming the tide of vandalisation, but noted that additional unanticipated costs had been incurred. The action points from the meeting included that the Second Defendant send a report detailing justification for emergency scope increase in the pilot phase of the project and establish a timeline schedule for project implementation.

679. On 30 November 2012, Robert Munster (General Manager Safety and Environment, SPDC) forwarded an overview of Upstream International incidents to senior SEPA and SPDC staff, including Ian Craig and Mutiu Sunmonu. He noted that the *"bulk"* of SPDC spill incidents are from sabotage, and that a *"step out from the HSSE Control Framework"* was being formalised by David Martin to cover these as an exception from the reporting and investigation process. Mr Munster reminded the recipients that we must continue the drive to ensure there were no operational leaks.

680. On 30 November 2012, Ian Craig approved a 3-month extension to the planned completion by the Second Defendant of audit items described as "*high",* including those related to security risk assessments ("**SRAs**") either being either incomplete or not updated in the Swamp East Assets, lack of systematic monitoring of completed SRAs, lack of facility security plans and control of security plans.

December 2012

681. In or around December 2012, the First Defendant introduce a "Spill Preparedness Response Guide".

682. In late November or early December 2012, Armand Lumens visited Nigeria, and addressed matters including security, the Business Integrity Department, HSSE, finance, policies and management and change. As per an email sent by Mr Lumens to the SIA leadership team on 13 December 2012, observations and action points arising from his visit included:

682.1. In respect of security, Brian Mair "*focus on Security Risk Assessments being conducted in all areas (!)",* Mr Lumens would have a follow up discussion with James Hall regarding security governance in Nigeria, and Crockett Oaks and Shell's Contracting and Procurement teams would "*[m]aintain vigilance on contracting and payment of contractor Security staff*".

682.2. In respect of the Business Integrity Department, resourcing issues would be picked up by Bernard Bos and "*PP*", additional preventative attention would be given to "*Conflict of Interest matters, throughout the company*", and initiatives to put tracers in crude, to prevent theft and bunkering, were ongoing.

682.3. In respect of HSSE, work on land encroachment was getting attention but the status of remediation remained unclear, and Peter Oriaifo (Audit Manager – Upstream Africa, SPDC) would follow up with Vincent Holtam on the metering audit findings and actions, as follow-up remained unclear.

682.4. In respect of finance, Mr Oriaifo and Jim Schmidt (Head of Audit, Upstream and Projects & Technology, Shell Expatriate Employment US) would explore whether sufficient finances were available to cover decommissioning and restoration "*for all these non-producing assets that require remediation"*. Mr Lumens also highlighted that it was *"basically impossible"* to conduct integrity due diligence on sub-contractors, that Ethics & Compliance guidance was unclear and the quality of staff at the central IDD function was "*below what is expected*".

682.5. Addressing concerns about management of change: "*When discussing outcomes of previous audits (Security, HPHT, Lands Audit, Finance), it seems that UIG leadership is not completely aligned on follow-up or coordination of actions. I am somewhat worried by this particularly in combination with many senior staff changes (e.g. Lismont, Craig, Martin, BOMs).*

683. At a date unknown in December 2012, the COT DRB held a meeting, in which it was decided to add key members from "GR", CX (Corporate Communications) and Security to that team to ensure a coordinated response to crude oil theft from the Second Defendant and the Shell Group.

684. On 3 and 4 December 2012, the ExCo held a meeting. Andrew Brown provided a "*detailed update concerning Nigeria*", in addition to his regular Upstream International HSSE update.

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685. Between 5 and 6 December 2012, the Second Defendant and SEPA senior management discussed the deadline for *"full Control Framework compliance"* coming up on 1 January 2013. On 5 December 2012, Vincent Holtam, noted there had been *"conflicting steer from SIEP"* on the issue, but noted that *"guys in the centre"* had clarified that the Second Defendant was required to submit exceptions to operating integrity requirements by then. Ian Craig was forwarded the email, who in turn forwarded the correspondence to David Martin, expressing doubt as to whether submitting *a "blizzard"* of exception requests across UI as part of the Business Assurance Letter close out process *"adds any value"*. Later that day, Mr Martin clarified that for assets whose *"calculative"* status had not been assessed

for operating integrity, those assets could not be safely confirmed as complying with the AIPSM requirements of the Control Framework, (particularly requirement 14), and that Evert van Holthoon (Global Upstream AIPSM Program Manager, SIEP) insisted that an exception should be raised.

686. On 12 December 2012, Ian Craig signed and approved the November 2012 Illegal Connections Exception Application form.

687. On 13 December 2012, Ben Lindsey (Environment and Safety Analyst, Upstream International, Shell International) submitted a request for exception until 31 December 2014 to the requirements of the Incident Investigation and Learning Manual which require that *"Significant Incidents and high potential incidents with potential C5, D5 or E5 are to be reviewed by the Business Head (UI Executive Director) within three months"* (the "**December 2012 Significant Incidents Exception**"). Further:

687.1. The application form stated that *"[a]n exception is requested from this requirement for environment incidents in Nigeria suspected to be caused by sabotage/theft"* and provided the following justification:

(i) *"Each suspected sabotage/theft incident in Nigeria is investigated in country, as with any other incident. Regretably (sic) the occurrence of sabotage/theft related incidents is relatively high (6 sabotage significant incidents and 18 high potential incidents over the period January-November 2012), and learnings tend to be common. As such, from a learning perspective, it is more effective to distill (sic) insights and learnings from all such related incidents and provide an update as part of other planned Significant Incident Reviews (at a frequency of at least annually) as opposed to individually. Should circumstances materially change, the need for this exception will be reviewed."*

687.2. Form A, accompanying the exception request, stated that it was believed the probability of negative consequences would be negligible, and that the mechanism in place for managing sabotage-related events was more

appropriate. The threats resulting from the exception were identified as *"lack of management attention with respect to sabotage incidents in Nigeria, thus reducing the effectiveness of the hazard management process"* but, in their assessment, the controls which were in place were robust and appropriate so there was *"no negative risk associated with approving this exception"*. The identified controls included that:

(a) Sabotage incidents were exclusive to Nigeria and their causes tended to be common, and were reported in the Fountain Incident Management system.

(b) Upstream International would continue to monitor the incidents of sabotage within the Fountain system.

(c) The Second Defendant would continue to use JIVs to maintain transparency, but those JIVs would not replace incident investigations.

688. On 12 December 2012, the Board held a meeting. Under the Business Updates, Andrew Brown reported on the exposure to the NNPC from the Second Defendant's operations between 2008 and 2012.

689. An unreported spill incident at the Krakama wellhead 006 (4.545728, 6.898454) was active as of 13 December 2012. Full details are provided in Annex 016.

690. An unreported spill incident at Akaso wellheads 004 (4.527911, 6.957743) and/or 014 (4.527930, 6.957353) was active as of 13 December 2012. Full details are provided in Annex 035.

691. On 14 December 2012, the Second Defendant and the JTF conducted a joint visit to all identified TPI points in the Bille area, including points within 600 metres of the Krakama manifold connected to a 500-metre hose. A report on this visit by Harry Ononogbu (Pipeline Maintenance Engineer, Pipeline East, SPDC) set out in detail oil theft activities at four different locations in Bille, each of which contained multiple oil theft points connected to flexible hoses. Many of the oil theft points were described as "*active*" or "*very active*" and it was observed that the flexible

hoses stretched to different parts of the water bank between 100m and 600m from the NCTL. New hoses intended for reconnection were identified at a site where they had previously been destroyed by the JTF. The JTF commander leading the visit asked the Second Defendant to take urgent action to prevent use of those hoses and noted that TPI occurred at night.

692. On 15 December 2012, Jurgen Janzen asked Ian Craig to postpone from 31 December 2012 to 30 June 2013 the deadline for completion of the Pipelines Organisational Capability Review directed to be conducted as a "High" Fountain Action following the HSSE & SP CF Audit (see paragraph ** above), to improve the effectiveness of the Pipelines Organisation. Mr Jansen explained: "*The intention is for me to bring the additional manpower requirements before management for approval in January (indicating the need for an additional 15-16 positions). In view of the fact that we have for a considerable amount of time now not been able to fill 4 existing vacancies in the current organisation, I do not expect to have additional positions filled soon after approval"*. Mr Craig approved this on 16 December 2012.

693. On 17 December 2012, Paul Buijsingh (Group Process Safety Manager, Projects and Technology, SGSI) signed and recommended the approval of the November 2012 Illegal Connections Exception.

694. On 18 December 2012, the HSSSE & SP Executive held a meeting. The Executive was given presentations on the Niger Delta and best practice independent advisory panels.

695. Also on 18 December 2012, David Martin approved the December 2012 Significant Incidents Exception.

696. On or around 18 December 2012, SIBV published a report, titled "*Corrosion and Asset Integrity Management Review*". According to the report:

696.1. The Second Defendant's General Manager Onshore Assets and VP Technical had requested a review of the Second Defendant's corrosion and

asset integrity management systems to identify gaps in the integrity assurance systems employed by the Second Defendant, gain improved insight, and advise the Second Defendant on the technical integrity status of the Second Defendant's surface facilities, including flowlines. The review was carried out by a combined Second Defendant, SNEPCO and P&T team.

696.2. The review focused on organisation; staff competency and training, procedures and practices; materials and degradation prevention and control; quality assurance and quality control; inspection and maintenance; and records systems and tools.

696.3. The review identified gaps relating to corrosion and asset integrity management, including:

(a) That corrosion integrity management was "*scattered across the organisation and lacks visibility"*,
(b) "*Insufficient presence of Inspection / Corrosion expertise on site / in execution*".
(c) In relation to data management, a "*sporadic*" risk based approach and, despite the use of Pacer and SAP [database tools], "*questionable*" data quality and completeness.

696.4. Other notable findings include that there is "*insufficient*" corrosion expertise on sites leading to "*less than optimal awareness and reactive rather than pro-active integrity management*"; there is "*very limited*" implementation of Corrosion monitoring techniques; and there "*is no clear home for fitness for service assessments*" and such "*defect assessments are performed on an ad hoc basis*".

696.5. The main high-level recommendations of the review were: (i) to create a single Pressure Equipment Integrity ("**PEI**") organisation with authority and asset focus, to include "*eyes on site*"; (ii) to ensure adequate staffing for the PEI; and (iii) to implement risk based integrity (corrosion) management through the PEI, enhance the use of data systems and close the review loop.

696.6. Facilities were reported as ageing, requiring more intense maintenance and stricter corrosion control. In relation to the Nembe Creek swamp production site, in particular, the major corrosion concern was external – internal corrosion of flow lines was low but not quantified. There was no consistent presence of corrosion and inspection expertise on site. While the status of external flowline protection (by cathodic protection) was reported "*generally OK from FIMS report*", flowline integrity management was poorly integrated with on plot corrosion management. Flowline sections on the creek bed outside fence had a high consequence of failure and were not readily inspectable.

697. On 22 December 2012, Arjan Ros (Principal HSE Consultant, Shell International) recommended approval of the December 2012 Significant Incidents Exception on 18 December 2012.

698. On 24 December 2012, the SGS endorsed the "*Agip*" repair method in principle. An email from Sam McFarland noted that the Technical Authority-1s for Pipelines and for Materials had determined that the repair method could be used for non-leaking bunkering points only. The email from SGS sets certain conditions under which this method would be permitted, and noted that the method would not bring the tapping points back "*within code*" but would disable them to prevent future use. (As is apparent from the chronology below, SGS's view changed in 2013 in that capping would result in lines not being red for certain cases.) Leaking locations would need to be permanently repaired.

699. An unreported spill incident in Dabria at a point on the NCTL (4.574026, 6.941463) was active as of 26 December 2012. Full details are provided in Annex 045

700. On 28 December 2012, the Second Defendant issued a final report, titled "VIDEOFIED PROTECTION OF ASSET INTEGRITY/AVAILABILITY - PILOT PROJECT". The report reported positive feedback from pilot projects at Imo River, Cawthorne Channel and Bonny Crude Loading Platform, noting:

"*Before the station guards in the facility (CAWTHORN CHANNEL) knew what was happening, their superintendent was watching them from over 2KMs away at the FLB* [Field Logistics Base]*! Vandals who attempted a 12-midnight trespass into one wellhead in IMO FIELD were chased away within minutes. They ran away, leaving their tools behind!*". However, the report recorded that there were delays to the project due to non-availability of funds. The report recorded an official request by NAPIMS "*to have the technology fully deployed across SPDC wellheads, flowstations and manifolds."* Outstanding actions for the Second Defendant included pursuing such deployment.

701. Reported spill incident ID 911168 was reported by the Second Defendant to have taken place on 31 December 2012, with the cause reported as Operational. Full details are provided in Spill Annex 911168.

702. At dates unknown in 2012, an e-WIMS clean-up exercise was carried out, which showed that there was a substantial preventative maintenance backlog for wells and appropriate preventative maintenance needed to be performed.

703. By the end of 2012, at least 80 bunkering points remained in place on all the Second Defendant's major pipeline systems. The Defendants estimated that there were 154 related oil spills, with 24,500 bbs spilled, and level of oil theft averaged approximately 45,000 bbls per day.

2013

704. In 2013 the Defendants set up initiatives intended to respond to the continuing prevalence of TPI and crude oil theft. In a drive for greater centralisation and control by the First Defendant, from March 2013, Markus Droll began to actively participate in and took over as the Chair and Decision Executive of the Crude Oil Theft DRB. The DRB took a more active role in directing the Second Defendant's response to TPI and oil spills, and in particular determining when the Second Defendant would shut down the Bille Pipelines and Infrastructure. From around 4 March 2013, Project Madrid, a coded project managed by a steering committee of senior managers and executives in the Defendants, also directed the Second

Defendant's operational response to crude oil theft, oil spills and the environmental impact therefrom.

705. Also in or around March 2013, in recognition of the severe environmental damage and reputational exposure caused by the policy of operating red banded pipelines adopted previously, the First Defendant decided and/or intervened to modify the Second Defendant's policy. The Defendants moved to a policy of only shutting down pipelines with bunkering points as a result of environmental damage when they: detected significant leaks directly on the pipelines; detected significant indirect discharge from those pipelines caused by TPI and refining (including from hoses and connections attached to pipelines) leading to free mobile oil; or assessed that significant environmental damage was occurring as a result of land-based oil and had concerns that containment is not possible. This is further described below and in the "Removal of bunkering points and operation of red banded pipelines" section of the main pleadings.

706. A significant legacy issue was identified in 2013 relating to a number of wells not included in the Second Defendant's asset register. Such wells had to be located in a "*well hunt*", had not been maintained and were overdue inspection, and were particularly vulnerable to TPI

January 2013

707. In January 2013, the level of crude oil theft in the Niger Delta reached its highest levels in terms of volume of stolen oil in over three years, with devastating consequences for the local environment through the associated increase in oil spills.

708. On or around 2 January 2013, the First Defendant established a new organisation within Upstream International, Upstream International Operated ("**UIO**"), and appointed Harry Brekelmans as its EVP. UIO was comprised of ten countries, including Nigeria. On 2 January 2013, Mr Brekelmans (then, EVP Operated, Upstream International, SIEP) sent a message to all staff in UIO, which stated that

"*[y]ou are now part of a Line of Business that has the ability to transform the performance of the entire Shell Group*". He stated that UIO would step up its AIPSM and MIE programs and "*zero spills is where we want to go in process safety*". He stated that UIO would be funding dividends to shareholders, last year "*we left significant volumes of hydrocarbons and ultimately cash on the table*" and "*[f]ixing this is the key to closing the gap to competition*".

709. At a date unknown in the first quarter of 2013, the First Defendant and/or UIO decided that all red banded pipelines in service within SOVs would require EVP support to continue operating, in line with the AIPSM "*Make It Safe "Lines in the Sand""* programme.

710. On 3 January 2013, the SIA issued an audit report "UIG-2012.001 Nigeria: Security Management and Payment Process". The audit opinion was fair. Notwithstanding, the audit report observed that *inter alia* security governance and assurance was unclear.

711. On 7 January 2013, Bert Christoffels (VP Engineering Europe Middle East & Africa, Projects & Technology, SGS) emailed Kieron McFadyen and David Martin (then Production Director, SPDC) regarding P&T support for the Second Defendant in respect of onshore asset integrity (following on from the email discussions referred to at paragraph ** above). Mr Christoffels stated that PTE-E had made resources available and delivered 324 KU$ of work in 2012, which was "*highly appreciated by SPDC*", and that work was temporarily funded from PTE-E's overhead on the assumption that budget would become available. As regards further work for 2013, he stated that "*I realize that it is not good for our reputation to put the agreed scope on hold, per January 1st, but I am not in a position to further commit to unfunded work*".

712. On 8 January 2013, the ExCo held a meeting. Andrew Brown provided an update to the ExCo on Nigeria, including leaks, in addition to his regular Upstream International HSSE update.

713. Between 3 and 10 January 2013, Sam McFarland advised Arie Dijksman by email regarding the operation of red-banded pipelines with illegal connections. In particular:

713.1. On 3 January 2013, Mr Dijksman asked Maarten Festen and Chris van der Beek whether it would be possible to arrange discussions with the Second Defendant's staff around the upcoming GAIR Workshop regarding *inter alia* the capping of bunkering points, noting "*[w]e need to have more clarity [on] what can be done to remain inside the code*".

713.2. On 10 January 2013, Mr McFarland advised:

> "*Just to make it very clear, having an illegal bunkering point on your line takes you outside code and carrying out the proposed capping as per the Agip approach will not take you back into code. This was made very clear when we discussed this item in Port Harcourt. If you want to go back into code, you will need to carry out a conventional repair but we thought this is what SPDC are wanting to avoid.*"

714. On 10 January 2013 the Global Nigeria Advocacy Committee (GNAC) held a meeting, which was attended by staff from both the First and Second Defendant namely Ian Craig, Markus Droll, Philip Mshelbila (by then Regional Communications Manager, SNEPCO), Rob Donnelly, Nebahat Albayrak (Corporate Director, Upstream International, SIEP), James Schofield, Andrew Vickers and David Martin. The minutes record that Rob Donnelly delivered a high-level presentation on the ongoing work at various levels of SPDC/RDS in and outside of Nigeria relating to oil theft.

715. In mid-January 2013, there was a change of the JTF command, which resulted in an escalation in TPI in or around Bille.

716. On 15 January 2013, Kieron McFadyen emailed David Martin (General Manager Production Nigeria & Gabon, SPDC) to emphasise that P&T was "*very keen*" to

help the Second Defendant's pipelines team following Peter Voser (CEO, RDS) and others' visits in 2012, but required confirmation of budget support.

717. On 16 and 17 January 2013, members of the Second Defendant's staff attended a GAIR Workshop in Amsterdam, and received training from SGSI regarding pipeline integrity and maintenance.

718. On 17 January 2013, Chris van der Beek shared a progress sheet with Arie Dijksman, Rik Prager, Jurgen Janzen and other staff from the Second Defendant and SGSI. The progress sheet tracked the technical support and services that P&T and SGSI had provided and intended to provide to the Second Defendant. The actions involved a wide range of technical support and services on asset integrity issues, including that PTE would: review the Second Defendant's Pipeline Operating Procedures and its cathodic protection and coating systems, establish training for integrity team members, establish real time specialist support for the JIV team for instances of doubt regarding failure cause, deliver a spill estimation volume tool, advise on the use of platelets to reduce leakages, "*PTE-PFAS/MMI as global skill pool owner of Pipeline Engineers*" assist in balancing shortage of pipeline engineers in the Second Defendant, advise on the application of the GAIR, review a proposed hot-tapping repair method for non-leaking bunkering points, advise on flowline inspections, inspect damage pipe, define and agree a scope on flushing identified pipelines, approach the Global Discipline Team to investigate the use of pigs to detect leaking bunkering points and clamps, and would "*[c]ombine knowledge in SPDC and P&T*".

719. On 17 January 2013, Deric Quaile (Group Environmental Manager, Shell International) Robert Munster, Osagie Okunbor (Corporate Advisor, Shell International), Chinyere Ozumba (Head, Biodiversity Conservation, SPDC) **(**and Rik Prager attended a meeting with the IUCN-NDP, during which the IUCN-NDP presented the findings of its upcoming report on the remediation and rehabilitation. Mr Munster summarised the findings in an email to *inter alia* Ian Craig, Markus Droll and Mutiu Sunmonu on 20 January 2013, commenting that certain findings had "*potentially far reaching impacts*". For the ultimate findings of the IUCN-NDP, see paragraph ** below.

720. On 21 January 2013, Godson Njoku informed Markus Droll that "*Nigeria is of key interest to the CSRC given the reputational challenges*" and asked him to ensure that the CSRC was provided updates on Nigeria.

721. On 21 and 22 January 2013, the ExCo held a meeting. Andrew Brown provided a detailed update to ExCo on Nigeria, in addition to his regular Upstream International HSSE update.

722. Between 25 and 27 January 2013, Markus Droll and Andrew Brown discussed by email the operation of the COT DRB and measures to prevent/mitigate TPI. In particular:

722.1. On 25 January 2013, Toyin Olagunju informed the UIO and SCiN leadership (including Mr Droll, Ian Craig, Mutiu Sunmonu, Bernard Bos (Finance Director- Nigeria and Gabon, SEPA) and Osagie Okunbor) of her visit to a 4.5m deep canal above the 18" and 10" Soku to Ekulama pipelines, which were fitted with intruder detection systems and had rapid response deployment security patrols in place, noting "*we may have found a formidable deterrent to some types of bunkering*". However, she noted that "*we have quite some work to do to reduce land-take and restoration of the vegetation around the ROW"*.

722.2. Bayo Ojulari (General Manager Development, Shell Upstream International - Operated, Nigeria, SPDC) responded on 26 January 2013, further noting successes of concrete barges and "*Spiking NGLs*".

722.3. Mr Droll responded: "*This sounds interesting, and I am keen to find out more when I hit the ground*".

722.4. Mr Droll forwarded the emails on to Mr Brown, who responded: "*Sounds interesting .. concerns would be maintenance, repair, consequence of leaks*".

722.5. Mr Droll responded on 27 January 2013 at 02:08, stating that he would manage these aspects with the team and the COT DRB, noting: "*Still, perhaps a combination of deeper location of pipe, and a preference for multi-phase flow (as in the case of Soku), could make bunkering physically very difficult*".

723. On 28 January 2013, Oro Awaritefe (Global Discipline Head for Project Engineering, SEPA) provided Rupert Thomas (then VP Environment, Shell Research Ltd) with a Nigeria update for the CSRC meeting on 29 January 2013. In the following email exchange, Oro Awaritefe highlighted the ineffectiveness of relying upon the GSA to combat TPI, noting that "*despite the intell. supplied by Shell to the government in terms of satellite and over-flight pictures of bunkering vessels etc, there was little response from the GSAs*" and "*[i]t became clear that the illegal activity must be receiving 'protection' from somewhere in the political ladder, and the presidency either lacked information or political will to deal with the situation*", but observed that drawing international attention to the issue had led to greater efforts from the presidency and GSA.

724. On 29 January 2013, the CSRC held a meeting. The CSRC reviewed the HSSE&SP Performance Report for 2012 and, according to the minutes of the meeting, noted that "*the elevated levels of sabotage and theft in Nigeria continues to be a cause for significant concern*". The CSRC approved the 2012 performance evaluation and emphasised that Nigeria would be an area of continued focus. Rupert Thomas provided an update on Nigeria.

725. On 30 January 2013, the Board held a meeting. As part of the Board and Directors' Performance Review, the Board considered committee updates, including a report from the CSRC, which noted that Nigeria should *"remain prominent"* on the CSRC agenda.

726. On 31 January 2013, Shell International delivered a presentation titled "Nigeria Deep Dive" to the Foreign and Commonwealth Office ("**FCO**"), highlighting the scale of crude oil theft in the Niger Delta and the Shell Group's interventions.

February 2013

727. In February 2013, the Second Defendant published its 2012 Annual Pipeline Integrity Report (the "**2012 Pipeline Report**"). The 2012 Pipeline Report:

727.1. Noted that the preferred method for repair was bolt on clamps in most cases and with very few exceptions, only clamps had been applied for repair of leaking defects.

727.2. Recorded that the maintenance reference plan was not being met due to access challenges, and sabotage/bunkering attacks on the pipelines, and that pipelines within restricted areas were not being maintained due to security and community issues. The 2012 Pipeline Report also noted that the percentage of pipelines for which the action plan from the previous annual review had been completed was 70%.

727.3. Noted issues with resourcing, including a lack of experience and availability of necessary integrity management skills, which represented a threat to integrity management. Relatedly, the 2012 Pipeline Report noted that there were competency gaps which prevented full execution of the Pipeline Integrity Management System. In particular, it noted a "*a serious concern with respect to corrosion monitoring, inhibition, MIC and fluid chemistry competence levels".*

727.4. Noted that an increasing number of emergency repair activities diverted resources reserved for planned maintenance operations.

727.5. Notes that the Second Defendant's procedures were overdue for review, revision and re-approval.

728. In February 2013, the Second Defendant published its 2012 Annual Flowline Integrity Report (the "**2012 Flowline Report**"). The 2012 Flowline Report

contained the following findings and conclusions similar to the 2011 Flowline Report:

728.1. In relation to data management:

(a) No proper data records regarding flow lines leak repairs and locations were maintained.

(b) Lack of sampling and consistent ultrasonic testing measurements records hampered the full integrity assessment work of some flow lines.

(c) There was no indication that approved clamps are being used for leak repairs (Plidco or TDW).

(d) Several lines appeared on both the decommissioned line list and the BP12 producing line list. The Asset Team was to clarify this discrepancy to facilitate more accurate integrity assessment of the flow lines.

728.2. In relation to repair of flowlines, the 2012 Flowline Report recorded that sectional replacements were carried out with uncoated line pipes. In addition, the as-built status of flow lines was jeopardised by the deteriorated condition of the line pipes before installation. The 2012 Flowline Report also noted poor line pipe storage and handling and flowline coating failure.

728.3. In relation to the Second Defendant's construction practices, the 2012 Flowline Report recorded inconsistency in pipe schedules on the same line and same pipe size, including varying wall thickness. The 2012 Flowline Report also highlighted noncompliance to standard construction practices (including flushing, hydro testing, welding and exposure to corrosive environment).

728.4. In relation to abandonment and decommissioning, the 2012 Flowline Report noted that a substantial number of flowlines with decommissioned wells were not properly abandoned and disconnected.

728.5. Regarding cathodic protection, the 2012 Report noted that some flowlines were not protected by cathodic protection.

729. In light of the increasing levels of TPI and oil spills in the Niger Delta, at a day in February 2013 unknown to the Claimants, the First Defendant and/or Upstream International initiated a strategy review to consider divesting the Defendants' interests from production assets in the Niger Delta (the "**2013 Nigeria Strategy Review**").

730. On a date unknown in about February 2013 a body was set up comprising staff from the First and Second Defendant to address further divestment of the Defendants' interests in the Niger Delta, and once a decision was taken to divest, to take forward that decision. The Claimants believe that this was variously referred to as the Iguana DRB and Project Iguana.

731. On 1 February 2013, Andrew Brown submitted the Business Assurance Letter for Upstream International for 2012 to Peter Voser. The letter relevantly provided:

731.1. Full compliance with a substantial part of the Supporting Manuals in the HSSE Control Framework was required in 2012. Where implementation by the prescribed deadline was not achieved, exceptions were sought: 51 exceptions had been requested in 2012, 31 had been approved, and the remainder would be processed by end Q1 2013.

731.2. Nigeria *"continues to require significant attention due to prevailing security risks, international attention on environmental issues [...] and the continued challenges of sabotage and crude theft."* Improvements in reducing operational spills (from 78 in 2011 to 51 in 2012) were "*offset by an increasing trend of theft and sabotage related spills*" (138 spills in 2012 and 3.3 kt spilled, compared to 120 and 1.6kt in 2011).

731.3. The risk of a "*major HSSE event [...] continues to require major improvement*" through the AIPSM programme the full implementation of which was delayed.

731.4. In respect of the Shell General Business Principles and Code of Conduct:

(a) A commentary was entered that payments for logistics support to the JTF are not in compliance with a contractual arms length approach, creating potential exposure to the Voluntary Principles on Security and Human Rights.

(b) A qualification was entered regarding the "*unacceptable*" audit opinion regarding "*SPDC Land Rights Protection / Management*", which highlighted systemic management framework weaknesses. Once fully resourced in Q3 2013, improvements in governance and management should mitigate business and reputation risk, but "*most of the legacy issues will need to be managed actively over the coming years*".

731.5. A qualification was entered in respect of the statement, "*There are no other significant governance, legal, ethical or compliance issues that have not been disclosed elsewhere in these assurances*". The qualification stated that "*[o]il spills in the Niger Delta and associated environmental and reputational impact remain a major issue for the Group*". The qualification noted that "*with the continued growth in oil theft and sabotage, significant pollution is occurring beyond Ogoniland*", Shell Companies will be associated with such pollution, and "*resolving these fundamental issues is therefore of interest to the Group*".

731.6. In respect of the statement "*The HSSE & SP Standards have been implemented in accordance with the relevant manuals and Business/Function and location implementation plans*", a qualification was entered that full compliance with the HSSE Control Framework had not been achieved. A commentary was entered in respect of Nigeria, noting the security situation.

731.7. In respect of the statement, "*Oil spill response and preparedness plans are in place and comply with national oil and chemical spill response plans and are in line with [MOSAG]*", a commentary was entered, noting

weaknesses in "*Tier 2 escalation*" and inadequate equipment and resources "*impacting speed of response in an escalating situation*".

731.8. In respect of the statement, "*Any asset under operational control meets the requirements of technical integrity necessary to commence or continue operations*", the following qualifications were entered:

(a) Not all Process Safety Basic Requirements have been implemented by prescribed deadlines.

(b) There are delays in implementing the AIPSM programme. The "*Fix programme*" was complete for assets under operational control, *"with the exception of Nigeria (pipelines expected in 2015, facilities in 2014, wells in 2014) and the specific exceptions are reviewed annually at EVP level*". Some AIPSM requirements will not be complied with by target dates, including "*[d]elays in meeting Operating Integrity programme expectations ("OI Calculative") for managing alarm rates and operating within operating limits*" in Nigeria.

(c) In Nigeria, "*the Pipeline Asset keeps in service lines which, as a consequence of the presence of illegal connections on the lines, are categorised as "red"*"" and are outside the operating limits defined in the GAIR.

(d) A number of wells-related issues in Nigeria were identified in 2012.

732. Also on 1 February 2013, Ben Ring emailed *inter alia* Andrew Brown, Ian Craig, Markus Droll, Harry Brekelmans and Bernard Bos regarding the Defendants' strategy to divest from part of their portfolio in the Niger Delta. The intent of the portfolio action was described as "*reduc[ing] exposure, maintain[ing] value and minimis[ing] impact on CFFO* [Cash Flow from Operations] *and CSD*". Output was envisaged for the ExCo meeting in April 2013, with the work "*split between the Hague and Nigeria*". He noted that "*[f]or the portion we retain, we need to understand how we'll be hardening our position with respect to security*".

733. On 3 February 2013, Tony Paul (VP Safety, Projects and Technology, SGS US) approved an exception to Requirement 6 of the Incident Investigation and Learning Manual, exempting the Second Defendant - until 31 December 2014 - from the requirement that the Business Head (Upstream International Executive Director) review significant environment incidents suspected to be caused by TPI within three months (for the exception request and lower-level approvals, see paragraphs ** above). Rather, significant incident reviews in respect of such events would occur on an annual basis.

734. On 5 February, Andrew Brown, Mutiu Sunmonu, Markus Droll and Harry Brekelmans, among others, discussed the content of presentation slides they were preparing for Peter Voser's forthcoming meeting with the Nigerian President. Mr Brown considered that the President should be shown a slide of the type they show to Western Governments "*to put pressure on the Nigerian govt, so we need to be upfront with the President – it is arguably one of the largest issues facing RDS today, so to not take it on the head would be a mistake".*

735. On 5 February 2013 Markus Droll thanked Andrew Brown for his *"additional steers"* on the presentation slides for Peter Voser's meeting with the Nigerian president. He noted in an email to Andrew Brown:

> *"Seems to me that there is more pressure from the Board these days than was the case last time I was in Nigeria.*
>
> *From my various meetings (mostly phone based unfortunately) with the Nigeria LT [Leadership Team], I am not sure this is truly realized on the ground.*
>
> *It seems to me that the view is 'business as usual'. I don't get that sense from your e-mails and our strategy discussion last week.*
>
> *Also, the Nigerian way would indeed be to tone down the message as much as possible - bad news or confrontational messages are not easily told in the culture.*

Anyway, really look forward to seeing you in Nigeria at the end of the month.

I am sure a blunt download from how you see it will be extremely useful in mapping out the way forward."

736. On 7 February 2013, Peter Voser discussed TPI and crude oil theft with the President of Nigeria. It is not known whether Mr Voser did 'take it on the head'.

737. On 7 February 2013, Brian Mair wrote, in his personal work notebook:

"*Been a disappointing start to the year; I fear that the security function has lapsed into their old state of mediocrity. Without the pressure of a group audit to get them organised, its business as usual. Complacency and a complete lack of drive – Agans* [Aganmwonyi] *is swamped under an avalanche of emails – to which he doesn't respond.*

Incidents that happen under our noses are revealed *through other sources, begs the question why we are paying for so many 'security professionals'.*

News today from a couple of sources that there is a very high level oil cartel being run from the heart of government. $5,000 to reduce the pressure on the pipelines (SPDC involved). Allegedly the new JTF Cdr is getting N300m as a sweetener."

738. On 8 February 2013, in response to the email of 24 December 2012 referred to at paragraph ** above, Arie Dijksman informed Sam McFarland and Servie Simons that the Second Defendant's "*ultimate aim*" was "*to bring bunkered lines back [...] within the code"*. He stated that "*[w]e understand that the technical integrity of an illegal oil theft point cannot be guaranteed as a consequence of this our lines will be "RED"*". He asked whether and in what circumstances capping the bunkering

points in accordance with the hot tap DEP could bring a pipeline back within the code.

739. On 11 February 2013, a "*Policy Forum*" was held. Senior Shell Group executives and managers, including Peter Voser, Simon Henry, Matthias Bichsel, Andrew Brown, Harry Brekelmans and Bart van de Leemput (EVP, Upstream International Operated, SIEP), attended to discuss a range of key issues affecting the Shell Group's operations and business. An agenda item for the Policy Forum was "*Internationalisation oil theft/Nigeria Reputation*". In respect of the aforesaid, the attendees were provided with and considered *inter alia* the following materials:

739.1. Presentation slides prepared by Jurgen Janzen, titled "Disabling/Removal of Illegal Pipeline Connections". According to the slides:

(a) Pipelines with illegal connections are *"Red*" according to the GAIR, which prescribes "*[i]mmediate action required to restore* [such lines] *within the code"* or "*[i]mmediate shut-in & secure the line*". Notwithstanding, "*SPDC continues to operate lines with illegal connections*".

(b) The approach towards the removal and repair of illegal connections was premised on a distinction between leaking and non-leaking connections. The approach involved: (i) "*Immediate removal/repair of* ***leaking*** *illegal connections*", with "*[i]mmediate shut-in, depressurise and remove, repair the line (clamp or sectional replacement) – re-instates within code (only this specific point)*"; and (ii) "*Removal /repair of* ***non-leaking*** *illegal connections*", with "*[o]pportunity based removal/repair when P/L shutdown for other activities – re-instates within code*" and "*[d]edicated shutdown for batch removal of illegal connections*".

(c) "*Solutions are required*" to reduce TPI-related oil spills and theft volumes, and *"[r]e-instate lines within code and GAIR definitions (this will only be achieved once all illegal connections have been removed from the line)*".

(d) A "*steer*" was requested with respect to four potential solutions:

(i) "*Removal of illegal "export" conduits (hoses & pipes)"*, noting that this only hampers theft and comes with a risk of oil spills.

(ii) "*Install anti-tamper hardware on illegal valve*", noting that this blocks movements of the illegal valve and hampers theft but does not remove illegal connections or restore the line within the code. The slides state "*[w]e will apply as of February once materials have been received*".

(iii) ""*Capping" of illegal connections*" by welding pipe casing over the illegal connection, filling the casing with epoxy resin and capping the casing. The slides state that this disables illegal connections without need to shutdown, may restore the line within the code (subject to SGSI approval), and is "*[c]onsidered preferred option if indeed supported by SGSI as a permanent repair*".

(iv) "*Removal of illegal connection through regular "hot-tap*"". The slides describe that this would require specialist support (TDWilliams), removes the illegal connection from the line without shutdown required and would re-instate within the code (SGSI supported), but is "*[p]rohibitively expensive*" and is "*[o]nly to be used if "Capping" not acceptable as permanent repair and in isolated cases where regular removal & repair may impose unacceptable risks*".

739.2. A "NOTE FOR POLICY FORUM – COVER SHEET", presented by Rob Donnelly and sponsored by John Crocker, on the subject of crude oil theft in the Niger Delta. The note relevantly provided:

(a) Crude oil theft poses *"significant threats to our business performance", "[p]ipeline shut-downs for repairs following sabotage or tapping can threaten our capacity to fulfill oil or gas contracts", "[e]nvironmental damage secondary to theft is a major driver of negative Group reputation",* and the *"financial impact of deferred production, stolen oil and maintenance and repair costs run into hundreds millions of dollars annually"*.

(b) The volume of oil stolen "*is not precisely known"* but was estimated at "*150 kbpd and may be as high as 600 kbpd"*.

(c) The Second Defendant's response includes "*[a]n extensive programme of repairs has been conducted to remove tapping points"*, "*[a]sset hardening – covering pipelines with concrete and or burying pipelines is expensive but makes illegal tapping more difficult"*, "*[s]urveillance flights*" and "*[c]ommunity engagement*".

(d) The Group's response involves "*[a] sustained campaign by CX [Communications] over 2012 sought to move the perception of oil spills in the Delta from operations spills to one of the reality of oil theft and has been highly effective*".

(e) The Federal Government of Nigeria's response has been "*ineffective and inconsistent, severely constrained by poor equipment and capability and undermined by systemic corruption*".

(f) "*SPDC and Group need to play a catalytic role*" in *inter alia* "*further focusing on asset hardening, effective pipeline repairs and surveillance. We must do and do well, those actions which are under our operational control*".

(g) The COT DRB "*was established in 2012 to tackle crude oil theft under the leadership of the CCh [Country Chairs]. At a meeting in December it was decided to add key members from GR, CX and Security to that team to ensure a coordinated Group and SPDC response"*, and a workshop on 14-15 February 2013 would develop "*detailed work streams and plans*" and report to the COT DRB for *"overall coordination and governance of the programme*".

(h) "*A Policy Forum steer on and endorsement of the work outlined, is requested*".

739.3. The Claimants infer from the circumstances that the attendees of the Policy Forum gave advice and/or directions and/or made recommendations and/or decisions in respect of the matters in the above materials, including the Second Defendant's approach to preventing TPI, removing bunkering points and shutting down the Bille Pipelines and Infrastructure.

740. On 12 February 2013, the ExCo held a meeting. Matthias Bichsel provided an update to ExCo on Group HSSE performance, and Andrew Brown provided an update on Nigeria.

741. On the same day, the Audit Committee held a meeting. The Controller confirmed that the First Defendant had an effective system of risk management and internal control, but risk exposure in Nigeria remained a challenge.

742. On 14 February 2013, Peter Oriaifo emailed Vincent Holtam draft terms of reference and audit scope for his input and support before forwarding it to the sponsors, David Martin and Mutiu Sunmonu, for approval. The proposed plan included an audit of the Second Defendant's management of crude oil theft from 2009 to 2012, titled "UIO-G - 2013.002 Nigeria - SPDC Crude Oil Bunkering (Business Impact & Mitigation Effectiveness)" ("**2013 COT Audit**").

743. Between 14 and 15 February 2013, a two day crude oil theft workshop took place in the Hague attended by staff from the First Defendant and Second Defendant including corporate security (including Brian Mair, James Hall, Cor Koster), Legal, Corporate Communications, GR (Rob Donnelly and Floris van Hovell (Government Relations Advisor, Shell International). The purpose of the workshop was designed to frame details of work streams to feed into the DRB.

744. On 15 February 2013:

744.1. Vincent Holtam forwarded Peter Oriaifo's email to Mutiu Sunmonu, David Martin, Barbara Blum and Markus Droll, stating:

(i) *"We all know this cannot have a good outcome. I have no doubt that this will come out as UNACCEPTABLE, in which case we may be very exposed in disputing any oil loss claims from the Government or compensation claims from the community.*

(ii) *There is a lot going on in this area and whilst I would welcome an audit to help improvement, I also wonder whether such an audit could potentially do more harm than good.*

(iii) *As Auditee I cannot do much other than make sure the audit adds value – which it will. As sponsors, you may wish to advise Peter to reschedule. Your call!*

(iv) *I will continue to support the audit until Peter advises me it has been rescheduled (or not) by the sponsors.*" (emphasis added)

744.2. Barbara Blum responded. The Claimants are not aware of the nature or content of her response because it is redacted in the Defendants' disclosure.

744.3. David Martin raised two points in response, the first of which is redacted in the Defendants' disclosure. His second point was as follows:

(i) *"I don't think these audits are negotiable. There is considerable interest at EC and Board level about performance/potential liabilities, and know that the Board CSRC Committee is keen to understand how we are managing these immense challenges in light of ever increasing public scrutiny. SO I see opportunities with such audit providing we follow Barbara's advice*."

744.4. The Claimants infer that, in response to the concerns expressed by Vincent Holtam, a decision was taken at a date unknown that the audit would not be rated (see paragraph ** below).

745. On 20 February 2013, the Norwegian Council of Ethics made a recommendation to the Norwegian Ministry of Finance that the First Defendant *"be placed under observation for a period of up to four years due to severe environmental damage caused by oil production in the Niger Delta in Nigeria*". The Claimants adopt and rely upon the following aspects of the Norwegian Council of Ethics' report:

(a) *"The Council on Ethics' assessments have shown that SPDC JV's oil production has for a long time led to frequent and, in total, extensive oil spills. The frequency and volume of the reported oil spills are minimum figures but are far higher than those which are normal in an international perspective and those which Shell experiences in other operations. […]*

(b) *A simple comparison of the oil-spill volumes of SPDC and Shell in the rest of the world shows that while the average annual oil-spill volume when Shell is an operator outside Nigeria has fallen sharply from the 2002-2006 period (around 26,000 barrels/year) to the 2007-2011 period (around 18,000 barrels/year), the SPDC's oil-spill volume has quadrupled (from 13,724 barrels/year to 55,480 barrels/year). […]*

(c) *It is known that some of the infrastructure in the Niger Delta is old or weak for other reasons and that the infrastructure has been replaced more slowly than is desirable due to the lack of financing in the joint venture, primarily because NNPC is not given sufficient resources by the state. The documentation indicates a higher frequency of oil spills caused by operational failure in the delta than in other locations in which Shell operates. […]*

(d) *The backlog* [in respect of remediation] *has been reduced but not cleared. In several cases, local contractors and groups that Shell has hired to carry out the cleaning up and rehabilitation seem to have done work that is not good enough or to have left the area before the work was finished. […]*

(e) *An important element in the Council on Ethics' assessment is the extent to which Shell can be held responsible for oil spills that the company in many cases believes is outside its control. It is relevant to consider several factors, from the joint venture's decision-making processes to the implementation and follow-up of various measures in a complex operational context. The Council finds that there are a number of situations in which Shell as the operator can and should implement extra measures to reduce the risk of damage and the extent of the damage. In the joint venture, decisions regarding standards, guidelines, investment and operations budgets, schedules, etc., are reached through consensus. In principle, all the joint venture partners have a right of veto. By their agreement, the partners are co-responsible for the decisions that are made. The Council on Ethics registers that the company does not often use its veto right and that Shell agrees to activities which will very likely lead to oil spills. The operator is responsible for implementing measures to prevent oil spills, including monitoring and safeguarding physical infrastructure. It is likely that the lack of financing for major investments which has existed for a number of years has negatively affected several important, long-term measures, while measures to maintain the operations and flow of revenue have been prioritised. […]*

(f) *Over time, the standard of the extensive infrastructure has fallen for natural reasons (such as corrosion) and because of the external influence of unauthorised third parties (such as oil thefts). Critics of Shell claim, based on studies, that the pipelines in the delta are often old, weak and not up to standard. Shell has previously publicly admitted a backlog in its maintenance and replacement of a large network of old pipelines. The company now says this backlog has been reduced. Parts of the current physical infrastructure of the joint venture operations are probably still not up to the standard they should be or the standard that Shell wants them to be. In many places, it will also be impossible to use important technology such as 'pigs' for maintenance and monitoring purposes. The Council believes these are factors that increase the risk of oil spills. There is thus an exceptionally great need for the operator to implement*

effective measures. Inadequate monitoring, insufficient measures implemented by the operator and a lack of follow-up by the authorities to deal with illegal activities are important reasons for the thefts continuing on a strikingly large and growing scale. […]

(g) *The operator may declare an emergency and shut down the production or transportation through pipelines without the approval of its joint venture partners if there is a danger to human life or a risk of serious damage to the operations or of severe pollution. […] the Council on Ethics finds very few examples of the operator making use of an emergency to prevent an oil spill even when the risk is great. This contributes to the huge amount of oil spills and environmental damage. […]*

(h) *The risk of oil spills increases and the Council believes this also means that the company should implement extra and more effective measures to deal with risks (such as better monitoring and the shutdown of the production operations/infrastructure if there is a high risk of an oil spill).*

(i) *Following an oil spill, the operator must make sure that the cleaning-up work starts immediately and that the best available methods and procedures are utilised.*" (emphasis added)

746. On 21 February 2013, senior management in the Defendants discussed by email a proposal by the Federal Government of Nigeria to extend the scope of the Hydrocarbon Pollution Remediation Project (HYPREP) clean-up programme beyond Ogoniland. HYPREP is an agency established by the Nigerian Federal Ministry of Environment, that aims to remediate soil and groundwater contamination in Ogoniland. In particular:

746.1. Ian Craig stated that extending the HYPREP programme to sites outside the RoW, such as contamination from illegal refineries, "*could set a dangerous precedent in terms of SPDC's liabilities*".

746.2. Marc den Hartog (VP Commercial, Sub-Saharan Africa, SEPA) emailed Barbara Blum and Bernard Bos, stating that "*[a]s Industry, we clearly cannot go beyond Ogoni as this would open us up to fading of the line between oil in our rights of way (which we clean up) and the stuff left behind by illegal refiners etc. (which we distance ourselves from)*". He observed: "*even within Ogoni, the fading of this separation is somewhat concerning […] The UNEP report understandably did not focus too much on whether oil spilt was next to our facilities or elsewhere, but for us it is an important distinction*".

746.3. In response, Mr Bos stated that "*this is given straight from The Hague*" and, in any case, "*clean-up can only start when illegal refining and theft are stopped*".

747. On 22 February 2013, following the workshop in the Hague on 14 and 15 February, the First and/or Second Defendant prepared or procured the preparation of a draft "*Project Plan for Crude Oil Theft in Nigeria*". The Claimants infer that the draft project plan substantially reflects the finalised version of the project plan. The project plan relevantly provided:

747.1. "*Nigeria authorities fail to act or are even actively involved*" in crude oil theft.

747.2. "*In order to achieve success, Shell (SPDC and SI) will need full and dedicated support from SPDC leadership, ECAB and CEPV. Success will only come about on the basis of a dedicated, cross-functional and mutually agreed SPDC-SI strategy and resources reflected in this proposal".*

747.3. Key risks include "*some uncomfortable truths might come out (involvement of our own staff / of Nigerian officials), leading to increased exposure to litigation*". Elsewhere, the project plan stated that possible unintended consequences were "*[e]xposure to uncomfortable truths [o]n spills / environmental liabilities"* and "*[o]n internal collusion / corruption*".

747.4. The "*Line of Sight*" for the opportunity ran from the (i) ExCo, to (ii) Andrew Brown, to (iii) the Nigeria County Chair and the EVP UIO, to (iv) the COT DRB, the Business Opportunity Manager (Rob Donnelly, VP, SI), and VP Nigeria & Gabon (Markus Droll). An "Opportunity Team" would be led by Mr Donnelly.

747.5. The workstreams towards the goal of "*zero oil theft*" involved (i) establishing the facts, (ii) effective interdiction, (iii) security and integrity through *inter alia* asset hardening, improving surveillance and introducing "*track and tracing technologies*", and (iv) addressing root causes with community engagement.

747.6. The project was to run from March 2013 to March 2014, with the COT DRB to approve its mandate and assess its effectiveness.

748. On 24 February 2013, Robert Munster provided Markus Droll with the "HSSE/SP and AIPSM Plan (Integrated) 2013 – 2015 Nigeria and Gabon" for approval. The foreword by Mr Droll stated that "*there is urgent need to demonstrate compliance to International spill response and remediation standard […] We can run our operations without incidents. We can keep the crude in the pipe and avoid all leaks*". Mr Droll stated that it was aligned with the "*UI SE & SD Improvement Plan"* and that all HSSE & SP sub-plans and targets within Shell Nigeria and Gabon had to be aligned with the HSSE/SP and AIPSM Plan. The plan set out objectives and activities, in fields of *inter alia* oil spill preparedness and response, and environmental management.

749. In the period leading up to 25 February 2013, oil theft and TPI on the NCTL escalated, resulting in pressure loss on the NCTL each night and widespread oil spills and contamination in the Creek.

750. On the evening of 25 February 2013, several flow stations on the NCTL tripped as a result of low pressures due to crude oil theft and/or oil spills. In an email on 26 February 2013, Wenike Princewell asked: "*What about the SEAWATCHERS, have we stopped them? This level trip is unprecedented. SOMETHING HAS*

CERTAINLY GONE WRONG." In response, Olasupo Olageshin stated that seawatchers had not been stopped but were only in operation in Nembe, they need to ask the surveillance teams "*[w]hat exactly has gone wrong now?"*, and that "*[t]his is truly unprecedented, and all these guys have a lot of explaining to do*".

751. Reported spill incident ID 934859 was reported by the Second Defendant to have taken place on 26 February 2013, with the cause reported as Operational. Full details are provided in Spill Annex 934859.

752. On 26 February 2013, the HSSE & SP Executive held a coordination meeting, chaired by Kieron McFayden. The HSSE & SP Executive discussed, provided comments, gave advice, made recommendations and/or gave directions in respect of environmental compliance and performance, including the "*Goal Zero"* objective of no oil spills.

753. Between 25 and 27 February 2013, Vincent Holtam, David Martin, Markus Droll, Barbara Blum and Mutiu Sunmonu exchanged emails regarding the increase in oil theft and TPI on the NCTL. In particular:

753.1. On 25 February 2013, Mr Holtam informed Mr Martin that "*[a]ll stations on NCTL (150kb/d) tripped at 20:00 this evening on low pressure due to heavy bunkering*."

753.2. On 26 February 2013, Mr Holtam provided Messrs Martin, Droll and Sunmonu with an update regarding a meeting with the Second Defendant's asset and security teams. He noted that "*[a]pparently at one six hour period over night over the weekend, receipts at Bonny dropped from 16,000bbls/hr to 6,000bbls/hr with all stations remained up, so 60% of the crude was being stolen. Subsequent nights (the last 3) some/all stations have tripped on NCTL*". He stated that "*[w]e now appear to be back to the worst situation we were in 1 year ago*", the situation had deteriorated since the JTF rotation in mid-January, and *"[w]e now hear the JTF are providing protection to the bunkerers, rather than our lines*". The attendees of the meeting discussed a series of "*short-term measures*". Mr Holtam noted:

(i) *"- Agans will try to rotate out the JTF, to see if that helps. However, if there is collusion at the top, such that they replace the leaders that are effective, I am not sure how effective that will be.*

(ii) There is discussion on deploying coastal patrols under a maritime agency that Dean and Brain are working on.

(iii) We could consider shuting down NCTL each evening, to frustrate the bunkerers. […]

(iv) "*The bottom line is that it may be time to escalate this. Perhaps a meeting of "the DRB" ahead of Andy's visit?*"

753.3. Also on 26 February 2013, Mr Holtam reported back to *inter alia* Messrs Martin, Sunmonu and Droll following an overflight of the NCTL:

"*During the overfly, we observed the situation from Krakama to Awoba to be extremely bad, with free phase oil covering many of the creeks. This is much worse than 12 months ago, when we had a similar situation with extensive theft. Whilst there was limited ongoing activity, it is clear that at night this is a hive of crude theft. We spotted at least 3 JTF house boats in the close proximity to the worst polluted spots and 3 theft barges on fire. No-doubt a token effort from the JTF.*

Whilst I stop short of proposing that we shut-down the NCTL, as I have no idea what the next step would be if we did; I also cannot recommend we continue unless we can make a dramatic improvement in the very short-term. Unfortunately, I am also not sure how we can do that.

A year ago, when we faced a similar situation, there was no significant GSF deployment on the ground. Following their subsequent deployment, we saw a big improvement – thanks to Agans and his team. This improvement was maintained until a few weeks ago, when the senior JTF commanders in

the area were changed out. Now I find it difficult to know what to do, as the GSF are there, but they are ineffective.

I am afraid I don't have a solution, except to engage from the top down and try to get some traction that will force the GSF into action. They were clearly effective until the recent changes in command, so why not now. My suggestion is that we need to set ourselves a deadline by which we should be able to demonstrate that we can operate the NCTL without station trips and with significantly reduced crude losses during the night. This would give us confidence that we have regained control of our RoW. If we can't do that, then I am not sure we should be producing the stations upstream of CAWC [Cawthorne Channel].

I am afraid this is too big a problem to try to resolve myself. I need some help."

753.4. On 27 February 2013, Brian Mair forwarded the email chain to James Hall, both members of Corporate Security. Mr Mair stated that "*the level of oil 'bunkering' and its associated pollution is approaching crisis levels*" and that *"[m]y recommendation was that given the extent of the environmental damage and the potential impact for the group, we should convene the DRB asap*". He reported a series of "*bullet points*" from a call between him and Messrs Sunmonu, Droll, Martin, Holtam and Aganmwonyi, which included the following:

(a) *"Extensive free oil over large tracts of the Delta – not just sheen.*

(b) *Someone thought the clean up could match that of Ogoniland*.

(c) *GSA are considered ineffective and almost certainly complicit. Houseboats surrounded by oil. […]*

(d) *The MD is considering shutting down operations but knows too well that this is a high risk strategy as while the lines are down more and more bunkering points will be inserted.* […]

(e) *For the international community we cannot be seen to be putting profit before the environment.*

(f) *Lots of discussion ensued about what to do now because maintaining the status quo is not an option. Something different needs to be done immediately.*

753.5. Dave Martin suggested a 3 point strategy:

1. *"Engage with the JTF and ask for greater support*
2. *Work up the scenario for the 3rd party contractor option*
3. *Work up the scenario of shutting down.*"

753.6. Mr Mair stated that he had briefed David Martin on what Corporate Security were doing, which included engaging with the US and UK military, meeting with AFRICOM, approaching G4S and engaging the Nigerian Maritime Administration and Safety Agency ("**NIMASA**") to assist with patrols.

753.7. Mr Hall responded: "*Is the DRB going to convene? There has been silence since we met*".

754. On 26 February 2013, Blaise Chikere shared with various staff of the Second Defendant "*a note from legal listing environmental evidential records required to defend Shell in court whenever there is a court case associated with any of our leaks. So ensure a detailed log is kept of whatever action is taken from when a leak occurs till the site is closed out after remediation*." The following day, and in response to the same, Simeon Eze **(**Oil Spill Response, SPDC**)** sent an email to Patrick Agbo, stating that Rik Prager and Legal had "*challenged me to come out*

with proposal on how we can "create documents" for old spills and collate existing ones scattered all over. The understanding is that SPDC needs to have sufficient document on all the oil spills that have ever occurred".

755. On 27 February 2013, an "NCTL Shutdown Meeting" was held to discuss the scheduled shutdown of the NCTL from 11 to 21 April 2013. It is not clear who attended.

756. On 28 February 2013, Bert Christoffels emailed Kieron McFadyen, David Martin and Markus Droll to inform them that PTE support to the Second Defendant on onshore asset integrity had been suspended as funding had not been provided for the relevant work (see paragraphs ** above).

757. On 28 February 2013, David Wang (Team Lead, Asset Integrity and Inspection, SGS) delivered a presentation, titled "GAIR TECHNOLOGY DEPLOYMENT". According to the presentation slides:

757.1. The Second Defendant accounted for over half of the number of "*RED pipelines in operation without derating or robust mitigation*" and was identified as a "*Risk Mitigation Priority*".

757.2. A "*suite of Shell Technologies*" were supported for deployment across the Shell Group as part of an "*integrated technology plan for new technologies (GAIR Technology Plan)*".

757.3. An "*evergreen list of technologies*" for the prevention and rapid detection of failures and leaks was outlined, which included smart pigs, Control Room Monitoring, Pressure Wave & Real Time Transient Modeling, Fiber Optics and a MEMS Sensor Network.

757.4. The delivery and support model involved "*[v]endors*" (for example, Service Companies) providing inspections, training and installing technologies, while "*Assets/Regions*" providing funding, monitoring data and providing data analysis.

758. On a date at the end of February 2013 unknown to the Claimants, some members of the COT DRB participated in a workshop in The Hague regarding strategy and workstreams concerning crude oil theft.

March 2013

759. Reported spill incident ID 937935 was reported by the Second Defendant to have taken place on 3 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 937935.

760. On 1 and 4 March 2013, Cor Koster sent emails to *inter alia* Markus Droll, David Martin and Vincent Holtam regarding the deteriorating situation in the Niger Delta, the increase in TPI and the ineffectiveness of the JTF in preventing the aforesaid. In particular:

760.1. On 1 March 2013, Mr Koster suggested informing the JTF command to "*Inform, Name and Shame*" complicit members or units of the JTF, such as by providing a map showing theft points and illegal refineries near JTF houseboats.

760.2. In a subsequent email, Mr Koster stated: "*I believe we've gone past the point as working WITH them has resulted in a theft number for Jan which is the highest in over three years (since the amnesty), added that we are now seeing thick free phase oil in the creeks (OUR OIL)*" and, in particular, "*[t]he whole area around Awoba/Krakama has one massive oil sheen interspersed with streaks of thicker oil layers*". In Mr Coster's view, "*[w]e have run out of time. We name and shame, pressurize, whatever it takes or we may have to close in our production*".

760.3. In a further email on 4 March 2013, Mr Koster stated: "*I have been involved as "Mr Bunkering" since May last year […] [I] am not satisfied with*

the overall progress made". In his view, "*we can make a difference without necessarily having to s/d our operations*" by forming a local team from key departments which "*has to report directly to Marcus, as reporting to any other party in the organisation will NOT deliver results. Been there twice, got the t-shirts*". Mr Koster suggested that the team focus on stakeholder management, intelligence gathering and response capability, noting that "*the JTF (inc Navy) in many cases are colluding with the thieves*".

761. Between 4 March 2013 to 16 March 2013 inclusive, there was a full shut down of the Bille section of the New NCTL.

762. On or around 4 March 2013, following a visit by Andrew Brown to Nigeria and in response to the increasing scale of TPI and oil spills, the First Defendant established "Project Madrid". At all material times whilst Project Madrid was in operation:

762.1. Project Madrid was a coded project that directed the Second Defendant's operational response to crude oil theft, oil spills and the environmental impact therefrom. It was classified as "Most Confidential" as the decisions made in the project could have a material impact on the Shell Group's production volumes, cash flows, reputation and share prices.

762.2. One of the principal purposes and functions of Project Madrid was to define an "Operating Envelope", which would define the tolerable level of oil contamination and environmental damage caused by the Second Defendant's operations and determine the circumstances in which the Second Defendant could either continue operating or would have to shut down its pipelines and infrastructure as a result of TPI and oil spills.

762.3. A steering committee of senior management (the "**Madrid Steering Committee**") was responsible for managing, overseeing and directing Project Madrid, and deciding upon the "Operating Envelope". The Madrid Steering Committee consisted of Markus Droll, Mutiu Sunmonu, Bayo Ojulari, Bernard Bos, Barbara Blum and David Martin, and reported to Andrew Brown.

762.4. The Madrid Steering Committee controlled, oversaw and/or directed a team of staff from different departments in the Second Defendant and SNEPCO responsible for implementing the decisions of the Madrid Steering Committee (the "**Madrid Implementation Team**"). The Madrid Implementation Team was led by Richard Denny (General Manager, Commercial & Non-Operated Ventures, SNEPCO), and comprised of staff across *inter alia* the Second Defendant's legal, wells, oil spill response, HSSE, community relations and finance departments, including Cor Koster, Rik Prager and Dean Emmanuel.

763. Further to the aforesaid, and also on 4 March 2013:

763.1. Richard Denny emailed Harry Brekelmans regarding "*Project Madrid: approval for* [Most Confidential] *status*". Mr Denny stated that Markus Droll had asked him to lead a "*short project looking at the issues/way forward surrounding the NCTL leak*" and that "*[w]e will be exploring wider, longer-term consequences that could be material in terms of Group cashflow etc and that it will be prudent to make this a Most Confidential project*". He noted that "*[s]etting up an MC [Most Confidential] Project requires EVP support, hence I request your approval*".

763.2. Shortly after that email, Harry Brekelmans or his delegate, Joep Coppes (VP Global Production Excellence, Shell International), granted approval for Project Madrid.

763.3. Mr Denny emailed members of the Madrid Implementation Team, informing them that they had been nominated by their respective Leadership Team / Upstream International Leadership Team members to participate in "*an urgent coded project, Madrid*" and that "*we have some very short deadlines to meet to report out to* [Andrew Brown]". He advised that team members should avoid trading in the First Defendant's shares until the project was over.

764. Also on 4 March 2013, Mutiu Sunmonu spoke to a series of media outlets in Nigeria, stating that the Second Defendant was losing 60,000 of the 150,000 bbls of crude oil from the NCTL each day, and would have to shut down the NCTL due to the volume of oil being stolen and the environmental devastation caused. For example, the Daily Champion newspaper reported that Mr Sunmonu said "*[w]e are in a crisis*", noting "*the devastation for the people of the Niger Delta*" and stated that "*I cannot as the MD of SPDC in all good conscience, just continue to put my head in the sand. This is really getting to the crunch and rather than allow people to continue to attack my pipeline and devastate the environment, I may actually consider shutting in the pipeline completely*". In response to the aforesaid, Marc den Hartog emailed Richard Denny, stating: "*it concerns me that these words will create new legal & reputational exposure*" as "*there are some nasty quotes that could be harvested from these press reports by the likes of Friends of the Earth*".

765. On the same day, the ExCo held a meeting:

765.1. In advance of the meeting, the ExCo was provided with *inter alia* the February 2013 ExCo Note, which summarised the design and operation of the First Defendant's system of risk management and internal control. The ExCo was asked to assess and endorse the conclusion in the February 2013 ExCo Note that the First Defendant has "*an effective system of risk management and control*". In particular, the February 2013 ExCo Note provided:

(a) Upstream International raised qualifications and commentaries, including with regard to "*systemic management framework weaknesses in the end-to-end process for SPDC Land Rights Protection/Management*". Once the recommendations in the related audit findings (see paragraph ** above) are "*fully resourced, these changes should mitigate any future business and reputation risks*", but "*most of the legacy issues will need to be managed actively over the coming years*". The follow up to the UNEP Report was noted, with the progress described as "*slow*". AIPSM was a "*key theme*" in the qualifications, and there was delay in full implementation of PSBRs and AIPSM requirements.

(b) For Upstream International, "*Nigeria remained the key area of concern"*, with an increase in Group reportable spills recorded in 2012. Andrew Brown discussed the shut down of the NCTL and the EC supported the approach being taken.

(c) Audits identified "*a lack of clarity regarding security governance, accountability, assurance and incomplete/poor quality security risk assessments for Downstream and UI*". Corporate Security are "*providing functional support and will ensure security risk assessments are carried out by the end of 2013. Nigeria continues to require significant attention due to prevailing security risks*".

(d) The SIA concluded that "*the system of risk management and internal control of [RDS] is effective"*, but it requires improvement and Nigeria was an area where "*additional attention is required*". In particular, "*there is a need to ensure appropriate allocation of resources/staffing to areas of high risk for Shell*".

(e) Under "*Pressure Points and Resources*", "*[i]t remains critical to continue to allocate (best) resources to critical risk areas for the Group (e.g. […] Nigeria)*".

(f) Shell Operated Ventures in Nigeria "*remain a significant challenge*", noting audit findings regarding the Second Defendant's HSSE weaknesses.

(g) 32% of Nigeria SIA and non-SIA assured audit findings were either unsatisfactory or unacceptable, noting *inter alia* unsatisfactory findings in respect of "*SPDC Well Control"* and "*SPDC Land Rights Protection/Management – re: 3rd party encroachment on facilities*".

765.2. In the meeting, the ExCo provided comments on the Q4 2012 HSSE&SP Assurance Reports and a "*CSRC Update on Nigeria*". Matthias Bichsel provided a detailed update to ExCo on Group HSSE performance, Martin ten

Brink presented on the Shell Group's risk management and internal control system, Linda Szymanski presented the Chief Ethics and Compliance Officer's Annual Report, and Armand Lumens presented the Chief Internal Auditor's 2012 Annual Report. The minutes of the meeting recorded that the ExCo reviewed and "*provided detailed feedback*" concerning AIPSM improvement programmes, and that the CEO and the ExCo "*reviewed the system of risk management and internal control of Royal Dutch Shell plc and concluded that the design and operation of the system is adequate and effective*".

766. On 5 March 2013, Andrew Brown emailed Markus Droll, copying Mutiu Sunmonu, Nebahat Albayrak and Harry Brekelmans, following the ExCo meeting of the previous day asking:

(i) *"What is the current status? NCTL is down is it? Was it confirmed sabotage/theft leak? How are we messaging? I am really keen we agree the script in the external world of why the line is down.. how long down and on what basis we start up…. We need to be careful to be clear when and why we close down lines…. What is acceptable and what not.*

(ii) *I discussed at EC yesterday and they supported our approach, but we do need a strong communications package around this that we all use. I shared some of Mutiu's slides with them too."*

767. On 5 March 2013, a "*Kick-off meeting*" was held for Project Madrid. A presentation was delivered which explained the role and objectives of Project Madrid. In particular:

767.1. Project Madrid is described as "*[a] response to the increasing scale of damage being done to the Niger Delta by the crude theft "industry"*"" and as "*[a]n opportunity to effect a step-change in how Shell manages this, and drives the national agenda, with an increased emphasis on avoiding the massive environmental impacts*".

767.2. The short-term objectives of Project Madrid were stated as: "*Define trigger points to shutdown NCTL (or keep it closed in)*"; "*Identify short-term consequences of the decision to close NCTL in, and potential mitigants*"; "*Define conditions for restart of NCTL*"; *"Consider longer-term scenarios*"; and "*To propose an "**Operating Envelope**" on what is tolerable/defensible. Driven primarily by safety / environmental integrity concerns, not economic*" (original emphasis).

767.3. "*Initial thoughts: examples*" of triggers for closing the NCTL were listed as: (i) "*Excessive pollution of creeks*"; (ii) "*Frequency of closure of facilities*"; and (iii) *"Deliberate act of sabotage on line /Facilities or Well heads*".

767.4. The consequences of closing in the NCTL were stated as including:

(a) Thieves targeting, vandalising and/or stealing wellheads, flow stations and flowlines, with potential mitigants including the installation of downhole and wellhead plugs, stripping wellheads and flow stations of removable parts, maintaining a rapid response team, taking out flowlines, and increasing surveillance.

(b) Thieves targeting the TNP and TFP, with the potential mitigants including the aforesaid, spiking condensate lines, increased surveillance and JTF presence, and creating navigable channels.

(c) "*Business Impact of Stoppage of all oil evacuation routes for a short time (1-3 months)*", with attendant risks of *inter alia* "*[s]uspension of contracts & penalty payments*" and "*impact on Oil & Gas volumes promise*".

(d) "*Business Impact of Stoppage of all oil evacuation routes for a long time (3+ months)*", with associated risks of stopping rig activities, "*[s]uspension of contracts & penalty payments*", "*impact on Oil & Gas volumes promise*" and "*[l]oss of production quota to other IOCs*".

(e) Action parties were assigned for the aforesaid consequences and mitigants, with delivery deadlines of 12 March 2013.

768. Also on 5 March 2013, in an email exchange between Markus Droll, David Martin and Vincent Holtam in response to Cor Koster's emails at paragraph ** above, Mr Droll stated that Mr Koster "*has a point, and the issue is so huge that it makes sense that ownership is taken at the highest level, especially if silo behaviour has really been getting in the way*". Mr Holtam agreed that there should be a "*full time team*" and "*elevated ownership*", noting past experience of the COT DRB being led by the General Managers of different functions and being less effective over time. Messrs Droll and Holtam agreed that they needed to continue working with the JTF.

769. Also on 5 March 2013, the Second Defendant declared *force majeure* on the NCTL, suspending its contractual obligations to supply oil under the JV Agreement.

770. Also on 5 March 2013, the GAIR Technical Advisory Group ("**TAG**") held a meeting, attended by Marc Kemp (Pipelines & Flowlines Lead, Pipeline Integrity Engineer, SPDC) and various technical staff from SGS and other Shell Companies. The TAG discussed the implementation of technologies to prevent and detect pipeline leaks and failures, including Control Room Monitoring and fibre-optic leak detection.

771. On the same day, Andrew Brown met with the UK Foreign and Commonwealth Office to discuss the Shell Group's response to TPI, oil spills and environmental pollution in the Niger Delta.

772. Also on the same day, David Martin responded to Cor Koster's email at paragraph ** above, agreeing that "*more needs to be done, and in a more integrated/focused way*". Mr Holtam responded separately to David Martin, noting the need for an urgent steer on how to take this forward. Mr Holtam noted a series of individual efforts but questioned their efficacy "*with no overall coordination, integration and steer*".

773. Also on 5 March 2013, Markus Droll, Andrew Brown, Nebahat Albayrak, Harry Brekelmans and Mutiu Sunmonu discussed the importance of being aligned with messaging about the shut down.

774. On 7 March 2013, the Madrid Implementation Team held a meeting to share initial thoughts, prioritise action items and create a timeline for the project. The minutes of the meeting record that action items included: "*Seek LT [Leadership Team] steer for way forward*"; *"Develop "storyline" for Steering Co approval, to support engagement plans"*; "*Engagement plan[s]*" for the Federal Government of Nigeria, IOCs and NGOs; "*Media plan*"; "*Clean-up plan*"; "*Well campaign plan*"; "*Flowlines – what can be done here to protect from harvesting?"*; "*Propose what ideal more comprehensive security solution looks like*"; "*Clarify options on additional surveillance*"; and "*Quantify financial impacts*". Those action items had to be loaded onto "*Livelink*" by COB 11 March 2013.

775. Also on 7 March 2013, the Second Defendant held an internal stakeholder meeting regarding hydrocarbon allocation and crude theft management. A presentation was delivered, titled "SPDC HC Allocation Process", which considered whether to "*[shutdown] pipeline till security issues are fully resolved*".

776. Also on 7 March 2013, the Second Defendant and P&T held an "Opportunity Framing Workshop" in Port Harcourt. The workshop considered proposals and pilots to protect the NCTL from TPI, including canalisation, early removal of bunkering points, gas spiking and the installation of an intruder detection system. The presentation slides noted that a "*[s]ecurity solution alone cannot protect the NCTL*", no solution had been chosen yet, and that "*[c]onstant oil theft in the NCTL leaves a non integral line and constitutes a major environmental hazard*". The decisions taken were stated to be "*[t]he NCTL P/L should be protected*", "*[a]n integrated solution is needed*" and "*[s]hutdown NCTL if line is not integral*". Actions from the workshop were to be presented for approval to the Crude Oil Theft DRB, with VP Operated Projects (Graham Henley) and EVP Projects (Rob Kretzers **(**EP Projects, Projects and Technology, SGSI**)**)) havingoversight.

777. Also on 7 March 2013, the JTF made a statement to the This Day newspaper in response to the Second Defendant's allegations of complicity. Lt-Col Onyeam Nwachukwu (Media Coordinator, Lieutenant Colonel of Joint Task Force) was reported as saying:

> "*Shell has not acted upon JTF reports on oil pipeline breaches nor given them any useful information with which to carry out their operations* […] *The JTF has severally reported breaches on SPDC pipelines and for over two months they did not deem it fit to clamp these breaches [...] SPDC knows the network and layout of its pipelines and not JTF troops, they have expertise to crack or clamp the pipes and not JTF troops. SPDC actually needs to look inward for the oil thieves*".

778. On 7 and 8 March 2013, Richard Denny and Markus Droll and others exchanged emails about Project Madrid and began to formulate the Defendants' criteria as to when to shut down and restart the NCTL in the face of TPI and oil spills. In particular:

778.1. On 7 March 2013, Richard Denny emailed the Madrid Steering Committee, attaching an interim progress report containing a draft proposal for an "*Operating Envelope*" and lists of activities that needed to be in place before decisions to shut down the NCTL were taken, and in order to identify "*re-commencement criteria*". He asked the Madrid Steering Committee for a steer in relation to the following:

> "*Key points for your steer would be:*
>
> - *Operating Envelope – does it resonate? (Your challenge will be for more granularity, which I will consider.)*
> - *Actions leading up to decision to shut-in – what's missing.*
> - *The options for recommencement criteria in my view need to be identified, but solutions do not need to be fully fleshed out before the decision to shut in is taken. There is a balance here between analysis and action, and if we believe the overriding element is the environmental damage, there is an argument to act first and analyse*

later. However, steer on this would be appreciated – it will also help define the choice below….

We have a couple ways of addressing the shut-in decision, which we will consider in the final report.

- *Take the decision to shut in now, and "extend" the current situation.*
- *Take the decision to shut in now, but initially open up NCTL when the current repair in place and wait for the next trigger. This gives us time to put in place more of the recommended actions to address eg. well planning / surveillance, such that the shut-in process itself is smoother, and to have a better handle on feasibility of solutions for re-commencement.*"

778.2. Markus Droll responded on 8 March 2013:

- *"I think we should treat the current shut down / repair as an event outside of what we are trying to formulate below. As such, I would agree with your second option to restart after we have completed the repair.*
- *The criteria set on Safety and Legal considerations are relatively straight forward (at least compared to the Environment), and look sensible to me.*
- *On the environmental side, I'd think along the following lines:*
  - *i) <u>Shut in when there is a leak directly on our assets (pipelines), and fix asap (as per NCTL now)</u>*
  - *ii) <u>Shut in when there is a significant 'indirect' leak (hoses, refineries etc), that is continuously discharging to the environment, and the pollution is mobile. Need to describe 'significant' of course, but should be possible</u>*
  - *iii) <u>Consider shutting in when there is a significant 'indirect' leak, is continuously discharging to the environment, and the pollution is not mobile (i.e. land)</u>. This becomes a bit of a judgment call, centered around how much more difficult does clean up get by not shutting down immediately*

- *Restart would essentially be possible when the causes from the above have been removed (leaks repaired, bunker points grouted, hoses removed etc). I would probably not link restart to having longer term, more robust technical solutions in place, these can be processed in parallel and with urgency.*
- *What we DO need, is much improved surveillance. The above can only be credible if we can rule out that we would go for days (or even weeks) without knowing that conditions i) to iii) are present. We are only credible in saying that the environment takes priority over profits if cause and action are close together on the time-line.*
- *This could become a painful way to operate (lots of start-stop-start), but is perhaps better than a prolonged shut down, risking the thiefs going upstream and stealing the infrastructure*." (emphasis added)

778.3. On 8 March 2013, Mutiu Sunmonu responded stating: *"I have serious problems with the contents of this note. First it has not presented a holistic view of the problem for us to appreciate the various dimensions. It already assumes the decision has been taken to shut in. I am not aware that is the case. Second the idea of shutting down first and then develop later the criteria for reopening is too risky."*

779. In a separate email exchange on the same days:

779.1. On 7 March 2013, Markus Droll asked Vincent Holtam who were the key people in involved in the COT DRB.

779.2. On 8 March 2013, upon receiving a response, Mr Droll stated: "*I would like to play an active part in this*" as "*[t]he issue is becoming one of the most significant in UI, if not the Group*".

779.3. In a further email, Mr Droll asked Mr Holtam to send him the DRB materials from the last three DRBs, stating: "*I need to get up to speed on this issue more, and understand what strands we have already been chasing*".

779.4. Mr Holtam responded stating: "*Perhaps we need to have a private conversation, as the DRB has never functioned. In my honest opinion, Cor and I have been fighting this single handed, with the external relations people simply doing their own thing."*

780. Also on 8 March 2013:

780.1. Vincent Holtam sent an email to David Martin (copying *inter alia* Markus Droll, Mutiu Sunmonu and Bernard Bos), setting out the funding arrangements and limited budget that had been provided for the COT DRB and the implications for its operations up to that point:

(i) "There was no formal budget in BP12 [the 2012 business plan] for any initiatives of the bunkering DRB, as by the time BP12 was frozen, our plans were not yet mature and there was so much pressure on BP12 it seemed pointless asking for more. Consequently, back in early Q4, we presented the un-funded budget requirements to Mutiu and Bernard.[…]

(ii) *As the funding was to be found from offsets in the base budget, we initially funded only part of the programme, with the rest planned following the end Q1 BCC. That allowed us to pay for our existing commitments during Q1, largely the security deployment, but meant we could not yet make new commitments for some of the more strategic projects (G4S, tracers, fibreoptics etc.)*" (emphasis added)

780.2. Mr Holtam stated that he had a meeting with Cor Koster and Amos Gagar on 7 March 2013 to discuss funding the COT DRB for 2013. He explained that the total requirement was $50m, but only $20m had been secured, which would be used to pay for GSF deployments on the main trunklines, the G4S study, ongoing overflights and satellite imaging of the lines. However, "*[m]ore or less everything else I have put on hold, as I am reluctant to make new commitments on projects that may or may not be supported*", stating that the "*main casualty*" was "*the FibreOptic trial and various other technology trials".* He explained that the fibreoptic trial was

ready to go as soon as the budget was available but "*I trust you agree, we should hold off on any new commitments at this time, at least until the there is clarity on how the UIO/G leadership wish to proceed."*

781. On 8 March 2013, Markus Droll and Toyin Olagunji exchanged emails regarding TPI on the NCTL. Ms Olagunji noted three forms of vandalization, (i) the harvesting of flowlines, predominant where assets are left un-operated for a period, (ii) bunkering, estimated to occur twice a month, and (iii) sabotage for compensation, estimated to occur twice a month. As regards solutions for bunkering, Ms Olagunji noted a pilot in Imo River of "*flowing semi stabilised crude to terminal as deterrent to oil thieves*", "*deep burial and canals*", protecting pipelines with "*concrete slabs*", incorporating "*intruder detection systems and creat[ing] rapid response channels/militarised units from centralised locations*", and "*rotat[ing] the JTFs before they become accustomed to the "barons"*. She stated that, following the workshop of 7 March 2013, "*[w]e are starting with NCTL canal/intruder detection system*" and "*PIN should be ready for signature next week*".

782. On the same day, Servie Simons responded to Arie Dijksman's email of 8 February 2013 referred to at paragraph ** above, endorsing the use of the capping method as a means of disabling bunkering points and bringing red banded pipelines back within the parameters of the code. Mr Simons stated:

(i) "*In answer to your query as to how to claim the pipeline with illegal bunkering points with 'RED' status to become 'GREEN' again after cap repair, I have consulted with Sam and we endorse as TA-1s (MMI and Pipelines) provided:*

(ii) In case the following conditions are met it is implicit that the line can be changed from integrity code 'RED' back to 'GREEN'

1. Successfully executed the deployment of the cap over the non-leaking bunkering point as per TA mail of 24 December 2012

2. The non-leaking bunkering point is the only reason that the line is coded 'RED'

3. Rigorous [quality assurance] *is applied to verify the quality of the illegal welding to assure it is not likely to fail or cause a leak, as well as verifying the condition of the surrounding area and strictly adherence to the requirements in the HOTTAP DEP for the cap welding to the pipe.*

4. Repaired bunkering locations should be recorded and scheduled for periodic inspection to ensure continued integrity of the repair and to check for further attempts to access the bunkering location

(iii) It is suggested to provide the evidence of the above for TA approval in order to allow sign off for the integrity code change back to 'GREEN'.

(iv) *If the line was 'GREEN" before the illegal bunkering points and we carry out all the activities as described including welding in accordance with the HOTTAP DEP, one could claim within code.*"

783. On 9 March 2013, the Madrid Implementation Team received written feedback from the Madrid Steering Committee which recorded: "*Reiteration that no decision has been taken thus far, it is our role to prepare options for SteerCo decision, assessing risks / mitigations of each option*". The options under consideration were listed as:

783.1. *"Continuing as-is, i.e. stop-start based around finding spill points and repairing. Albeit with increased surveillance, lower tolerance to bunkering-related spills, and faster response time to clean-up and repairs […]*

783.2. *Taking the decision to shut in the NCTL for longer period and not opening it back up from its current closed in period. Solutions to be in place potentially more fundamental (Engineering, Security, requiring time, funding and potential major changes in operating philosophy.)*

783.3. *Opening the NCTL current after the current repair, but planning to close down later, having given ourselves time to already implement mitigations. Again, fundamental solutions more likely.*"

784. Also on 9 March 2013, employees of the Second Defendant prepared a presentation titled "TALKING POINTS FOR NCTL PROTECTION". The presentation slides, demonstrate that the aforesaid considered a wide range of TPI solutions to protect the NCTL. The following solutions were rated as "*[e]xplore further*": (i) installation of a 10m wide and 5m channel parallel to the NCTL for increased security access and surveillance; (ii) procurement and installation of a "*95km* [Fibre-Optic Cable] *Leak and Intruder Detection System*"; (iii) "*Multiphase Flow*"; (iv) autonomous unmanned vehicles for security deployment; and (v) satellite imaging for constant visual monitoring. Deep reburial of the NCTL was rated as "*[d]ifficult to execute*" due to high capital expenditure and difficulties on an existing line.

785. Also on 9 March 2013, Markus Droll emailed Andrew Brown and Harry Brekelmans regarding "*accusations of SPDC being complicit*" in the media, and stated that "*[w]e will need to address this in the ongoing work on the 'bunkering operating envelope* "'.

786. On 10 March 2013, Markus Droll emailed Tony Attah, then the COT DRB Decision Executive, stating: "*The issue of oil theft is quickly rising to the top, not only in Nigeria, but in Shell as a whole*" and that he and David Martin wanted to join the COT DRB and hold a meeting as soon as possible.

787. Shortly thereafter, Markus Droll began to actively participate in and took over as the Chair and Decision Executive of the COT DRB. Under Mr Droll's leadership, the COT DRB took a more active role in directing the Second Defendant's response to TPI and oil spills, and determining when the Second Defendant would shut down the Bille Pipelines and Infrastructure. Mr Droll increased the frequency of the COT DRB's meetings from monthly to weekly and appointed Richard Denny as the Project Manager and Business Opportunity Manager for the COT DRB. In practice,

there was a substantial overlap and synergy between Messrs Droll and Denny's roles on the COT DRB and the Madrid Steering Committee and Madrid Implementation Team, respectively. In effect, the COT DRB was a vehicle to implement the higher-level strategy, directives and criteria set by the Madrid Steering Committee regarding the Second Defendant's response to TPI and oil spills. In particular, the COT DRB's decisions as to when to shut down the NCTL were made pursuant to the Operating Envelopes and criteria for shutdown established in Project Madrid.

788. On 12 March 2013, the Madrid Implementation Team held a meeting to review the progress of Project Madrid and discuss feedback from the Madrid Steering Committee. The minutes of the meeting record updates on the action items identified in the 7 March 2013 meeting, and included additional action items.

789. Also on 12 March 2013, the CSRC held a meeting:

789.1. In advance of the meeting, on 27 February 2013, Andrew Brown provided the CSRC with an update titled "NOTE FOR INFORMATION: CSRC Update on Nigeria". The note outlined the scale of crude oil theft in the Niger Delta and Shell's environmental performance in Nigeria, noting that in 2012 crude oil theft, sabotage and illegal refineries resulted in approximately 25,000 bbls of spilt crude, accounting for 95% of total spill volumes and doubling the sabotage spill volumes of 2011, whereas operational spills had been reduced by 50% in 2012 over 2011. The note commented that in *"a potentially precedent-setting judgment"* against the Second Defendant in the Netherlands*, "SPDC was held liable for sabotage-related spills which the court deemed were easily preventable by SPDC*", which *"has triggered the need for a review of the extent to which Shell facilities are secured against sabotage, exposing SPDC to similar litigation."*

(a) In the meeting, Mutiu Sunmonu and Harry Brekelmans presented an update on the situation in Nigeria, covering the implementation of the UNEP report and the scale of crude oil theft. The CSRC conducted a review on Nigeria, during which it requested details and clarifications on the Second

Defendant's plans to address crude oil theft in Nigeria. The CSRC were "*quite intimidated by the surge in bunkering*". Mutiu Sunmonu sought to reassure them by making the point *"that we have moved now to treat this as a permanent 'crisis' until we make material progress and to that extent manage it more holistically (including pro-active close in of NCTL, involvement of external mediators, possibly UN involvement, various technology options, cleaning up Awobe and Krakama refinery sites, etc etc)"*. Chad Holiday (chair of the CSRC) referred to the CSRC visit of Autumn 2012 last fall and "*the steer from there to continue to make significant progress – which now may be jeopardized"*. He asked: *"'if a 60kboe/d loss is not a crisis, what is? So are you responding to this decisively enough?*'".

790. Later on 12 March 2012, Harry Brekelmans updated Andrew Brown on what he and Mutiu Sunmonu had relayed to the CSRC and added:

I expect you may get questions around the Board tomorrow. […] Note that there is also a draft SIA review report on Oil Spill response and remediation being finalized with some findings you need be aware of. Markus, Mutiu and I can all brief you on that."

791. Also on the same day, the COT DRB or the Second Defendant prepared a draft "Oil theft communication pack". The Claimants infer that the final version substantially reflects the draft version disclosed. The communications pack was stated as containing "*the single evergreen communications strategy and content/tools to address these issues*" and supporting "*the activities of various functions including CX, GR, IR, UI and SCiN, coordinated through the oil theft DRB*". The communication pack referred to the Second Defendant taking measures, such as shutting in production on numerous occasions over the last 18 months, introducing pipe-in-pipe technology, burying pipelines at 4m and covering them with concrete slabs, implementing a tracer trial, and introducing regular overflights. In actuality, the Second Defendant either did not take those measures or their implementation was piecemeal, limited in scope or to pilot programmes, delayed, inadequately resourced and/or otherwise ineffective.

792. Also on 12 March 2013, Markus Droll forwarded an email to Andrew Brown containing operational updates on the NCTL. Mr Brown responded on 13 March 2013, and asked: "*What have we done on the NCTL whilst it has been down to reinforce security and remove bunkering points etc? I will probably be asked at the Board today*". Mr Droll responded, stating that meetings had been held with JTF to review and that "*[t]he programme to 'cement' the bunkering points is in preparation (you recall the sketches shown in PH when you were there), will start shortly*".

793. On 13 March 2013, the Board held a meeting. The Board considered the 2012 Risk Management & Internal Control Review and the Auditor's Report. The Board also received and discussed a presentation on the AIPSM project for the Downstream and Upstream business. The minutes further record that Andrew Brown briefed the Board on matters of the Upstream International Business, including crude theft and future projects in Nigeria.[86]

794. On the same day, the Second Defendant prepared the "NCTL […] Protection: Project Premises Document" (the "**PPD**"), which contained an investment proposal to construct a navigable canal parallel to the NCTL and install an intruder detection system to enhance security response to and surveillance of TPI:

794.1. The PPD was based, in part, on the assessment of TPI solutions in the presentation "TALKING POINTS FOR NCTL PROTECTION" (see paragraph ** above) and a "POSITION NOTE FOR NCTL PROTECTION". The position note assessed engineering, operations and security solutions for TPI. The selected engineering solutions were a combination of channelisation and an intruder detection system as this was considered "*the best option due to its relative simplicity, provision of access for surveillance/security patrols and swift interventions for Security and maintenance/operations activities*", noting that this option was being implemented in the Soku Pipelines Project and was successful for Chevron pipelines around the NCTL. The operations solution proposed "*disabling approximately 60 illegal bunkering points in the short term and sectional replacement or quick hot top in the long term to*

forestall further crude theft activities and restore integrity at the bunkering points". The security solution proposed continuing with the existing security apparatus and implementing an "*increased manning / surveillance plan by the security team*".

794.2. The PPD described the "*[l]ine of sight*" for the project as flowing from Okee Elechi (Central Engineering Manager, SPDC) (Business Opportunity Manager) to Toyin Olagunju (Decision Executive) to Graham Henley (VP Operated, Projects & Technology, SPDC) and finally to Rob Kretzers (EVP Projects).

794.3. The PPD stated that the benefit accrued from the project by avoiding production deferment would outweigh the estimated capital expenditure of $170.79m.

794.4. The PPD stated that "*DRB support is requested to pass* [Decision Gate 1] *and further mature this opportunity*". The PPD proposed September 2014 for a final investment decision and December 2015 for the Operational Start Date. The Claimants infer from the level of capital expenditure required that the First Defendant's approval would have been required to execute the project (having regard to paragraphs ** above).

795. On or around 13 March 2013, Brian Mair (Regional Security Manager, Sub-Saharan Africa, SIL) commissioned G4S to conduct a feasibility study into the surveillance and interdiction of stolen crude oil in the Niger Delta, referred to as "*Project Manta*".

796. On 14 March 2013, the JTF suspended escort services for oil companies in the Niger Delta. Diki Omuku (VP Exploration Technologies, SPDC) (representative of the Second Defendant) and representatives of other oil companies attended a meeting with the Chief of Army Staff, Lt. Gen OA Ihejirika in Abuja, Nigeria. A record of the meeting states that the purpose of the meeting was to seek clarification on the JTF's suspension (stated to have followed a purported press release made by the Second Defendant regarding JTF complicity in TPI), and to seek its reversal.

Under "*Issues*", the document provides: "*Abandoned wells what are they? Illegal oil thieves are attracted to it"* and "*Staff of IOC connives by supplying technical know- how and timings to steal"*. One of the action points was: "*Carry out in house investigation of activities of staff to ascertain level of complicity and apply requisite reprimand"*.

797. Also on 14 March 2013, the Madrid Steering Committee held a meeting. In advance of the meeting, Richard Denny submitted presentation slides titled "MADRID: Steering Group", setting out the actions taken by the Madrid Implementation Team and options as to the criteria for shutting down the NCTL (the "**14 March 2013 Madrid Slides**"). The slides relevantly provided:

797.1. The "*Madrid – Hypothesis*" is that illegal practices will continue as long as there is a market for stolen oil, the risk-reward is skewed enough, and the Government is unable to effectively intervene, and methods will evolve to breach defences. A "*sustainable solution*" will have to include tackling the root causes. Further,

(i) "*SPDC's operations are the indirect source of material environmental damage. This is something we can choose to address to varying degrees depending on our appetite for risk and desire to influence the national agenda towards sustainable solutions*".

797.2. There are 18 reported spills along the NCTL, covering a total area of 84 hectares and 100 illegal refineries, occupying 200 hectares and impacting 9,000 hectares of water area and 9,000 hectares of land area.

797.3. The "*Options*" under consideration are:

(i) "*A. Shut-in, repair, reopen. "Tolerating" bunkering if it doesn't cause damage, but lessening tolerance to environmental damage.* [Duration: Weeks] [Guided by: Operating Envelope]

(ii) *B. Shut-in and take the opportunity to repair all known bunkering points* [Duration: Months] [Guided by: Operating Envelope]

(iii) C. Shut-in and decide that without substantial change you will not re-open [Duration: Years] [Guided by: Fundamental shift]

D. As (C) but phased implementation to better prepare for mitigation [Duration: Years] [Guided by: Fundamental shift]

(iv) ***Key decision****: are we comfortable to continue producing, KNOWING that further environmental damage WILL occur?*" (original emphasis)

797.4. Each of those options is assessed as follows:

(a) A: The pros are "*Shorter shut in times mitigate risks*" and "*Frequency of shut-ins keeps issue live and visible*", whereas the cons are "*Less principled stand and harder to defend in court of public opinion; continued to be seen as "knowingly polluting";* and *"Won't stop refining at all"*.

(b) B: The pros are "*Attempts to address wider causes of pollution*" and "*Temporarily reduces likelihood of refining*", while the cons are "*Chasing our tail? (previous experience indicates wont take long for points to reappear.)"* and "*Long term decline in pipeline integrity brings own concerns"*.

(c) C: The pros are "*Implementing fundamentally different solution*"; "*Demonstrate to the wider world that we are serious"*, while the cons are "*Off the radar? Less long-term credit that we can imagine*", "*Material impact on Nigeria Inc revenues*" and "*Long time to re-opening*".

(d) D: The pros are "*Phasing allows better success rate with mitigants*", while the cons are "*Bunkerers become aware of plans and adapt*" and "*Requires time to prepare – losing ground on "visible worsening" storyline*".

(e) A / B are described as being "*As-is "plus"*" and will "*[l]ikely remain aligned with govt on approach*".

(f) Risks in relation to C / D include: "*Creates precedent that will be hard to move away from once started*"; "*May start out aligned with govt but more likely to fragment given economic and electoral pressures*"; "*Misalignment with govt to threaten licence renewal*"; "*More extreme reactions possible, eg. Nationalisation?"*.

797.5. "*Operating Envelope (1)"* outlines the extent of the Defendants' commitment to clean up and remediate oil contamination, stating: (i) "*Environmental damage within our Right of Way will always be cleaned up* […] *irrespective of source of the damage"*; and (ii) "*In nearby areas, we will also clean up to the extent required by applicable law/regulations and in a manner that does not create additional obligations outside those imposed by law/regulations.*"

797.6. "*Operating Envelope (2)*" outlines the circumstances in which the Defendants would shut down and recommence operations on the NCTL as a result of safety, security and legal considerations. As regards "*Safety, Security*", "*[w]e will shut in when we believe our operations are inherently unsafe for our staff, our contractors, or the communities we impact […] or we see material asset damage that will ultimately threaten the safe operation of the facilities*" and that operations will restart "*once material sustainable improvements are in place to address safety of people and assets, with reference to controls in Pipelines HSE Case"*. As regards "*Legal*", *inter alia*, where available and appropriate, the Defendants will invoke, to the fullest extent possible, "*Force Majeure and other beneficial contractual provisions that can mitigate economic exposure*".

797.7. "*Operating Envelope (3)*" outlines the circumstances in which the Defendants would shut down and recommence operations on the NCTL as a result of environmental damage. In particular:

(a) As regards "*Environmental Damage (Leading to free, mobile oil)*", "*[w]e will shut in when …* [i] *Significant leaks directly from our own pipelines* [and] [ii] *Significant continuous discharge, caused by indirect damage from theft / refining, where we understand what the source is likely to be. … and will remain shut in until the underlying causes have been removed*.

(b) As regards "*Environmental Damage (Leading to land-based oil)*", "*Shut in when significant damage is occurring where we have concern that containment will not be possible*".

(c) "*The decision to shut in relates more to environmental damage from theft, less so from refining. Refining more addressed by security in the short term, replaced by community engagement in the long term*".

797.8. "*Significant"* damage triggering a shut in is defined by reference to a matrix which, at the lowest end of the range, involves >100m of impacted shoreline, >0.5 hectares of impacted area and >250 bbls in volume (either from an individual spill or cumulative spills rolling over one month). It is further stated: the criteria "*[n]eeds to reflect additional factors: eg. Environmentally sensitive areas*"; "*250 bbls is existing Goal Zero definition target for swamp – an opportunity here to drive tolerance further down?*"; and "*Defensible vs. Global benchmarks?"*.

797.9. A "*[s]tructural team"* had been set up to address *"[p]erceptions of loss of management attention; Efforts to date have struggled to compete with day-to-day activities; and momentum has wained*".

797.10. The conclusions included that "*[t]he as-is situation will continue to grow unless something changes […] [a]t one extreme is a worsening of current position […] [a]t the other extreme is a scenario where a principled stand could lead to a cessation of SPDC's activities for good* [and] *[b]etween these points is an ill-defined but ideal outcome that seeks to find a holistic solution*".

797.11. The Madrid Implementation Team asked for a steer on *inter alia* "*A/B vs. C/D?*", "*Continuation of this project vs. Structural team set-up*" and the "*cost/work that should be triggered*" (including NCTL dredging, "*[w]ireless plugs"* and "*[b]espoke plug solution?*").

797.12. In the meeting, the Madrid Steering Committee discussed and gave feedback on the proposals in the 14 March 2013 Madrid Slides, particularly with regard to the Options A-D and the Operating Envelopes outlined above.

798. On or around 14 March 2013, David Martin (Risk Owner), Victor Udora (Corporate Maintenance and Integrity Manager, SPDC) and Anthony Offor (Asset Integrity & Process Safety, SPDC) and Evert van Holthoon (Global Process Owner) prepared a risk information sheet titled, "UIO/G Risk 13: Asset Integrity & Process Safety". The risk information sheet identified negative trends in respect of (i) "*[p]ipeline failures in SPDC due to sabotage (increasing incidents of oil theft) and non-piggable flowlines corrosion incidents*" and (ii) "*[m]anifestation of significant levels of competence gaps among contracted local workforce that contributes to repeat failures of repaired pipelines/flowlines and equipment*".

799. On 14 and 15 March 2013, the UILT held a meeting. The minutes record:

799.1. There had been "*[s]everal process safety incidents (Nigeria, gas release in NL)*", production in Nigeria was 30 kbd down due to bunkering, and that there were a significant number of vacancies in Nigeria.

799.2. The UILT decided *inter alia* that there should be no further delays in the delivery of the Operating Integrity Program, no "*Overdue Safety Critical work without approved deviations*", and "*ALL Red banded pipelines in service in* [Shell Operated Ventures must] *have an EVP approved risk mitigation plan in place*".

799.3. Each EVP was tasked with "*ensur[ing] Shell Security participates in DRBs dealing with countries with security implications"*. Harry Brekelmans

was assigned the action: "*need to have closer involvement of Shell Security in Crude Oil Theft efforts in Nigeria*".

800. On 15 March 2013, Bernard Bos sent John Joseph Traynor and Michiel Brandjes presentation slides regarding Project Madrid, explaining that "*[t]his project looks at options to minimize the exposure to SPDC to crude theft in the Delta, given the environmental impact the theft and sabotage are causing. One of the options is looking at the pros and cons of shutting-in major trunk lines (NCTL)*".

801. An unreported spill incident in Enesirama at a point on the NCTL (4.562309, 6.847930) was active as of 15 April 2013. Full details are provided in Annex 043.

802. Also on 15 March 2013, the UILT held a security briefing in Assen, the Netherlands, attended by various staff from the First Defendant, SIEP, SIBV and other Shell Companies:

802.1. James Hall summarised the main conclusions from the security briefing by email, which outlined the role of Corporate Security and Upstream International line management in managing the security implications of operational developments in its Business, and the importance of security risk assessments:

> "*You support follow-up engagements with your respective LTs. We should then ensure there is a regular catch-up with a focal point in each line of business to exchange information on operational developments, how they might impact security and vice versa. This should complement communication at the Country level.*
> *[...]*
> *d. As a group you are very security aware. So please don't hesitate to brief me or colleagues* [in Corporate Security] *on forthcoming operational developments which might have security implications.*
> *[...]*

f. Finally please don't forget the importance of risk assessment activity at the site level. This is the building block of proactive security mitigation. The asset manager and the security advisor look together at the security threats and agree on the appropriate level of mitigation. It is important that the mitigation is agreed and then implemented and that any disagreement (as a result of cost considerations for example) is escalated and resolved."

802.2. In a separate email to Andrew Brown on 17 March 2013, Mr Hall stated that *"[g]iven the continuing failure of the* [Nigerian] *state to provide adequate security I believe we will need to look at additional ways to reduce our exposure as well as improve our resilience. I have put it to Markus that we may need to bring in an expatriate to head the SPDC security team"*.

803. On 16 and 17 March 2013, Mutiu Sunmonu, Andrew Brown, Harry Brekelmans, Markus Droll and James Hall exchanged emails regarding a security bulletin produced by Corporate Security on 15 March 2013. In particular:

803.1. On 15 March 2013, Mark Joyce (Global Head of Assessment, Corporate Security, Shell International) sent a "SECURITY INFORMATION BULLETIN" around the Shell Group, which note the JTF withdrawal of escorts (described at paragraph ** above) and that "*Shell operations in the delta will face significant disruption until the escorts are restored*".

803.2. On 16 March 2013, Mr Brown asked Messrs Droll and Sunmonu: "*How are we managing with the JTF withdrawing support for our operations. How are we responding with the key stakeholders."*

803.3. Mr Sunmonu responded: "*[f]ollowing my outcry two weeks ago about the upsurge in crude theft […] [o]ne of the key decisions made was to sanitize the escort management in view of allegations the JTF also provides escorts to crude thieves*", and that this is a "*temporary suspension to allow them to put a process in place to allow them to be able to better account for legitimate*

escorts". In his view, "*[s]ome short-term disruption would indeed be acceptable if it leads to sustained improvement in the medium term*".

803.4. Mr Droll highlighted the deteriorating security situation faced by International Oil Companies in Nigeria and stated that it was "*[p]robably a good time for us to have a more general review of our own position*".

804. On 17 March 2013, Tony Paul (Global Discipline Head) approved the exception request to AIPSM Requirement 14 (the requirement that the Second Defendant establish and maintain procedures to operate HSSE Critical Equipment within its operating limits), permitting the Second Defendant to continue operating red banded pipelines until the end of 2014. In an accompanying email, Tony Paul stated: "*Recognizing the ongoing work to eliminate illegal pipeline connections, and the inherent process safety risks, I was not comfortable giving an exception to end 2017"*. Instead, he approved an exception to the end of 2014 (for the exception request and lower-level approvals, see paragraphs ** above).

805. Also on 17 March 2013, Mutiu Sunmonu, Markus Droll, Andrew Brown and Harry Brekelmans exchanged emails in response to a warning given by the President of Nigeria, Goodluck Jonathan, regarding TPI. In particular:

805.1. Mr Sunmonu shared an extract from the Vanguard newspaper, which reported that the President had ordered Service Chiefs and the Inspector General of Police to put a stop to illegal bunkering and pipeline vandalization.

805.2. Mr Droll observed:

> *"Now leaves us with an interesting call on whether we restart NCTL or not.*
>
> *The shut down has no doubt added weight to our assertion. A restart may now signal we are satisfied with words only.*

If we DO restart, we need to be prepared to close down more quickly than previously, when we detect theft and/or spills (i.e. the recommendations of project Madrid)"

805.3. Mr Brown responded:

"*My sense is that you re-start and Mutiu makes a clear linkage to the commitments from Mr President and JTF to increase protection, but make it clear that over the coming days/week we will be intensifying monitoring both aerially and monitor line pressure and we will close when we observe continued theft. We then will probably have to shutdown - but it will create additional shocks to the system.*"

806. Also on 17 March 2013, Markus Droll responded to Richard Denny's email attaching the 14 March 2013 Madrid Slides and the above email exchange, commenting that it "*may help a little to define the way forward. Not inconsistent with what you propose*". Mr Droll added:

"Bunkering DRB elevated to crisis level, with Dave/Markus added to the DRB

Along with the advice to restart NCTL, we need enhanced surveillance immediately. As discussed before, this strategy can only be credible if we are completely on top of what is happening day-by-day, and ready to shut down when we see trouble.

You are on the right track."

806.1. Mr Droll forwarded the email exchange to Andrew Brown and Stephen Rees (Associate General Counsel, Upstream International, Shell International), stating: "*Not yet fully there, but I think on the right track. Comments welcome*".

807. On 18 March 2013, Richard Denny submitted presentation slides titled "MADRID: Steering Group update" to the Madrid Steering Committee, providing an update on the actions taken by the Madrid Implementation Team and presenting various options as to the criteria for shutting down the NCTL (the "**18 March 2013 Madrid Slides**"). In particular:

807.1. In his covering email, Mr Denny stated:

> "*With regard to the email exchange yesterday surrounding ECAB's response to the Presidential impetus given to the Chiefs of Staff etc., Andy's response was to take a tougher line on shutting in when we see theft. Up until now, we have concentrated in Madrid on using environmental damage as the trigger, not theft volumes per se. Given that we see theft every night, we would need also to think on tolerance levels surrounding this… I would imagine that this could simply be an overall volume target which we set at levels below current peak, eg. 40kbpd, and make that publically known. There is the chance that this actually self-moderates the bunkerers to keep below such levels (we saw a response following Mutiu's initial comments 1st March). Gradually, as we build surveillance / security / response capability, we could start to take this volumetric threshold down, in the same way as we would also do on environmental tolerance.*"

807.2. The 18 March 2013 Madrid Slides relevantly provided:

(a) The same hypothesis, objectives, Options (A-D), Operating Envelopes ((1)-(3)), criteria for significant environmental damage and cleanup parameters as set out in the 14 March 2013 Madrid Slides (paragraph ** above). The Madrid Implementation Team continued to ask for a steer on the matters requested in the 14 March 2013 slides (including the "*Appetite for A/B vs. C/D?*"), as well as the surveillance options above.

(b) A series of "*[s]urveillance objectives*", including daily / ad-hoc reconnaissance, annual baselining to assess the condition of the natural environment, all-year high-resolution surveillance, "*[m]ature technology*

*focus[ing] on **identification** of spills / refinieries and **mapping change to the environment**"*, and "*[t]echnology to **quantify** spills or environmental impacts requires R&D*" (original emphasis).

(c) "*NCTL surveillance options*" included helicopter, aircraft, UAV and satellite surveillance.

(d) Issues identified in respect of "*Security response*" included: "*JTF response to intelligence is slow, unpredictable*"; "*Low levels of performance accountability"*; "*Low capability at night, when majority of activity takes place*"; "*Capability to address artisanal refineries is limited; approach is often to set them on fire, rather than dissembling & removing equipment*"; and "*Anecdotally we believe we pay the lowest JTF allowances of IOCs*". The slide further notes: "*Unlikely to sustainably improve once short-term noise has abated; however, frequent shut-ins may keep the noise at useful levels...".*

(e) Ongoing work included a G4S review, the establishment of a crisis team and a workstream on NCTL protection, with Toyin Olagunju to be signed up to Project Madrid to discuss options such as deep burial, rerouting/looping and multiphase flow solutions.

(f) The backup slides set out the "*Engineering Options*" set out in the PPD and the Position Note to the PPD, namely, channelisation, the installation of an intruder detection system and fencing (see paragraph ** above).

808. On 19 March 2013, Mutiu Sunmonu emailed Markus Droll, David Martin, Rob Donnelly, Tony Attah, Toyin Olaggunju, Vincent Holtam, Cor Koster, Nedo Osayande (General Manager External Relations, SPDC) and others, stating that at the last UIOG Leadership Team meeting, "*we took the decision to adopt a crisis management approach to the problem of crude theft*" and, "*[t]o this end, I will like to convene a meeting of the DRB next week*". In response, Mr Donnelly suggested that it would be a good opportunity to "*feed in the output of the workshop we held in the Hague end February – a number of the DRB members participated*". Mr

Sunmonu sent a further email to Messrs Attah, Koster, Donnelly, Osayande and Ms Olagunju, stating "*[g]iven the declaration of crisis [...] we need to review existing TOR for the DRB and the composition of the workstreams before the DRB meeting*".

809. On 19 and 20 March 2013, the GAIR Technical Advisory Group ("**TAG**") held a workshop in Rijswik, the Netherlands, to identify technologies for pipeline leak detection, inspection and corrosion prevention, and define a plan for their development and deployment to be considered by the Executive Vice President for Innovation, Research and Development. According to presentation slides, titled "GAIR TECHNOLOGY DEPLOYMENT PLAN – Prioritization and Endorsement":

809.1. "*Major gaps to close*" were identified as "*[i]nability to inspect unpiggable pipelines*", "*[i]adequate monitoring of equipment for corrosion wall loss, third party intrusion, and geohazards*", and "*[l]ack of rapid response leak detection systems*".

809.2. The TAG reiterated the technologies referred to at paragraph ** above, and set down a plan for deploying technologies to close gaps in priority areas. Priorities for 2013 in UIO/Nigeria and Gabon were "*[r]paid response rupture/leak detection"*, "*[r]apid response leak detection (single phase flow)*", "*[i]ntegrity assessment of unpiggable pipelines*", and "*[n]onintrusive corrosion monitoring of flowlines*". The aforesaid were to be part-funded by "*Asset*" and P&T.

810. On 20 March 2013, the Madrid Implementation Team held a meeting to review the progress of Project Madrid and carried out a surveillance review. The minutes recorded completed, ongoing and new action items (see further paragraph ** below). One ongoing action item was to seek a steer from the Madrid Steering Committee, with "*next meeting 20th March p.m.*" and "*more clarity needed on agreed way forward*".

811. An unreported spill incident in Enesirama at two points on the NCTL (4.563547, 6.850868 and 4.563567, 6.85102) was active as of 20 April 2013. Full details are provided in Annex 042.

812. Also on 20 March 2013, the Madrid Steering Committee held a meeting, and took decisions and set directions on key matters within its remit as follows:

(i) "Steer

There is no bigger problem in SEPCiN to solve than this one – takes priority over all else.

Treat it as urgently as a "blow-out".

Existing processes or JV funding constraints should not stand in way of necessary action.

(ii) A/B vs C/D

We aim for "B+" – with tightening tolerances on shut in, and commitment to remove bunkering points where safe to do so.

Trigger for action remains environmental damage, not value loss.

Operating envelope in pack is broadly acceptable, but needs to also consider whether the oil is causing lasting environmental damage, irrespective of volume.

If we see significant new oil near our area of operations and are unsure of source, err on side of caution and shut in.

(iii) Actions

Put in place daily (early morning) flights over both TNP and NCTL. David to action with Jurgen.

Daily meeting 1000-1015 to consider images and decide on shut-in or not. (Need to have "2 of senior team" there to be quorate)

Weekly DRB meeting 0900-1000 Monday to consider overall progress of situation / actions / responses. Rich to coordinate. […]

Review with team how we get a sense of the lasting nature of damage being caused. Rich to feed back.

Expedite epoxy solution. (Who ???)"

813. Following the meeting, Richard Denny sent David Martin and Barbara Blum an email, communicating the same.

814. At a date unknown to the Claimants but shortly after the Madrid Steering Committee meeting on 20 March 2013, it is to be inferred that the Madrid Steering Committee decided to adopt Option B and endorsed the Operating Envelopes set out at paragraph ** above. Thus, on or around 20 March 2013:

814.1. The Defendants shifted from (i) a policy of only shutting down red banded pipelines with illegal bunkering points if they detected that those bunkering points were leaking, to (ii) a policy of only shutting down pipelines with bunkering points as a result of environmental damage when they:

(a) Detected significant leaks directly on the pipelines;

(b) Detected significant indirect discharge from those pipelines caused by TPI and refining (including from hoses and connections attached to pipelines) leading to free mobile oil; or

(c) Assessed that significant environmental damage was occurring as a result of land-based oil and had concerns that containment is not possible.

814.2. The Defendants shifted from (i) a policy of only removing and repairing illegal bunkering points when they were actively leaking or on an "*opportunity basis*" when the Pipelines and Ancillary Installations had to be shut down and repaired for other reasons, to (ii) a policy of removing and repairing illegal bunkering points when they were actively leaking *and* removing non-leaking points periodically on a "*campaign"* basis.

814.3. The aforesaid changes in policy marked a modest improvement. However, in circumstances where there were imminent and/or foreseeable risks of oil leaks and spills from red-banded pipelines and/or from "non-leaking" bunkering points, the Defendants' policies of continuing to operate

red-banded pipelines and/or leaving bunkering points in place on the Pipelines and Ancillary Installations ultimately caused, tolerated and/or permitted unacceptable levels of oil spills and contamination in Bille.

814.4. The Defendants opted for an approach which they had previously described as "*As-is "plus""*, and eschewed a more fundamental change in approach that would have adequately protected the local environment and communities against the risks of oil spills and contamination.

815. Also on 20 March 2013, Martin Ewence (Head of Maritime Risk Consulting, G4S Risk Management Limited) sent the COT DRB / Madrid Implementation Team a weekly report for Project Manta. The "*[m]ajor conclusions*" were as follows:

(i) " *The recent resurgence in bunkering commenced in January of this year and has coincided with a major change over of the Joint Task Force (JTF).*

(ii) The various military forces of the JTF do not have the capability to communicate effectively with each other, with obvious implications for interoperability. This could act to impede any solutions we might envisage.

(iii) It is reputed that there are parties at all levels of government, the military and industry interested in maintaining the current high levels of bunkering activity.

(iv) There is a great will within the Production and Security teams for the pilot project, whatever shape it may take, to succeed and a desire for us to identify potential quick wins.

(v) All agree that any solution must include community engagement.

(vi) The major area for bunkering is currently Awoba to Krakama.

(vii) The bunkering in specific areas is controlled by powerful men known as 'Creek Lions', who allow bunkerers to operate on payment. Some Creek Lions give money back to the community through building and service projects.

(viii) The JTF is reputed to take its cut through a toll system which allows the barges to pass. On the other hand, it has been effective in destroying illegal refineries and detaining barges.

(ix) There is a thriving barge construction industry.

(x) The upsurge in illegal refineries since 2010/11 has led to an exponential rise in environmental despoliation, thus enhancing the potential for serious reputational damage for Shell.

(xi) Despite the resultant environmental damage caused by illegal refineries, their existence appears to enjoy some local support within isolated communities which would otherwise not have access to diesel fuel.

(xii) *The majority of bunkering activity takes place by night. Much evidence of 'torching' of illegal refineries – indications are that it is not difficult for burned-out refineries to be recommissioned by bunkerers.*"

816. Reported spill incident ID 1063770A was reported by the Second Defendant to have taken place on 21 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1063770A.

817. Reported spill incident ID 1063770B was reported by the Second Defendant to have taken place on 21 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1063770B.

818. On 21 March 2013, following from the email referred to at paragraph ** above, Richard Denny and David Martin discussed the establishment of "*Daily Surveillance Response Meetings*" ("**DSRM**"). In particular, as regards the COT

DRB weekly meetings, Mr Denny noted the "'*lasting environmental damage' challenge from Markus*", adding that it was difficult to quantify in the short-term what to do with that. Of the "*[s]tanding order to the fly-over team"* this was *"to estimate the area, length, and whether it is sheen or free oil*".

819. Reported spill incident ID 947424(A) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(A).

820. Reported spill incident ID 947424(B) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(B).

821. Reported spill incident ID 947424(E) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI Full details are provided in Spill Annex 947424(E).

822. Reported spill incident ID 947424(H) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(H).

823. Reported spill incident ID 947424(K) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(K).

824. Reported spill incident ID 947424(Q) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(Q).

825. Reported spill incident ID 947424(R) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(R).

826. Reported spill incident ID 947424(S) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(S).

827. Reported spill incident ID 947424(T) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(T).

828. Reported spill incident ID 947424(U) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(U).

829. Reported spill incident ID 947424(X) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(X).

830. Reported spill incident ID 947424(Y) was reported by the Second Defendant to have taken place on 22 March 2013, with the cause reported as TPI. Full details are provided in Spill Annex 947424(Y).

831. On 22 March 2013, the Madrid Implementation Team held a meeting. The minutes record the progress made on the action items identified in previous meetings as well as additional action items. In particular:

831.1. "*Seek LT steer for way forward*" was "*[o]ngoing*".

831.2. "*Develop "storyline" for Steering Co approval, to support engagement plans*": "*Done – essentially being the "B" world way forward*".

831.3. "*Engagement plan[s]*" for the Federal Government of Nigeria, IOCs and NGOs had to be drafted, "*pending further steer"*.

831.4. "*Media plan*" was "*[o]ngoing – being worked outside this project*".

831.5. "*Clean-up plan*" was "*[d]one*" and "*[b]eing implemented*".

831.6. The first stage of the "*[w]ell campaign plan*" was complete.

831.7. A proactive removal option had been scoped in respect of "*[f]lowlines – what can be done here to protect from harvesting?"*.

831.8. "*Propose what ideal more comprehensive security solution looks like*" was "*[d]one. Material prepared, rest pending G4S review*".

831.9. "*Clarify options on additional surveillance*", "*[q]uantify financial impacts*", "*[c]athodic protection*" and "*[c]lean-up vs ROW / operational area constraints"* had been done.

831.10. "*Longer term "holistic solutions""* was noted as "*[s]ome material there. Continued thinking welcome… likely to come under DRB*".

831.11. "*Review Operating Envelope Principles and feedback thoughts … particularly on the granularity we can bring to making the environmental elements quantifiable*" was "*[o]ngoing – continued thoughts welcome*".

831.12. An initial assessment had been done in respect of *"[b]uilding on existing work on flowlines, wells and facilities, produce a plan on what a campaign to secure them would actually look like"*.

831.13. An "*[e]poxy resin solution*" was awaiting a "*[s]tatus update and plan to implement to be incorporated into DRB material for next week*".

832. Also on 22 March 2013, Jurgen Janzen made a statement in a briefing to media in Port Harcourt regarding a planned closure of the NCTL in April 2013. Later that day, Andrew Brown asked Markus Droll by email whether it was "*the agreed strategy of the DRB to announce we are going to shut down the lines*". On 23 March 2013, Harry Brekelmans suggested to Markus Droll that he add Nebahat Albayrak, Rob Donelly and James Hall to the COT DRB and run it frequently, noting that

was what the Shell Group did in relation to the tremors in Groningen, the Netherlands. Markus Droll responded, explaining:

> *"We have set up the DRB to run every Monday, 10 am. This will remain in 'emergency response mode', until we feel we get better traction on the various work-streams […] The most immediate concern is how we operationalise what is likely to be a start / stop strategy on NCTL.*
>
> *We have also agreed that the only way our short term strategy to deal with the NCTL would be credible, is if we immediately increase our own surveillance activity (i.e. a daily helicopter over-fly, on both NCTL and TNP). This way we can react much more in real-time when we see a spill […] We will then hold a daily meeting after the over-flight, where we will decide if continued production falls within the agreed ops envelop, or if we need to shut down. We have decided not to push this decision down the organization, and a quorum of Dave, Mutiu and myself will be required to make this decision.*" (emphasis added)

832.1. He added that Mutiu Sunmonu has been offered a two-weekly meeting with the Chief of Services (it is understood of the JTF) to discuss operational concerns, noting that "*we will shut down if we see spills*". He offered to add Mr Albayrak to the COT DRB, noting that "*I expect this to be a hands-on / operationally focused meeting in the next few weeks*".

833. Also on 22 March 2013, Ann Pickard emailed Markus Droll and Babs Omotowa regarding an earlier meeting with senior Upstream IInternational, SIEPand SGSI staff at which the impact that the Second Defendant's slow speed of pipeline repair was having on production was discussed. She forwarded an email she had sent following the meeting to the participants stressing the importance of safety over production. Ms Pickard recounted that on a previous occasion at Soku there were disastrous environmental problems, fires and bunkering but that *"no one had the guts to shut in"* because they were concerned about loss of revenue. Ms Pickard noted that on one of her trips there she shut down operations for a long time and

had to convince employees that safety was a priority. In her email to Mr Droll she stated "*I think we don't learn*".

834. On 24 March 2013, following a call regarding the Defendants' response to TPI, Rob Donnelly sent Andrew Brown, Mutiu Sunmonu and John Crocker an email summarising the conversation:

> "***Lands Audit –*** *Unacceptable assessment […] Abandonment of wells is also being worked to fully leverage technology to improve process. Fundamentals in place to deliver improvement but need to ensure this happens – repeat audit expected in 2 years.*
>
> ***Crude Theft*** *Area of major focus particularly in light of developments in 2013. DRB structure is being revised with MD as DE. Key need is for a project manager with tactical and strategic capability. Need to think through issue of insider involvement and how this can be addressed - potentially by creating hot line/safe informant channel etc. Group input to be coordinated through DRB.* (emphasis added)
>
> ***ABC / Conflict of Interest –*** *major push on notification and training in 2012 – positive trend with marked increased in declarations of potential conflicts and raised awareness in staff. Will continue in 2013.*
>
> ***JTF payments –*** *have been reviewed and need to keep SPDC one step removed from direct intervention. Current process does not violate voluntary principles.*
>
> ***IUCN –*** *report is likely to criticise remediation work. Need for greater governance and assurance at work sites to ensure we deliver required standard. Will require closer oversight of contractors. Similarity of findings with UNEP noted. Important we demonstrate we are prepared to learn, modify practice where appropriate, and show revised process in acceptable timeframe.*

[…]

Crisis Response *– positive feedback on this from Group crisis with lessons from Bonga spill embedded. ER requires some corrective action on oil spill response – e.g. equipment maintenance. This is subject of ongoing project.*"

834.1. Mr Brown responded, confirming the accuracy of the summary, albeit noting: "*just to be clear MD is Markus Droll, not The MD, which is Mutiu*".

835. On 25 March 2013, the COT DRB held a meeting. Directions were given and decisions made in respect of the team's structure, solutions to TPI and communications. In particular:

835.1. In advance of the meeting, Toyin Olagunju provided the COT DRB with presentation slides, titled "*NCTL PROTECTION TECHNICAL*", which sought approval to construct a navigable canal alongside the NCTL to allow for patrol and rapid interventions and install an intruder detection system.

835.2. The COT DRB would be run as a "*Project*", and be comprised of three sub-teams on security, technical and social performance / sustainable development reporting to Mr Droll and Mutiu Sunmonu on a daily basis. A "*Steer*" provided in relation to "*Team Structure*" was "*[c]onsider this project the top priority project for SPDC and nominate top talent for project team membership".*

835.3. Markus Droll was appointed the Decision Executive for the DRB, meaning he had responsibility for its decisions, and meetings were to hold every Monday with Mr Droll as the chairman, or Mutiu Sunmonu or David Martin as back-up. The meeting notes recorded:

*"**B. Technical Solution***

- *The success of the recommended solution i.e. to create a navigable channel parallel to the NCTL, is premised on the JTF being responsive and effective. The channel increases the speed with which the JTF can*

access the bunkering points, but also make it easier for the thieves to quickly access the pipeline especially at night.

- *Even if the concept is successful in stopping crude theft on the NCTL, the problem could then move upstream to the various arteries feeding the NCTL.*
- ***Steer**: The presented technical solution is not yet robust. Further work required. Consider the following:*
    - *Explore a concept where the NCTL pipeline lies within the water channel, rather than just running a channel parallel to the existing pipeline (this configuration works as seen in Western area operations; challenge is to execute for an existing pipeline)*
    - *De-coupling the success of the concept from JTF effectiveness.*
    - *Potential options if bunkerers move upstream from the NCTL*

[...]

F. Security

- *Colluding staff and contractors*
    - ***Action**: Investigate the alleged staff / contractor involvement in crude theft; explore the use of internal 'traps' to detect who and how these persons may be involved. [Agans]*
    - ***Steer**: As a strong message on Shell's renewed resolve to tackle crude theft, from now on, terminate any surveillance (or other) contract where it is proven that the contractor's personnel have been involved in crude theft.*

- ***Action:** Need to provide clarity on what performance / response is expected from the JTF [Agans]*
    - *Articulate KPIs and agree with JTF e.g. no. of barges reported vs no. of barges recovered. Ensure common understanding of the KPI's.*
    - *Institute a system of providing Shell's daily surveillance information to the JTF and measuring response against KPIs."*

836. Also on 25 March 2013, the DSRM held an initial meeting. According to presentation slides, titled "Daily Surveillance Response Meeting: Kick-Off Meeting", the purposes of the DSRMs were an "*[i]ncrease in emphasis given to the issue of environmental damage caused by illegal activities*", "*[d]aily meetings, 7-days a week, supported by daily overflights, and operational / security updates*", and "*[k]ey LT decision taken every day – Do we close in NCTL / TNP?*". The leadership team of the DSRM were listed as David Martin (Decision Executive), Markus Droll, Mutiu Sunmonu, Bernard Bos, Bayo Ojulari and Barbara Blum, with "*[o]thers*" listed as Vincent Holtam, Jurgen Janzen, Philip Mshelbila, Agans Aganmwonyi and Richard Denny. Two of the leadership team members had to be present for the DSRM to be quorate, of which one had to be Messrs Droll, Sunmonu or Martin. The slides repeated the operating envelopes set out in the 14 March 2013 Madrid Slides, pursuant to which decisions to shut down the NCTL were made.

837. The Claimants understand that the DSRM met daily thereafter, throughout 2013 and beyond, to review daily overflight images and determine whether to shut down, continue operating or recommence the NCTL, pursuant to the directions, Operating Envelopes and/or criteria of and/or set down by the COT DRB and/or Project Madrid.

838. On 26 March 2013, Markus Droll sent Andrew Brown, Harry Brekelmans and Mutiu Sunmonu an email reporting on the "*first over-fly since following the new process*". Mr Droll commented that an NCTL maintenance shut down was planned for the second half of April, during which "*we will remove the bunkering points that require a shut down due to their size and configuration*" and address *"some of the key points on contributory lines to NCTL (i.e. weld on a stub, and then case in resin to disable bunkering point)*". Mr Droll commented on a picture of a small spill: "*This is considered tolerable for now, but once we make inroads in removing bunkering points our thresholds will need to move down accordingly*". He concluded that "*[o]n the basis of this latest over-fly, we consider it acceptable to continue production*". In response, Mr Brekelmans stated that this "*look[sic] like a sound plan going forward*" and asked whether there was more material on "*the 'Madrid' protocol in particular how you decide to close in /open up*".

839. On 27 March 2013, the Madrid Implementation Team held a meeting.

840. On 28 March 2013, Mutiu Sunmonu delivered a presentation titled "ILLEGAL OIL BUNKERING – The Menace, The Impact" to an audience including First Defendant staff. The presentation slides set out the modus operandi of bunkerers, the scale of oil theft (150,000 bbls stolen per day), and noted that "*[t]he current number and level of incursions on the NCTL (Nembe Creek TrunkLine) and TNP (Trans Niger Pipeline) can longer be tolerated*."

841. On the same day, the ExCo held a meeting. Andrew Brown provided an update to ExCo on Nigeria, in addition to his regular Upstream International HSSE update.

842. On 30 March 2013, the JTF discovered hoses over 1km in length attached to the NCTL which fed into over 15 illegal refineries and loading points. On the same day, the Second Defendant conducted an overflight, identifying hose connections, illegal refineries and heavy percolation of oil on water at Awoba, Bille, Krakama, Ekulama and Cawthorne Channel.

843. On 28, 29, 30 and 31 March 2013, flow stations on the NCTL at Cawthorne Channel and/or Ekulema tripped due to low pressure as a result of oil theft and/or oil spills.

April 2013

844. On or around 1 April 2013, the Second Defendant and SGS (US) initiated a "*SPDC Bioremediation Field Trials*" project. According to the "*COST TIME RESOURCE*" document for the project, "*assurance from Environmental Soil & Groundwater experts in Projects & Technology (Shell Global Solutions) is required to assist SPDC in undertaking a series of field trials of 3rd-party bioremediation enhancement products for remediation of crude oil impacts to soils*", noting that "*[s]ound execution of the field trials, including associated laboratory analyses is a business critical activity, to enable SPDC to identify methods to optimize bioremediation of crude oil-impacted soils within the SPDC*

footprint, and hence improve SPDC external reputation". The scope of work stated that SGS would provide technical assurance for enhanced bioremediation field trial work planning, coordinate with a US-based laboratory to verify and validate TPH and BTEX analyses of soil samples, and provide in-country support on sampling techniques and laboratory procedures.

845. On 1 April 2013, Olasupo Olageshin sent an email to other staff of the Second Defendant in relation to the previous days' trips on the NCTL. He stated that the JTF had conducted sting operations burning illegal refineries, but that most refineries were being burnt the third, fourth or fifth time as "*[t]he guys always go back to resuscitate the depots because the tanks do not really burn*". He further noted that "*fewer barges are seen along the waterways now*" and that "*[w]e may actually be underestimating the volume being lost to illegal refineries*". He opined:

(i) *"[T]he burning of illegal refineries takes much efforts but achieves little so long as the tanks remain. The guys go back in a matter of days. Permanently disabling the refineries by crushing the tanks remain the best option. We did this in the past and where this has been done, the guys have not been able to return and some of those locations have even begun to show signs of vegetation.*

(ii) *I do not doubt the fact that some JTF guys may be complicit, but I'm also aware of the amount of efforts the outfit is genuinely putting in to stop this menace. Because the problem appears to defy all efforts, the soldiers seem to be getting to their breaking point and gradually losing the steam.*

(iii) *My plan is to push this option very vigorously from now. Simply crushing or mangling the tanks will achieve a lot. It's a big project though, but one that is worth pursuing.*"

846. On 2 April 2013, the Second Defendant issued the "Oil Spill Response and Remediation Team (OSSRT) 2013 Work Execution Plan" ("**2013 OSSRT**"). One of the objectives of the 2013 OSRRT was to *"develop and maintain a fit-for-purpose Risk Based Oil Spill Response Remediation Management*

System (Strategy and Procedure) for SPDC operation". The vision of the oil spill and remediation team was stated as being "*to restore impacted sites to as close as possible to a fit for purpose condition, within the shortest space of time, in line with the principles of Sustainable Development using a risk based approach and in compliance with the Law, in a safe and responsible manner*", with adequate site assessments being a "*critical success factor*" in achieving that objective. Further:

846.1. The 2013 OSSRT provided that *"[t]he remediation of impacted sites, shall be carried out seamlessly and timely to return the environment to a safe and fit for purpose condition and to meet the EGASPIN intervention level (Mineral Oil in soil <5000ppm)*" and that *"[t]he SCiN Remediation intervention level is set in soil at Total Petroleum Hydrocarbon (TPH) of 3,000 ppm to demonstrate commitment to remediation excellence"*. Further, on a case-by-case basis, the Second Defendant shall apply a *"risk based corrective action*" approach for deep impacted soils and groundwater.

846.2. A key assumption in the planned remediation budget for 2013 was that the "*[p]rincipal technology to be employed is […] RENA*". Anticipated remediation costs were estimated as $36m.

846.3. Pursuant to the "*SPDC 2013 OIL SPILL RESPONSE AND REMEDIATION PROGRAM*", the Oil Spill Response and Remediation Team was mandated to provide first line response on spill investigation, containment and recovery in respect of new spills arising from SPDC or SCiN assets. The team "*shall remediate and certify any new spills which arise from SPDC assets within 180 days*", with a KPI set at 70% to allow for exception instances.

846.4. A "*Laboratory Improvement Program*" had been initiated.

847. On or around 3 April 2013, the First Defendant established an Oil Spill Steering Group. The Group's objectives included to "*maintain an oversight and direction of Oil Spill Preparedness and Response at Group level*".

848. On 3 April 2013, Martin Ewence sent Brian Mair, Cor Koster and others a summary of G4S' work on Project Manta. The key findings included:

(i) *"1. Oil theft in the Niger Delta is the single biggest issue for Shell globally. Under new senior leadership in Nigeria the Decision Review Board (DRB) now meets on a weekly basis, as opposed to quarterly and more robust responses are being taken.*

(ii) *2. The consequences of pollution from oil theft are becoming more important to SPDC than tracking stolen crude.*

[…]

(iii) *5. The Nigerian military should be able to solve the issue of oil theft by taking effective action against 'bunkerers'; it has the capability to do so. The JTF does take some action (impounding barges, torching refineries, etc.) but we remain unconvinced that this represents concerted action, rather than merely being symbolic action. Any action taken by the JTF is often clumsy and inconsistent; frequently the JTF conspires to 'look the other way'. Reports of 'bunkering' from community surveillance teams rarely result in effective action by JTF; this demotivates the former.*

[…]

(iv) *6. We have received further anecdotal information correlating the assertion that many senior figures within FGN* [Federal Government of Nigeria] *are involved in oil theft.*

[…]

(v) *10. Notwithstanding the initiation of daily pipeline over-flights, the acquisition of surveillance information by SPDC could be improved. There is no evidence of serious coordinated analysis.*

[…]

(vi) 12. Canalisation of the NCTL right-of-way could be a mixed blessing."

849. Also on 3 April 2013, the Punch newspaper reported that the JTF's Media Coordinator, Lt. Col. Onyema Nwachukwu , made a statement that "*[p]assing the buck will not absolve any oil firm of its responsibility to properly manage oil spillage when it occurs on their facilities*" and that oil firms "*had failed to clamp spill points reported on their pipelines by* [the JTF's] *operatives*". In response to the statement, Philip Mshelbila sent Precious Okolobo (Media Relations Manager, SPDC) and Tony Okonedo (Corporate Media Relations Manager, SNEPCO) an email asking them to "*get this message out on why we cannot clamp each theft point upon discovery*". Mr Okonedo sent an email to Jurgen Janzen in response, stating that the "*[e]xplanation is that if we had to shut down whenever a new leak point is installed production would be impossible"* and *"not every theft point leaks*".

850. Also on 3 April 2013, all flow stations on the NCTL save for the Awoba flow station tripped as a result of low pressure caused by oil theft and/or oil spills. Edmund Jaka (Production Operations Team Lead, SPDC) informed staff of the Second Defendant that "*PMC-HDC advises that Awoba flow station be also shut down as further production may not be getting to Terminal and also to avoid possible environmental pollution*". In correspondence on 4 April 2013, Isaac Evboifo (Team Lead, Pipeline Maintenance East, SPDC) advised that "*[i]nformation from the surveillance guards only indicate illegal oil theft activities but no leak from the affected PLs*" so the tripped flow stations could be reopened. On the same day, Wenike Princewill informed other staff from the Second Defendant by email that there was ongoing bunkering around Cawthorne 2 and the information had been passed to Olasupo Olageshin to alert the JTF. In response on 5 April 2013, Mr Olageshin stated:

"*About the time I got informed about the illegal activity, it was too late because the stations had already tripped. I understand that the Surveillance*

guy said the thieves started loading by 7 o'clock. It would have been useful if we had been alerted immediately the vessel was spotted, not 2 hrs later!

Meanwhile, may I advise that we get the surveillance guys to make their reports directly to the JTF and/or the DSS who are in the field rather than routing the report through Jack to me before it gets through this process, valuable time is lost and nothing can be achieved."

851. On 4 April 2013, senior management and/or staff of the Second Defendant, SIEP, SEPA, SIBV, SGS and the First Defendant attended an "*Iguana DRB*" meeting to discuss Project Madrid, the Defendants' approach to TPI and oil spills in the Niger Delta and divestment from assets in the Niger Delta. Following the meeting, Lex Backer (Strategy Manager, SIEP), Markus Droll and Harry Brekelmans exchanged emails regarding the preparation of a presentation for the ExCo and the Board.

852. Also on 4 April 2013, noting illegal refining in Nigeria, Mark Shively (Senior Innovation Advisor, Projects & Technology, SGSI) emailed Sergio Kapusta (Chief Scientist, Manager Physics and Materials, SIEP) and Jose Bravo (Chief Scientist, RDS) asking whether it was possible to add something to crude oil to make it more difficult to refine. Mr Kapusta responded, highlighting options, such as salt water and emulsifier and resin-kind compounds, which he stated could disable simple refining equipment, could be removed with more sophisticated operations at a real refinery, and would be cheap. Upon receiving further information regarding the nature of the refineries in question, Mr Kapusta stated that mercaptans or other foul-smelling compounds would work but degrade the value of the crude oil. He stated that resins that "*gunk up*" when exposed to air and heat would be an option. He added: "*I would use sugar. Nothing like a little caramel to gunk up a boiler*". In a separate response to Mr Shively's initial email, Mr Bravo stated: "*Absolutely. Add a foaming agent that can be countered with an antifoamer. Silicon based foamers are readily available*".

853. Meanwhile, on 5 April 2013, Agans Aganmwonyi prepared and/or delivered a presentation titled "SECURITY DEPARTMENT: STRATEGIC SESSION", which set out the Second Defendant's activity planning. The plans for the next six

months included JTF deployments, a G4S study, a formalised communication protocol and monthly performance feedback with the JTF, flights with infra-red capability for night vision, security awareness sessions, and monitoring and reviewing security surveillance and destroying, mangling and casting away illegal refineries. The plans for 24 months and beyond involved dredging trunk lines to ease security patrol and surveillance, deploying "*fit-for-purpose security technologies*", possible deployment of UAVs and phased reduction of JTF presence.

854. An unreported spill incident in Tigerkiri at a point on the NCTL (4.578958, 7.017207) was active as of 6 April 2013. Full details are provided in Annex 046.

855. On 7 April 2013, Godelieve Alkemande (Senior Legal Counsel, Upstream International, Shell International) emailed Barbara Blum a summary of a meeting the previous week. She noted that "*Harry Brekelmans and Andy Brown are now very much involved in the NCTL shutdown etc*" and that draft oil theft communications packs were with "*higher management in The Hague and Nigeria for review*".

856. On or around the same day, the Cawthorne and Awoba flow stations tripped due to low pressure as a result of oil theft and/or oil spills. On 8 April 2013, Noble Esemitodje advised other staff of the Second Defendant that flow stations could be reopened as "*NO LEAK was detected on pipeline RoW*".

857. On 8 April 2013, a daily situation report sent by Olasupo Olageshin to the JTF noted that "*[s]everal illegal tapping points are currently installed on the NCTL between Awoba and Krakrama, with buried pipes running to several illegal refining sites in the area*" and "*[i]t is suspected that these sites are contributing partly or even largely to the persistent station trips being experienced*", further commenting that a there had been a "*frustrating cycle*" of flow station trips in the last couple of weeks.

858. Also on 8 April 2013, several flow stations tripped again due to low pressure and pressure on the NCTL ultimately dropped to zero as a result of oil theft and/or oil

spills. Edmund Jaka advised that producing facilities via the NCTL were to be shut down.

859. On 9 April 2013, the First and/or Second Defendant restarted operations on the NCTL.

860. Also on 9 April 2013, Wenike Princewill sent an email to various staff of the Second Defendant, stating that the likely cause of the trips to the frequent NCTL was crude theft. He commented that the intruders start siphoning operations before 19:00 because "*[t]he intruders know SPDC search activities stop not later than 1600hrs*" and that the most likely bunkering points were around Krakama and Cawthorne 2. Mr Princewell set out an action plan involving greater surveillance up to 21:00.

861. Also on 9 April 2013, Vincent Holtam emailed David Martin, Markus Droll and Mutiu Sunmonu a proposed strategy regarding the NCTL for approval by the COT DRB in advance of a meeting that afternoon. Mr Holtam's proposal was to "*continue the daily process of opening up / tripping until after the weekend*" to "*give time for Solomon to put in place an effective blockade and also allow us to open up the upstream stations which will maximize our potential to fill the line*", but "*[i]f we continue to trip after that, then we propose to s/d the entire NCTL until after the planned s/d*". The proposal stated that the planned shutdown of the NCTL for a period of ten days was expected to start in the last week of April, during which 13 to 14 high risk bunkering points downstream of the San Barth manifold would be removed, after which upstream sections could be isolated for removal of bunkering points further upstream. In parallel, Mr Holtam stated that they wanted to encourage the GSF to "*destroy AND REMOVE as many illegal refineries as possible around Krakama*".

862. On 10 April 2013, Markus Droll emailed Andrew Brown, Harry Brekelmans and Sander Koster (Business Advisor to Upstream International Director, SIEP) in advance of a meeting the following day to review the Defendants' strategy for TPI on the NCTL. He attached a *"typical"* overflight summary report and provided a summary of the Defendants' strategies and operational status which included:

862.1. Standard activities including helicopter overflights focussing on spotting significant leaks and monitoring illegal refining trends, monitoring changes in the landscape, and sharing of results with the JTF, as well as daily meetings chaired by Mr Droll, David Martin, or Mr Sunmonu – decisions of which were not delegated.

862.2. There was a *"[d]aily decision as to whether we continue or stop production"* with decision criteria on whether to shut down production set as:

- Direct leak on pipelines. Stop production
- Significant spill observed, either from leak or hose or refineries. Stop production
- Significant oil theft deduced (from reconciliation) but no leaks observed. Continue production
- Significant oil theft to point where we trip due to low pressure. Decide if operational burden is bearable, if so continue production"

862.3. The western section was shut down for repair of bunkering leaks, meaning several flow stations were shut and line pressure was reduced. He explained that *"Line pressure gets further reduced by bunkering activities at night"* which *"has caused flow station trips on low pressure all week"* and that *"SPDC then go out in the morning and restart, but it's a massive effort every day"*.

862.4. His outlook for operations stated that the JTF had updated their strategy by blocking creeks and arresting large scale theft, and that *"'Yo-Yo' operation likely to continue. Shut downs likely to be necessary either due to leaks or due to low pressure trips ... Provided we don't end up with significant spills, this is considered a preferable strategy than a complete shutdown (which would likely result in massive flow line theft, bunkerers going to TNP, and/or going upstream to our wells). Not a long term sustainable strategy, but one to bridge to either Iguana or a better technical solution."*

863. On the morning of 11 April 2013, Markus Droll, Andrew Brown, Harry Brekelmans and others had a meeting to discuss *inter alia* the Defendants' strategy for TPI on the NCTL, the COT DRB and a Nigeria security review. Mr Brown and other senior management supported the COT DRB's strategy on the NCTL. Following the meeting, Mr Droll sent an email to Mutiu Sunmonu, David Martin, Bernard Bos and Marc den Hartog setting out follow-up actions, including:

> "*2) The question if we have complicit SPDC staff in the bunkering keeps coming back (lots of external rumors). Is there anything else we can do to prove / disprove this ? Bernard, Mutiu.*
>
> *3) How far have we got with the tracer solutions around crude theft. Are we ready to start injection ? David*"

864. Also on 11 April 2013, the HSSE & SP Executive held a meeting, chaired by Michiel Kool (EVP Safety & Environment, Projects and Technology, SGSI). The HSSE & SP Executive discussed and provided comments in respect of a range of Group HSSE matters. In particular, the minutes of the meeting record that the HSSE & SP Executive:

864.1. Noted an update on "*ongoing "hotspot" activities (i.e. activities at assets where performance could be improved)*", and supported a proposal "*to review "hotspots" performance as a standing agenda item*".

864.2. Supported the introduction of a *"Goal Zero "no leaks" ticker tape"*, which would *"reset for RAM4+ Environmental events or Hydrocarbon spills > 50 tonnes"* by 1 June 2013.

864.3. Noted the process of managing HSSE Control Framework exception requests in Upstream International, and gave a "*steer*" to (i) "*[c]onsider creating a "CF implementation role in UI […] to manage the process and ensure early involvement of SE&SP*", (ii) review the wording of exception guidance with legal, (iii) communicate the exception request process and "*be clear on mandatory full compliance by end 2013*", and (iv) "*[p]ush back*

exception requests that have not been through UI EVPs and seen by LOB SE&SP managers".

865. On 14 April 2013, following an overflight of the NCTL, Chimezie Onwugbuta (Right of Way Surveillance Supervisor, SPDC) reported that oil sheen had been observed on water around the Cawthorne 1 tie-in manifold riser, activities at illegal refineries were observed around the Krakama-Awoba (Bille) axis and refined products were being transferred through a hose. Most of the hoses seen were connected to the pipeline on the NCTL and TNP and were suspected to be in active use and oil sheen was seen on water around these areas. There was suspected reconstruction work at burnt refineries and the hoses to those refineries were still in place. Chimezie Onwugbuta advised that the GSF be contacted to commence action on the reported areas and "*[t]here is need for launch extraordinary removal of all reported bunkering connections*".

866. Also on 14 April 2013, in advance of a COT DRB meeting the following day, Cor Koster sent a surveillance and operations update to Markus Droll and other COT DRB members. Mr Koster noted that a blockade put in place around Bille seemed to be effective, while observing that daily overflights showed an increase in bunkering activities in Bille and that there was an "*increased number of fresh pollution sites*", involving "*free oil on water and polluted mangroves (thick oil) covering the tidal range*", and as a result a decision had been made to shut down the NCTL on 16 April 2013. He stated that surveillance would be stepped up, illegal refineries 10km either side of the NCTL would be mapped and surveillance would "*start including bunkering prone wellheads*". He noted a series of activities in relation to the forthcoming NCTL shutdown, including weekly ground trotting, removal of illegal refineries, and a strategy to remove the bunkering points (estimated to be 40 in number) downstream of SanBarth before resuming production from Cawthorne, Awoba and Ekulama flow stations. The removal was estimated to take two to three months. Thereafter bunkering points upstream of SanBarth would be removed. He further noted that a "*DNA field trial*" was being firmed up on the TNP, geomatics expected this week, a "*LIDAR survey*" (satellite technology) had been cancelled due to bad weather and the G4S feasibility study was underway.

867. On 14 and 15 April 2013, Markus Droll and James Hall exchanged emails regarding security reviews conducted for Nigeria in 2011. In particular:

867.1. On 14 April 2013, Mr Droll stated: "*I also understand that there were 2 reports made. One that was shared with folks in Nigeria, and a rather more critical version that wasn't. I have some concerns around our security operations and capability, and would appreciate if you could share the more critical report with me*".

867.2. On 15 April 2013, Mr Hall responded, attaching the August 2011 Security Review carried out by Robert Ream, the then Regional Security Manager for the Americas in August 2011 (see paragraph ** above). As well as explaining changes that had been made in consequence of that Security Review (see paragraph 362 above), he noted that much of the focus in 2012 was on "*getting the department's house in order for the Group Audit*", and performance had improved under Mr Attah's leadership which "*allowed us to provide functional support*". However, Mr Hall commented:

"a. Although SPDC chose Agans Aganmwonyi for the role, members of my team who participated in the selection process found the process itself bizarre. I can brief you orally on this

b. As soon as Tony moved on and the audit was out of the way, I got the distinct sense that the security team relaxed

c. Brian Mair (and Dean Emanuel who is the de facto deputy to Agans) work hard to forge improvements but struggle to get traction on the SPDC system."

(a) Mr Hall offered to discuss the aforesaid with Mr Droll in an upcoming visit to Nigeria. The security reviews in question are set out at paragraphs ** above.

868. Also on 14 and 15 April 2013, Markus Droll, Andrew Brown and Harry Brekelmans exchanged emails regarding the a "*Nigeria Strategy Review Note*" for the ExCo meeting on 24 April 2013.

869. On 15 April 2013, "Think Process Safety" was launched in SPDC Wells in order to "*deepen the chronic unease on Wells aspects of PROCESS SAFETY and further help our staff and contractors to understand the critical actions required to avoid a significant Wells Process Safety Incident*". In an email chain from Robert Munster to Isaac Iyamu (SPDC), copying David Martin, reflecting on the minutes of a meeting about this launch, he noted the comment that there had been "'*no HiPo's* [High Potential Incident] *because the definition was not reached*". However, he was aware of recent well 'kicks' and noted that these were yet to come to the Incident Review Panel (IRP). (A 'well kick' is a flow of formation fluids into the wellbore during drilling operations, which causes increased pressure and can lead to a well blowout.) According to Mr Munster, it was "*essential to bring these incidents to the IRP as it gives profile / focus of their importance and is another tool to help reverse the 'worrying' trend seen so far in 2013*".

870. At around 10:00 on 15 April 2013, the planned shut down of the NCTL to remove bunkering points and investigate suspected oil theft leaks, took effect. In consequence the Second Defendant declared force majeure on Bonny Light Exports.

871. On the same day, the COT DRB held a meeting. As recorded in an email by Nike Olafimihan on 16 April 2013, the following actions were agreed in the meeting:

871.1. The removal of all bunkering points from San Barth to Bonny on the shut down NCTL was estimated to take two to three months, with a further two to three months required to remove bunkering points upstream of San Barth. The "*[s]trategy will be to target the removal of critical connections (large lines and active hot spots) first, and revert to the DRB on revised plan forward as scope of removal becomes clearer from field observations*".

871.2. Security scenarios and mitigations for the NCTL shutdown were assessed. It was agreed with the JTF that ground trotting would take place twice per week, the GSF would move with pipeline repair spreads, "*[i]ntelligence officers [would be] embedded to detect any collusion between 'Shell insiders' (if any) and 3rd party illegal bunkerers*" and the JTF was to disable illegal refineries by destroying and removing moveable items. Further action points were to "*prioritise wells for selective surveillance / protection*" and establish JTF performance measures.

871.3. Markus Droll was to finalise nomination for the position of Business Opportunity Manager.

871.4. "*NCTL re-burial studies*" to create a navigable water channel above the pipeline were ongoing.

871.5. Daily surveillance pictures were to be "*reviewed / amended by Legal before storage*".

872. Between 16 April 2013 to 7 May 2013 inclusive, there was a full shut down of the Bille section of the New NCTL.

873. On 16 April 2013, Akamdiocha Onwiliri (Area Security Adviser, SPDC) informed staff at the Second Defendant of a report of the contractor handling Soku-Ekulama-SanBarth colluding with oil thieves to install a bunkering point. Agans Aganmwonyi shared the report with *inter alia* Vincent Holtam, Jurgen Janzen and Mutiu Sunmonu and noted a similar incident in the West years before where the "*engineering masterpiece*" of the bunkering point "*could only have been done by a seasoned contractor like the one that worked for us at the time*". The exchange led to Lawrence Ajuyah informing the contractor general manager that "*the possibility of collusion of his staff with oil thieves is known information and that he should strongly warn his staff accordingly against any such engagements*".

874. On 16 and 17 April 2013, the Second Defendant's Manger External Security Relations held meetings with commanders in the GSA regarding oil theft. An email

from Reginal Nnoshiri (External Security Relations & Operations Adviser, Second Defendant) on 19 April 2013 recorded the highlights of those meetings, noting *"the recent arrest of a SPDC Surveillance contractor said to be complicit in vandalizing SPDC pipeline and taking part in oil theft"*.

875. An unreported spill incident at the Krakama wellheads 014 (4.549429, 6.898055) and 016 (4.550428, 6.896552) was active as of 17 April 2013. Full details are provided in Annex 022.

876. On 17 April 2013, Cor Koster emailed various staff at the Second Defendant setting out the surveillance requirements for the NCTL. He stated that the Second Defendant needed to re-map illegal refineries up to 5-10km from the NCTL and identified priority wells prone to bunkering to be checked once per week, and asked for a surveillance plan to be produced reflecting the aforesaid.

877. On 17 April 2013, Andrew Brown provided a note to the ExCo titled "ROYAL DUTCH SHELL PLC NIGERIA STRATEGY REVIEW" in advance of its meeting on 23 April 2013:

877.1. In his foreword, Andrew Brown stated: "*the recent ramp up in oil theft activities, and in particular the associated oil spills, have called into question if SPDC's current operating model in the Delta is sustainable*" that "*incremental steps will be insufficient going forward, and a more radical change in direction is required*".

877.2. The note provided an overview of the scale of TPI and oil pollution in the Niger Delta, stating that these illegal activities "*result in large volumes of oil being spilled, with devastating consequences for the Delta environment*".

877.3. The "*core of the proposed strategy*" was to divest the Second Defendant's interest in NCTL, TNP and the OMLs that produce through those pipelines (OML 11/17/18/24/25/29), *"the areas currently the most impacted by oil theft and the associated environmental degradation*".

877.4. The strategy would require the Second Defendant to operate the to-be-divested assets for two to four years, so "*interim management*" would be required.

877.5. The note introduced Project Madrid and summarised the Defendants' approach in response to oil theft at that time as follows:

(i) "*A coded project, Madrid, has been established in March 2013. This project has defined new operating envelopes which determine when, and when not, SPDC can continue its oil operations in the face of heavy oil theft. Fundamentally, the project has initiated significantly increased surveillance, and reviews the operational status on a daily basis. If the oil theft impact is limited to economic loss, production is allowed to continue, however, when material environmental damage is involved, production will be halted as soon as practical (e.g within security constraints). Coupled to this is a step up in communications with the armed forces of Nigeria, the Government authorities (who have the most to lose) and a much more pro-active campaign to physically remove theft points installed on the main pipelines (these have built up to dozens, if not hundreds over the last 3 years). At time of writing, the NCTL was shut-down, based on the above considerations.*

(ii) *A stop-start operation is therefore expected […] On balance, this solution is considered preferable to a full and permanent shut-down, as that would be expected to result in oil theft going further upstream to well heads and flow lines, without appreciable benefit to the environment"* (emphasis added)

877.6. The note considered that should interim measures prove insufficient, "*a more radical solution may be required*". Namely:

(i) "*In order to prevent the oil theft from going further upstream (to the well heads), and avoiding even greater environmental impact, a last resort solution of plugging all the oil wells permanently may need to be*

considered. This would no doubt lead to serious misalignment between the Shell Group and Government, a likely increase in serious incidents between the oil thieves and armed forces, as well as the loss of any value transaction on the OMLs affected (these would effectively need to be considered as worthless)."

877.7. The "*best option for maintaining value while addressing the issue"* was stated to be "*[d]ivesting the production blocks that are dominated by oil production and hence associated with the majority of oil theft and environmental damage*".

878. On 18 April 2013, Mutiu Sunmonu made an announcement by email to staff at the Second Defendant, explaining that a "*single over-arching"* DRB had been set up in light of a worsening trend in crude oil theft, and noting that "*this project is being given the highest priority at UIO/G Leadership Team*".

879. On 19 April 2013, Upstream International was notified of an oil leak which had occurred on the 30" NCTL at Bille community on 3 March 2013. As stated in the notification, line isolation was completed on 5 March 2013, oil spill recovery commenced on 6 March 2013 and concluded on 20 March 2013 with 604bbls recovered.

880. On 21 April 2013, Vincent Holtam emailed Markus Droll, David Martin, Mutiu Sunmonu and Bernard Bos regarding options for resumption of NCTL production for discussion in the following day's DRB meeting. He noted there were more than 60 bunkering points on the NCTL and that the planned scope for shut down would address only 14 of those points. He presented 3 options:

(i) ***"Option 1**: NCTL to remain down until all known bunkering points removed and significant progress on refinery removal.*

(ii) *Timing: end June for d/s of SB and end August for u/s of SB.*

(iii) Pros – minimize environmental damage. Allows time for removal of refineries and blocking of waterways, which is the only way to prevent restart.

(iv) Cons: deferment, bunkerers move to TNP.

(v) ***Option 2****: Remove all "high risk" BP, then open up to remove lower risk using capping method. Progress refinery removal as possible.*

(vi) Timing: end May for d/s of SB and end June for u/s of SB.

(vii) Pros – early production. Will allow time to at least start the refinery removal.

(viii) Cons: may require an additional s/d, as some remaining points may not be capable.

(ix) ***Option 3****: Remove 14 BP in original shut-down scope, then open up entire NCTL, removing rest of BPs using capping method or during additional s/d. Progress refinery removal as possible.*

(x) Timing: early May restart. But will require probably 2 more shut-downs of 1 week duration, 2-3 weeks later.

(xi) Pros – early production. Allows more optimal planning.

(xii) Cons: There will be no meaningful progress on refinery removal before restart, so potential for resumption of theft soon after restart is high. Will require some additional s/d."

880.2. The Claimants infer from the events that follow that the Defendants either selected or otherwise followed Option 3.

881. Also on 21 April 2013 Markus Droll responded postponing the following day's DRB meeting, noting the meetings had become chaotic and there needed to be a distinction between daily operational calls and the weekly DRB meetings which were for strategic mid-long-term decision making.

882. On 21 April 2013, Robert Munster sent Mutiu Sunmonu, Markus Droll and David Martin an email regarding the establishment of an Environment DRB explaining: "*the second piece of the jig-saw for overall environmental assurance in SPDC (SCiN?) is for a DRB to be constituted comprising both SPDC and Group to ensure a co-ordinated and effective management of the environmental issues is achieved which positively enhances SPDC's / Group reputation"*. On 22 April 2013, Mr Munster attached revised terms of reference for the proposed DRB ("SCiN Environment Decision Review Board: Terms of Reference – 21 April 2013"). He explained that the changes were to expand the remit of the Environment DRB from the Second Defendant to SCiN and "*[a]s it is technically rather than reputationally focused David will be the DE*". He asked: "*Markus, as you are on multiple DRB's it maybe better to leave you off the DRB but for the DE to report back to you? Do you have any strong view?"*. The terms of reference noted that environmental assurance activities "*are fragmented and no effective overall assurance mechanism is in place"*, and that the objective of the Environment DRB was to ensure coordination of such activities and a high level of assurance that objectives were being met, and to provide guidance (the final version of the terms of reference are set out at paragraph ** below).

883. On 20 and 21 April 2013, Markus Droll and Andrew Brown communicated on a presentation Mr Droll was preparing for the forthcoming ExCo meeting. He explained that he would provide a verbal operations update along the following lines:

883.1. NCTL will be shut down for a minimum of four to five weeks to fix the worst of the bunkering points.

883.2. To fix all bunkering points would take considerably longer, many will require substantial coffer dams. These have been building up for years and

they do not have a good handle yet on just how many there were, and how bad they were.

883.3. Mr Droll added that it would also be worth saying at the ExCo meeting that "*our back-stop would be to close in, and plug the wells (i.e. in the world where we have no buyers, worse bunkering, lots of spills, no JTF support……). Loss of value, but a definitive end to spills*".

884. On 23 April 2013, ExCo held a meeting. Martin ten Brink presented the Q1 2013 BCI Report, Armand Lumens presented the Q1 SIA Report, and Michiel Kool presented an assessment, plans and priorities for Group HSSE performance. Further, the ExCo discussed the Nigeria Strategy Review and received a presentation including slides, from Markus Droll entitled "Iguana - 2013 Nigeria Strategy". The slides addressed the plan to divest the blocks that were "*in current crude theft hot spots",* including whether this could deliver against a number of concerns. In relation to security, the presentation noted that the most successful security/community relations model in the Delta today was the Defendants' joint venture, Nigeria Liquid National Gas where there had been a focus on greater co-dependence and harmony with the community. The minutes record:

> *"Andrew Brown introduced the Nigeria Strategy Review, noting that whilst the Shell companies in Nigeria remain a key contributor to most Group metrics, Shell's business in the country faces numerous challenges, including deteriorating trends in the local operating environment, the recent escalation in oil theft activities and associated oil spills. […]*
>
> *The Committee discussed in detail the Nigeria Strategy Review and related recommendations and asked a number of questions addressing matters including the execution of the strategy, the management of liabilities and reputational issues. Directional support was otherwise provided for work to continue in relation to the identified strategy and the item would be returned to the Committee at its May 2013 meeting for further review prior to a presentation to the Board at its May 2013 meeting".*

884.1. Though not recorded in the minutes, the Claimants infer that Markus Droll made a verbal presentation which included the back-stop he had canvassed with Andrew Brown.

885. Also on 21 April 2013, Vincent Holtam emailed Markus Droll, David Martin, Mutiu Sunmonu and Bernard Bos setting out options for the resumption of NCTL production, for discussion at the forthcoming COT DRB. Mr Holtam noted that there were over 60 known crude theft points along the NCTL, of which the current shutdown scope would address only 14 downstream of San Bartholomew, identified as the highest risk locations. He cautioned that under the *"new method"* it was only possible to know if theft points are *"capable"* of being dealt with using the proposed method after excavation, so a significant number of the remaining bunkering points *"may not be capable"* and will require a further shutdown to remove.

886. Mr Holtam outlined the three options set out at paragraph ** above. The stated benefit of Option 3 was early production, but at the cost of there being no meaningful progress on refinery removal before restart, so *"high"* potential for resumption of theft soon after the restart.

886.1. Mr Holtam recorded that from an asset management perspective, Options 2 and 3 were preferred for operational reasons, while recognising that theft would likely continue until refineries were removed and waterways blocked.

887. On 24 and 25 April 2013, the Second Defendant held an opportunity framing session regarding OnRamp technology on the TNP. According to presentation slides, titled "*TRANS NIGER PIPELINE PROTECTION ONRAMP WIRELESS ROLLOUT PROJECT*", the technology could be combined with any type of sensor, would be less prone to vandalism, would cost less than competition, would be simple to implement, ideal for remote locations and tie easily to existing infrastructure. A pilot for the technology had been successfully concluded on the TNP and theoretical network planning had been done on the NCTL.

888. On 25 April 2013, the COT DRB held a meeting. Presentation slides titled "Crude Oil Theft DRB" provided an update on the COT DRB's work and indicate what was considered and discussed. Vincent Holtam presented on the NCTL shut down and restart conditions. Technical solutions to TPI on the NCTL were considered. The presentation slides relevantly provide that the "*Shell Centre*" was "*[s]ceptical of Deep Re-burial*" of the NCTL ("*no ready support*", and SAIPEM advised that "*[r]e-burial will require extensive shutdowns*" and would be costly. Alternatives proposed by SAIPEM included "*[c]oncrete mattresses for additional mechanical protection*", "*Intruder Detection Systems using Digital Acoustics (Fibre-Optic based)*" and "*Channelization – same as initially proposed, but having channel within the old NCTL's RoW*". The "*RECOMMENDATION*" to the COT DRB was to "*[e]xclude re-burial from further consideration*" and "*[c]oncentrate on Channelization & IDS [Intruder Detection Systems]*".

889. On 25 April 2013, the UILT held a meeting and discussed the Nigeria Strategy.

890. On the same day, Hugh Mitchell, who had been present at the ExCo meeting, emailed Andrew Brown regarding the Nigeria Strategy Paper. He wrote:

> "*I believe we need to reshape the paper to be more about how we can optimise future value from Nigeria with a focus on deep water and consolidating our LNG* [Liquified Natural Gas] *business. Reducing the onshore oil footprint and developing local players is all consistent with that approach. A strategy with the same elements driven from a belief that these actions will reduce our exposure to oil theft and ease our reputational and liability challenges can be challenged. I also think the paper is light on consideration of reputational scenarios.*"

He further stated: "*I am also conscious Nigeria is one of the biggest reputation exposures so we need to also assess this in a Group context. That goes beyond the local business team. Is it best they work through Marcus, Harry or yoga* [sic] *so we can get this dimension fully worked*".

891. On 26 April 2013, David Martin emailed Amos Gagar to confirm whether additional capital expenditure for pipeline pressure monitoring solutions had been discussed at the BCC earlier that week. The solutions were (i) a "*poor boy solution*" involving a mono sensor for pressure data at manifolds and flow stations (cost and schedule: $2m for NCTL hotspots by October 2013; $5m for full NCTL by Q2 2014) and (ii) "*Fiber Optic Intruder & Leak Detection*" (cost and schedule: $22.2m for NCTL hotspots by Q4 2014). In response, Mr Gagar suggested presenting the aforesaid as additional submissions to the BCC, but noted that NAPIMS engagement would be crucial to avoid cost rejections. The Claimants have been unable to ascertain what entity the BCC refers to.

892. Reported spill incident ID 968552 was reported by the Second Defendant to have taken place on 29 April 2013, with the cause reported as TPI. Full details are provided in Spill Annex 968552.

893. Reported spill incident ID 1033784 was reported by the Second Defendant to have taken place on 29 April 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1033784.

894. Reported spill incident ID 969039 was reported by the Second Defendant to have taken place on 29 April 2013, with the cause reported as TPI. Full details are provided in Spill Annex 969039.

895. On 29 April 2013, Rik Prager told Jurgen Janzen by email that illegal refinery discharges were an important category of oil impact on the environment missing from the Second Defendant's improvement drive in Oil Spill Response and Remediation, were not reported and are "*not normally followed up with clean-up plans*". In his view, the existing oil spill reporting and publishing process "*may be in need of an upgrade to include these discharges […] as well as mystery spills from third party sources*". He outlined a number of demands from regulators and issues appearing in litigation, including that the Second Defendant report and clean up mystery spills and discharges in its area of operation. He proposed that the Second Defendant report illegal refinery discharges and mystery spills in Fountain and to regulators. He commented that the Second Defendant's area of operation

needs defining, asking: "*Where is the SPDC JV responsible to clean up mystery spills?*".

896. On or around 30 April 2013, Raymond Asuquo (Technical Workstream Lead for the COT DRB) delivered a presentation to the COT DRB titled "CRUDE OIL THEFT PREVENTION TEAM". The presentation slides relevantly provided:

896.1. There was a "*[t]rio of deficiencies"* in the Second Defendant's asset safeguarding processes: (i) "*Lack of early-warning systems to indicate intrusion into pipeline RoWs*"; (ii) "*Ease of access to pipelines by thieves/bunkerers and difficult access to RoW for surveillance and security response*"; and (iii) "*Lack of operational flexibility*". A "*[c]ombination of solutions [was] required to address these three areas*".

896.2. The "*FRONTRUNNER SOLUTIONS*" for the NCTL were channelization, intruder-detection system / leak detection system and an alternative export route. A pilot for channelization was listed as a short-term solution (less than two years). Channelization of the entire NCTL, installation of fibre-optic cable or wireless systems for leak and intruder detection, and improved surveillance were listed as medium term solutions (two to five years). An alternative export route was listed as a long-term solution (over five years).

896.3. Solutions under consideration for the TNP included "*onramp wireless monitoring*" (short-term) and surveillance roads and channels (long-term).

896.4. The "*NCTL Protection Roadmap*" set out stages for project delivery, culminating in a final investment decision in Q3 2014 and completion in Q4 2015.

<u>May 2013</u>

897. On a date unknown between 22 April and 7 May 2013 the Chairman of the Board of the First Defendant visited Nigeria. The visit involved detailed discussions of the Nigeria Strategy.

898. On a date unknown in May 2013, Andrew Brown prepared a note to accompany a Group Investment Proposal for the Trans Niger Pipeline Loopline Project. Mr Brown noted that *"The design of the pipeline has been improved to be much better protected against crude theft and sabotage."*

899. A Shell Group Risk Information Sheet and Definitions for "Staff/Asset Security", created on or around 2 May 2013, recorded a deteriorating security situation in Nigeria, and ongoing high levels of TPI, and commented "*Some of the security forces ostensibly providing security to our operations and assets are directly implicated in these criminal activities, providing additional exposure.*" A section headed "Security Governance" reported actions being taken in response to the two recent audits which had "*exposed weaknesses in the governance and assurance mechanisms for security management*", and recognised these was "*a work in progress and there is still a residual risk of a business failure to manage security risk*s".

900. By 6 May 2013, the NCTL had been shut down for three weeks. 16 bunkering points had been removed and at least 37 known bunkering points remained.

901. On 6 May 2013, at a meeting of the Nigeria/Gabon EC was held to *inter alia* discuss Nigeria. According to an email from Oro Awaritefe to Sander Koster, Barbara Blum and Nike Olafimihan highlighting the information and actions from the meeting: the sectional restart of the NCTL was planned for 7 May 2013 following removal of "*major illegal connections*", removal of *"minor bunkering points*" would continue while the NCTL was online, and force majeure remained in place until stable operations were possible. The email noted that senior JTF officers were involved in field activities, resulting in an apparent improvement, surveillance was effective during the NCTL shutdown in deterring the addition of

new bunkering points, with no cases of dormant flowline theft recorded; and the anticipated increase of bunkering on the TNP did not materialise. In relation to the JTF he noted that it had "*yet to resolve its capability to dismantle and clear away the illegal refinery structures"* and its capability and will to tackle the illegal export of stolen crude through the creeks "*remains unclear".*

902. On the same day, Amos Gagar informed David Martin by email that NAPIMS supported the solutions referred to at paragraph ** above in principle and requested a detailed breakdown of the scope and justification for OnRamp technology.

903. Between 4 and 7 May 2013, *inter alia* Markus Droll and Andrew Brown exchanged emails regarding suspected TPI by Shell contractors or employees. In particular:

903.1. On 4 May 2013, Pascal Oweleke (District Security Supervisor, SPDC) reported suspected wellhead vandalisation and theft by the Second Defendant's Well services contractors and/or employees to Christoher Egbuna (Security Professional, SPDC), observed while on patrols at wells (including non-producing wells) at Agbada 1 on 1 and 2 May 2013.

903.2. On 5 May 2013, Christoher Egbuna forwarded the report to Chuks Ikeobi (Operations Manager, Swamp 1 East, SPDC), who responded that "*[t]his should be thoroughly investigated. There had been similar report last year*".

903.3. On 6 May 2013, Vincent Holtam directed: "*I want this formally investigated and reported back to IRP [*Incident Review Panel]. *If I were suspicious, I would think our contractors are the ones behind the wellhead theft that has been going on recently*".

903.4. On 7 May 2013, Bayo Ojulari informed *inter alia* Markus Droll, Mr Holtam and David Martin of the investigation team, stating: "*[t]his is pitched at a relatively senior level in view of the far reaching SE and Security implications*".

903.5. Markus Droll responded: "*This sounds suspicious, needs independent investigation, and should report back to the oil theft DRB when completed*".

903.6. Markus Droll forwarded the exchange to Andrew Brown, stating: "*Gives this one a quick scan. This could be one of those incidents you were getting at, where contractor / Shell staff are complicit. We will take a good look, and if there is any foul smell, the contractor company (and Shell staff) will be kicked out*".

903.7. Andrew Brown responded on 8 May 2013: "*Important to get the facts right and to take action swiftly and visibly*".

904. Between 6 May 2013 to 4 June 2013, Markus Droll, Barbara Blum, and Oro Awaritefe exchanged emails, marked "*CONFIDENTIAL AND LEGALLY PRIVILEGED*", concerning updates about production and TPI on the NCTL. In particular:

904.1. On 6 May 2013, Oro Awaritefe shared an update which recorded that: sectional re-start of the NCTL was planned for 7 May 2013; performance of the JTF had apparently improved following involvement of senior ranking officers in field activities; security surveillance of the NCTL appeared to have been effective in deterring addition of new bunkering points and flowline theft; anticipated increased activity around the TNPL due to NCTL shut-down had not materialized; activity around illegal refineries during the daytime appeared minimal, with the scope of nighttime activity unconfirmed; and "*the JTF is yet to resolve its capability to dismantle and clear away the illegal refinery structures. This would be the only definite measure to eliminate this activity. In addition, the capability and will of the JTF to tackle the illegal export of stolen crude through the creeks remains unclear*."

904.2. On 3 June 2013, Oro Awaritefe shared a subsequent update on NCTL production and TPI, which recorded a "*preliminary assessment*" that enhanced surveillance, conducted via helicopter overflights and ground trotting, "*is now enabling early detection of attempts to intrude on SPDC pipelines, and*

facilitates intervention before the attempt is successful in a number of instances."

904.3. On 4 June 2013, in response to Oro Awaritefe, Markus Droll confirmed that the NCTL re-start had been delayed until mid-June 2013, as "*we kept on finding new leaks that delayed things*".

905. On 7 May 2013, Markus Droll forwarded to Harry Brekelmans an email from Vincent Holtam explaining the planned resumption of supplies along the NCTL. He added that force majeure was not being lifted on the NCTL until there had been some stable production for a while. Andrew Brown responded that Mr Droll would need to revise the Board note and will be challenged by the Board to explain why '*we think it is ok to start again".*

906. On 7 May 2013, as planned, the Defendants restarted the NCTL. The restart promptly resulted in substantial oil spills, resulting in the NCTL being shut down again.

907. Also on 7 May 2013, Andrew Brown provided a note to the ExCo titled "NIGERIA STRATEGY REVIEW" in advance of its meeting on 14 May 2013:

907.1. The note provided an overview of the scale of TPI and pollution in the Niger Delta, noting that "*the administration's response has been erratic at best*", "*accusations of high level involvement by Government agencies are mooted frequently*" and "*SCiN's foot-print in Nigeria puts it substantially more at the mercy of the above business environment factors than any other IOC*."

907.2. The note set out a vision for an "*onshore oil exit*". The "*core*" of the proposed strategy was to divest the Second Defendant's interest in the production blocks that produce through the NCTL and TNP, as "*the areas currently the most impacted by oil theft and the associated environmental degradation*", leaving the Second Defendant with predominantly gas assets in the Eastern Delta and changing its business to a "*gas/condensate asset*" with

fewer production centres. "*In summary, the proposed strategy allows a significant reduction in SPDC's exposure to oil theft and makes future operations from a security perspective more manageable*."

908. On or around 7 May 2013, further revised terms of reference for the Environment DRB were prepared. The objectives of the Environment DRB were described as (i) "*[t]o monitor effectiveness of environmental assurance in Nigeria*", (ii) "*[e]nsure appropriate resourcing and to enable effective coordination of technical support from the Group to SCiN",* (iii) "*[e]nsure that input to Group Communications relating to SCiN environment activities are coordinated",* and (iv) "*[t]o provide clear guidance and steer to address any perceived inconsistencies and dilemmas"*. The TOR noted that there was a "*weakness in remediation experience*" in the Second Defendant's environmental organisation, and "*urgent action is required to build capacity*".

909. On 7 May 2013 Andrew Brown shared a letter attaching a Note to the ExCo titled "Nigeria Strategy Review", updating them on the Nigeria Strategy since the EC meeting. The note provided, inter alia, a more detailed assessment of the fundamental premise of the review. It observed that the Strategy Review had been initiated with the principle aim to define a sustainable future for SCiN, where the majority of the business can be retained whilst exposure is reduced. The Note identified the core part of the proposed strategy as being to divest SPDC's interests in the OMLs that produce through the NCTL and TNP, which are the areas *"currently the most impacted by oil theft and the associated environmental degradation"*.

910. On 8 and 9 May 2013, Markus Droll and Andrew Brown had an email exchange regarding the Shell Group's approach towards and liabilities for cleanup and remediation in advance of divestment. In particular:

910.1. On 8 May 2013 at 21:15, Markus Droll stated:

"On the reputation issue, and the proposed setting up of the clean-up fund, my main concern is really that we would be trying to clean up while new spills are to be expected almost continuously.

[…]

We'd be chasing our tail forever, and it would be easy for any nay-sayer to position our efforts as not much more than lip-service.

In a dynamic pollution situation, it would be really difficult to say who spilled what, and whether this was before or after investment.

[…]

So I was thinking, what if we did the following:

- *We push Iguana through, find buyers for the blocks*
- *Then, for a decent period prior to hand-over, we shut down the whole system*
- *During this shut down, we have a large scale, concerted campaign to clean up what could legitimately be portrayed as operational spills by SPDC*
- *Don't know what the right delineation would be, but say we could argue that anything more than 50 m from RoW must have been bunkering. So, we own the problem 50 m either side of RoW.*
- *We clean up this defined area, and then get the condition surveyed, certified etc by 3rd parties, NGOs and FGN*
- *Only after that, we actually hand over the assets to the new owners, who now get them in documented, 'clean' condition.*
- *So then, on future allegations (legal or reputational), we argue that inside the defined zone it MUST have been the new owners, and outside the zone it must have been 3rd party oil theft*
- *There will of course always be people who will argue that it was only through our operations that made oil theft possible, but for rational folks, we may have the moral high ground ?*
- *In addition, we could pledge technical and project management expertise to clean up pollution outside the zone, but*

that would need to be funded by FGN. [Federal Government of Nigeria]

- *We'd lose production in this shut in / cleaning period, but you could argue that we are going to lose a lot of this production anyway due to ongoing bunkering. So perhaps not a huge price to pay"*

910.2. Andrew Brown responded on 9 May 2013, stating:

"*I think the idea of keeping a clean 50m corridor is what we have always tried to achieve, but as you know is not the issue for the communities and the health of the delta's eco-system. We have up to now tried to say bunkering is not our issue and that's where we have potential difficulties. The idea of a concerted clean up is a good one, but as you know if all our flowlines are stolen we may face issues with buyers.*

Somehow we need to stimulate a new industry of security, remediation and clean up which replaces the current one. […]

Ahead of EC we need to mature our thoughts on this as Hugh and Peter are going to major on this. Dave Martin may be good to engage on this.

It may not be a matter of feasibility 'but intent'. 'SPDC offers to boost Hyprep by $2bln to accelerate clean up and reconciliation in the Delta'"

911. An unreported spill incident in Ogini-Ama at various points on the NCTL (4.560297, 6.842637; 4.560133, 6.842440; 4.560133, 6.842440; and 4.559869, 6.842189) was active as of 10 May 2012. Full details are provided in Annex 008.

912. Between 10 May 2013 to 7 August 2013 inclusive, there was a full shut down of the Bille section of the New NCTL.

913. On 10 May 2013, staff from Upstream International prepared a presentation for the ExCo, titled "Upstream International: Operational Performance Update to EC. The presentation provided *inter alia* an HSSE update, production summary for April 2013 and NCTL shutdown update. In particular:

913.1. The "*MAKE IT SAFE PRIORITIES FOR 2013*" were listed as: "*Operate within defined safe limits*" and *"NO further delays in delivery of the Operating Integrity Programme*"; "*Sustain* [Maintenance & Integrity Execution] *performance*" with "*NO Overdue Safety work without approved deviations*"; "*NO High risk well deviations*"; and "*ALL Red banded pipelines in service in SOVs have an EVP approved risk mitigation plan in place*".

913.2. The Second Defendant's recent actions in respect of crude oil theft were summarised as including "*[t]oughening of pipeline shut-in criteria*", surveillance flights once or twice a day, daily leadership-level meetings, a dedicated project team for medium-long term solutions, "*NCTL shut-in*", removal of 16 theft points, and security deterring installation of new points.

913.3. The presentation summarised longer-term responses including a G4S study, pipeline routing and protection being matured, and a DNA tracer technology pilot.

913.4. The presentation described the Second Defendant's "*Strengthened criteria for Pipeline Shutdown*" as an "*[i]mperfect science, but reviewed as VP level daily*". The criteria were stated to be as follows:

- *"Leaks detected / suspected on SPDC pipeline & illegal connection within SPDC Right of Way*
- *Confirmed running /uncontrolled spilling occurring outside SPDC Right of Way, from bunkering point connected to SPDC pipeline*
- *Other confirmed or suspected new environmental spills causing irreparable damage on land or water*
- *Inoperable facilities due to frequency of low pressure pipeline trips*
- *Security situation that is unsafe for our people to be in the field*

- *Increase in illegal refineries and associated crude theft*"

914. An unreported spill incident in Ogini-Ama at a point on the NCTL (4.557101, 6.834449) was active as of 10 May 2013. Full details are provided in Annex 010.

915. On 11 May 2013, Rob Donnelly emailed Sander Koster regarding a review paper prepared for ExCo consideration. Mr Donnelly described the paper as *"a balanced and fair review of the current reality in the Delta"* and stated that it *"challenges EC* [ExCo] *to face up to the reality...that 'business as usual' in the Delta is unsustainable"*.

916. On 11 May 2013, the COT DRB held a meeting. Following the meeting, Markus Droll provided Andrew Brown, Harry Brekelmans, David Martin, Mutiu Sunmonu and Stephen Rees with a status update, noting that on the NCTL a number of new theft points had been installed, and some were left open seemingly deliberately. The next phase of the work following the further shut down was estimated to take six to eight weeks, and Mr Droll expected the line to remain closed during that time. There had been next to no effect from the JTF in removing the illegal refineries, so the demand for stolen oil remained unabated. Not unexpectedly, bunkering and refining activities had shifted to TNP and NNPC's line from Bonny Terminal to their PH refinery. The only short-term remedy he could identify was much more effective protection engagement by JTF.

917. Also on 11 May 2013, Michiel Kool emailed Markus Droll, stating that he had had a discussion with Peter Voser regarding the Nigeria Strategy Review and wanted specifics on "*how we will address current reputation issues and build a more sustainable future for SPDC*". In response, Mr Droll attached the 7 May 2012 note to the ExCo. Mr Droll commented that the "*most sticky questions*" were "*how do you deal with past liabilities*", "*how far should we be involved in the clean-up*", "*is clean-up feasible / meaningful if the spilling continues under another operator*" and "*how do we address the question of people (NGOs) accusing Shell of running away*". On the question of clean-up, Mr Droll stated: "*The dilemma is that from a reputation angle you'd want to be very involved in clean-up (even post investment),*

yet from a legal angle the objective is almost the opposite (and to quite some extent why not much has happened on the UNEP follow-up)".

918. On 14 May 2013, the ExCo held a meeting. The minutes record that the ExCo was updated on and discussed the Nigeria Strategy Review, with a "*particular focus*" on *inter alia* "*land restoration issues and the mitigation of liabilities post-divestment*", and that the ExCO provided "*detailed comments*" on pre-reading the materials, which were to be presented to the Board on 22 May 2013 as part of its "*ongoing review of the Nigeria Strategy*".

919. That night, Andrew Brown asked Peter Voser by email for his steer on the Nigeria Strategy paper before submission to the Board, noting his concern that "*the Board may think we take the current illegal activities too lightly so have beefed up the introduction in this area*".

920. On 15 May 2013, Markus Droll, Mutiu Sunmonu and Vincent Holtam discussed demand- and supply-side approaches to tackling crude oil theft. In particular:

920.1. Mr Holtam stated that he "*fundamentally disagree[d]*" with the pressure being placed on the pipeline department to remove bunkering points, the pipeline team had removed 30 bunkering points in the last 28 days, and that was unsustainable. In his view: "*No matter how fast we remove theft points, even if we remove 10 per day, the bunkerers will be able to out run us at that game. It's a ludicrous game we will never win. We need to eliminate demand and that means removing refineries, but we seem unwilling to make the tough choices on this issue*".

920.2. Mr Droll responded, stating that he did not want to work the pipeline teams harder than was reasonable, noting that "*[w]e have a limited amount of capacity that we can deploy, and that means we can only repair so many leaks each week or day, then so be it*". He stated that the removal of illegal refineries was "*not totally within our control*", and Mr Sunmonu was engaging on the issue in Abuja but there was a lack of traction.

920.3. Mr Sunmonu supported a supply-side approach:

> "*[W]e should focus on removing the supply source rather than the demand source I.e the refineries. My logic is simple : it costs so little to build a new refinery circa N2m and therefore it won't take time for new ones to spring up. Also we will struggle to get the JTF to fund the removal of destroyed refineries. Given this consideration I want to push the JTF into a situation of zero tolerance for new tap points on NCTL and TNP once we are able to completely remove all bunkering points*."

921. On 15 May 2013, the COT DRB held a meeting.

921.1. A presentation titled "Crude Theft Solutions DRB" highlighted the matters discussed in the meeting and the actions taken by the workstreams of the COT DRB. Of note:

(a) The security workstream proposed a process for JTF performance management involving overflights, ground trotting and intelligence gathering.

(b) The sustainable development workstream requested additional funding of $500,000 for various community engagement initiatives.

(c) The technical workstream requested support and additional funding of $9 million for *inter alia* channelization and intruder detection system deployment on the NCTL. The presentation identified further potential technical solutions for investigation, such as: "*Smart Ball & Smart Pig*", free swimming devices to aid in locating bunkering points and leaks; and "*Quick Hot-tapping*".

(d) The surveillance and oil spill response workstream outlined that the Second Defendant's reporting and clean-up practice at the time was not to report discharges from illegal refineries, only to clean up such discharges "*by exception or on a Special Project basis*". Set against that, the team's proposal

was: (i) "*In accordance with the Regulations, report illegal refinery discharges to the Regulators, with clarification of liability for clean-up*"; (ii) "*Advocate formulation of a clean-up strategy"*; (iii) "*Advocate a sustainable solution*"; and (iv) "*Commence systematic mapping and environmental damage assessment*". The presentation noted that "*[o]verflight and field trotting photos capture scale and impact of illegal refining and bunkering activity on the natural environment*", but that there was a case for "*environmental monitoring from remote sensing*" through overflights and satellite radar as the "*scale of impact on the environment is significantly underestimated*" and that regular baseline mapping is "*essential*". The recommended monitoring program was costed at $4 million per annum.

921.2. According to an email meeting note dated 16 May 2013, the COT DRB gave a series of "steers" and "actions" in the meeting. Of note:

(a) As regards the security workstream, "*concerns were articulated that the surveillance reports from Shell to the JTF could be mis-construed as 'directing' armed forces and would be a reputational challenge if violent exchanges occurred*". Actions included proposing protocols for supply of information to the JTF, clarifying frequency of interactions, and clarifying ability of JTF to run own surveillance flights.

(b) As regards the technical workstream, the steer was that there was a "*[n]eed to establish business case for the channelization concept and revert to the DRB before progressing this option*" and that *"[i]f there is no viable solution around this concept […] this aspect of the workstream should be dropped*".

(c) The Claimants are unaware of the full content of the steer on the surveillance workstream as that section of the notes is partially redacted; the unredacted section noted that "*indirectly providing funds to impacted communities to perform the clean-up could promote commercial exploitation and actually worsen the spill situation*", but the approach would be evaluated on a case-by-case basis. Support was given for increased surveillance. Action was to revert to Finance with a proposal showing the value of increased surveillance.

922. On or around 15 May 2013, Andrew Brown and/or Peter Voser submitted the Nigeria Strategy Paper to the Board for review.

923. The same day, the SIA issued an audit report titled "UIO-G-2013-003 SPDC Onshore Oil Spill Response and Remediation Effectiveness". The audit was not rated in light of the concerns expressed by Vincent Holtam (see paragraph ** above744.4). The audit made a series of findings, which were correct, including:

923.1. There was a lack of independent assurance on oil spill response remediation. There were "*gaps in organisational support required to systematically identify, analyse, prioritise and assure the mitigations around oil spill risks*".

923.2. There were weaknesses in capacity to respond to Tier-2 oil spills and the implementation of the Second Defendant's RMS had inconsistencies, including "*inaccurate laboratory analysis of hydrocarbon contaminants and incomplete post certification monitoring (PCM), all of which undermine operating effectiveness of the RMS and may result in sub-optimal environmental restoration of oil spill impacted sites*".

923.3. There were gaps in record management as "*[c]ritical documents, records and information relating to oil spills and cleanup activities are not systematically managed*".

923.4. Demonstrations of structured oil spill management alignment/intervention plans from DRB and Production Directorate Leadership Team meetings could not be substantiated.

923.5. There was "*no detailed breakdown of the oilspill risk at the operational level, no analysis of the risk categories and consequently inadequate and unclear mitigations directed at the oil spill risks*". This was demonstrated by the following operations risks which had not been recorded in the RAM:

"1. Risk to Human Health - Both the existing RMS and the EGASPIN list the following as compounds of concern: Policyclic Aromatic Hydrocarbons(PAH), Total Petroleum Hydrocarbon (TPH) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) analysis is mandatory for soil and groundwater contamination (consistent with expected composition of crude oil). However, during the interviews it was pointed out that laboratories available in Nigeria do not possess adequate equipment to perform this analysis. This can limit the ability to determine if these compounds are present in soil or groundwater or affect human health. [Risk Rating: High]

2. Incomplete site (soil/groundwater) assessment and non-adherence to set down requirements on records and document management.

4. One of the contractors at one of the four sampled sites, did not demonstrate sufficient knowledge of the requirements for supervision of the job (Post Contamination Monitoring (PCM)).

5. Poor quality of (local) analytical laboratories for hydrocarbon contaminants.

6. Incomplete Records and data management (Oil Spill Site activities logs etc)." (emphasis added)

923.6. There were gaps in the implementation of the RMS. For example:

(a) At two of the four sites visited, "*it could not be demonstrated that there existed a robust assessment phase allowing for a full definition of the remediation scope of Work"*.

(b) There were "*systematic problems"* in laboratory performance, including "*underestimation of Total Petroleum Hydrocarbon (TPH)*".

(c) Conceptual Site Models did not fully address complex sites.

(d) There had been "*[l]imited demonstration of degradation rates and remedial performance of Remediation by Enhanced Natural Attenuation (RENA)*".

(e) The potential damage to reputation and avoidable loss as a result of the gaps in implementation was identified as:

> *"1. Underestimation of risks to receptors due to incomplete site assessments or inaccurate laboratory analysis.*
> *2. Certification of sites not remediated to appropriate RMS standards & EGASPIN. 4*
> *3.Poorly closed sites.*
> *4. Poor quality of remediation due to mismatch between applied solution and site complexity.*
> *5. Inadequate definition of scope of remediation."*

924. On 17 May 2013, Crockett Oaks sent Markus Droll an email, attaching slides for discussion regarding the Business Integrity Department's involvement with bunkering mitigation efforts. The presentation slides titled "Eliminating Oil Bunkering Activities – A Strategic Plan":

924.1. Set out operational due diligence plans to address Shell staff complicity in bunkering, including: (i) intense vetting of key positions; (ii) mandatory disclosure agreements on business interests and asset ownership; (iii) periodic lifestyle audits of key individuals against known sources of income; and (iv) training of operational staff on corruption, bribery and conflicts of interest.

924.2. Set out operational due diligence plans to address contractor complicity in bunkering, including: (i) periodic post-award audits monitoring performance, testing controls and incentive structures; (ii) rigorous contract management; and (iii) encouraging rotation of contract personnel .

925. On 18 May 2013, upon receiving an interview request in respect of the 2013 COT Audit, Markus Droll emailed Bernard Bos and Barbara Blum, asking: "*Is this audit a good idea at this stage?"*. Ms Blum's lengthy response is redacted.

926. Between 17 and 20 May 2013, Vincent Holtam, Markus Droll, Arie Dijksman, Agans Aganmwonyi and Mutiu Sunmonu exchanged emails regarding moving efforts to remove bunkering points from the NCTL to the TNP in spite of bunkering points remaining in place on the NCTL, clearing the RoW for the NCTL, and calling a country crisis. In particular:

926.1. On 17 May 2013, Mr Holtam informed Mr Dijksman that Mr Droll had suggested that "*we switch from NCTL to TNP to protect GU production*". Mr Holtam stated his concern that "*[i]f we do that, I want to do it in a controlled way and not demob from the NCTL with no obvious gain from all our hard work over the last month*". He asked Mr Dijksman how many of the 12 remaining known bunkering points were in the process of being removed and "*if we called it a day after we completed those, would any of the remaining theft points be classified as "high risk"*". He stated: "*Bottom-line, I prefer to finish those theft points currently in progress, then advocate a restart of NCTL down-stream of SanBarth, whilst leaving one crew to implement the capping methodology on those remaining and then move the main repair effort to the TNP*".

926.2. Mr Holtam informed Messrs Droll, Martin and Sunmonu that he would come back with a proposal on "*moving the repair teams to TNP*" and would also be proposing an attempt to restart the NCTL downstream of San Barth. He stated: "*By next weekend we should have removed about >80% of the know theft points on the SanBarth to Bonny section and an attempt to restart must be worth a shot*".

926.3. Mr Sunmonu reported back from a meeting with the GSA the day before, stating that he had proposed that "*we focus the JTF on blocking the supply source by preventing new bunkering points on cleaned up segments of trunklines*" and that therefore the JTF would only be judged on their ability to

protect lines against new bunkering points. He said the JTF welcomed the idea but said "*their main problem is that our RoW is not all cleared up to make planned incursions visible*". He asked how soon the RoW could be cleared for the entire NCTL and TNP.

926.4. On 20 May 2013, Mr Holtam stated: "*Markus wants us to move [to] the TNP as soon as we have [Freedom to Operate]*". He stated: "*I expect we will remove another 4-6 theft points on the NCTL section from SanBarth to Bonny before then, leaving about 5 remaining on that section. Those remaining 5 can be removed using the capping method, which requires us to resume production from Ekulama, Awoba and CAWC*".

926.5. Mr Sunmonu reiterated: "*To be clear the service chiefs want us to clear the RoW to make patrol/surveillance effective. We need to work that as we are removing the bunkering points*".

926.6. Mr Droll asked whether they declared "*a crisis as per the call with Andy last week*". In a subsequent email, he added: "*Andy felt, I recall, that by calling a crisis, we would get the necessary attention and support in the rest of the Group*".

926.7. Mr Sunmonu emailed Philip Mshelbila: "*Given the extensive shutdown we are planning on NCTL, Andy did suggest to me and Markus in a meeting that we should declare a crisis to enable us have access to wider Group*".

926.8. Mr Sunmonu then informed Mr Droll that he had spoken with Hugh Mitchell "*to obtain his mandate to declare a country crisis for the NCTL work*" and, having obtained this, Mr Mshelbila would "*call the CMT meeting for tomorrow and also inform the relevant folks in the Hague*".

927. On 20 May 2013, Markus Droll and Bernard Bos had an email exchange regarding a Group Investment Proposal for the TNP Loopline (see paragraph 587 above):

927.1. Markus Droll stated that "*P&T must surely own the costs and schedule, as they will execute*" and voiced scepticism that 4m burial would protect the line.

927.2. Bernard Bos responded: "*Yes indeed P&T must own cost and schedule […] On protection of the line, there will be concrete slabs, etc. over it*".

927.3. Markus Droll responded: "*My view is that determined thieves will not be stopped by this.*"

927.4. Bernard Bos responded: "*determined thieves with unlimited resources, without being stopped by authorities, can indeed do anything they like at the end of the day, whatever the design of the pipeline is. So there are indeed no guarantees this will solve the sabotage issues once and for all*". Notwithstanding, in his view, there was still a "*business case*" to build the loopline because it would give higher availability even if it is bunkered (with three lines in use, one or two could be repaired while producing via a third) and would demonstrate "*[v]isible followthrough on UNEP report*". That was subject to "*whether in the end you believe the onshore oil business in Nigeria remains viable in the first place*".

928. On 20 May 2013, Bernard Bos emailed senior Second Defendant and SEPA staff to notify them of the upcoming Nigeria visit in mid-June by senior Shell staff, including Guy Elliot (Chair of the Board Audit Committee, RDS) and Martin ten Brink, along with senior partners from PWC responsible for the *"RDS account".* Mr Bos noted that Shell's business in Nigeria was *"regularly discussed at the Group Audit Committee level",* and sought assistance in preparing presentations for the visit.

929. On or around 20 May 2013, the Environment DRB prepared a draft for discussion, titled "Oil Spill Remediation: Strengthening Environmental Assurance". The document provided that "*[a] need has been identified to put in place a mechanism to provide environmental assurance for the various environmental activities being carried out in Nigeria*" and that *"[t]he most significant activity requiring*

immediate attention is oil spill remediation". Three specific assurance objectives were defined, namely: (i) "*Provide expert support that the Shell Oil Spill Response and Remediation Management System (OSRR MS) is in line with Group/industry standards*"; (ii) "*Provide independent verification that (a) each remediation plan is in line with OSRR MS, and (b) execution is completed in line with OSRR MS*"; and (iii) "*Support the Remediation Team and Legal Department to ensure document management and records management is in line with Group/industry best practice."*

930. On 21 May 2013, the technical workstream team of the COT DRB held a brainstorming session to discuss 24 technical options to mitigate crude oil theft. The "BRAINSTORMING SESSION WORKSHEET" records *inter alia* the following solutions and comments:

930.1. "*Access road & canal creation to run parallel to land & swamp sections of pipelines*": application to new pipelines; pros included ease of access for security and surveillance patrols, enhanced visibility of RoW and facilities maintenance; cons included environmental challenges, ease of access for thieves, and reliance on response and intervention; a possible solution was to complement with an early warning intruder detection system; remarks were "*[a]nalysed for swamp as the "channelization" option*".

930.2. *"Install platelet injection and recovery system at Nembe and Bonny resp. Platelets will locate leak (theft) points and plug such"*: application to new and existing lines; pros were "*[r]elatively simple to deploy*"; cons were "*[n]ew technology*", may not work for large bore holes, and more of a corrective than preventive option; remarks were "*[g]et more information on platelets*".

930.3. "*Make it difficult to drill through or weld tap points on the pipeline. Multi-layered protection systems (Kevlar/composite coatings)*": application to new and existing lines; pros were "*[p]revents drilling through and/or installation of welds on the pipeline body*"; cons were entire length needs excavated and difficult to install in swamp.

930.4. "*Access creation using other cost-effective measures (like swamp boats, hovercraft etc)"*: application to new and existing lines; pros included provides access without financial and environmental concerns of channelling and can be deployed rapidly; cons included cannot access mangrove areas and requires RoW to be maintained.

930.5. "*Clear and maintain RoW to enhance visibility by surveillance/security teams*": application to new and existing lines; pros were creates clearer line of sight of RoW and might facilitate easier access; remarks were "*[c]urrently, RoW mgt is not being carried out optimally. Better understanding of the reasons for this need to be sought*".

930.6. "*Intruder Detection system IDS (Procurement and Installation of 95km Helios [fibre-optic cable] Leak and Intruder Detection System)*": application to new and existing lines; pros were that it had been piloted on Oklm-KomKom and Soku flowline and accurately detected breaches; cons were susceptible to sabotage, requires protection and continuous security patrol and relies on rapid response time.

930.7. "*Citadel Fencing"*: application to new and existing lines; pros were that it provides physical barriers to slow down breach to allow and facilitate intervention; cons were obstructing repair work, susceptibility to sabotage and impact community movement.

930.8. "*Multiphase Flow*": application to new pipelines and existing pipelines on case-by-case basis; pros were no modifications required to pipelines and does not require continuous presence of security; cons were may not work against thieves with expertise, requires major capital expenditure, may lead to unintended consequences for communities, and will require multiphase pumps.

930.9. "*Deep Reburial (re-bury existing NCTL, using jetting if possible)*": pros were keeping the line difficult to reach (4.5m) and has been used before by the

Second Defendant; cons were difficulties carrying out on existing lines, extended shutdown may be required, and may introduce unacceptable stress on pipeline.

931. On 22 May 2013, the Board held a meeting. The Board received an update from James Hall on the Security Risk Management in Shell, including explicitly on Nigeria. The minutes record that the Board received a presentation delivered by Harry Brekelmans, Markus Droll and Ruth Carnie on the situation in Nigeria and the proposed portfolio strategy (Project Iguana), covering *"the key activities of Shell companies in Nigeria, the range of various business challenges, crude theft, strategic choices, the desired portfolio,…. the reduction of onshore oil exposure, liabilities, reputation, potential buyers, and implementation challenges"*. The Board gave *"broad directional support"* for the proposed strategy, provided *"a number of comments"*, and "*advised that a separate team be formed to review and critique the proposal and to identify potential weaknesses and problems".* The Board agreed that the matter should be discussed in the CSRC's June meeting and brought back to the Board meeting in July. As part of the Business Updates, Andrew Brown gave an update on the UI Business, while Peter Rees (Legal Director, RDS) briefed the Board on the Nigeria oil spills.[199]

932. On 25 May 2013, Markus Droll shared email notes relating to the Board meeting of 22 May 2013: Gerard Johanes Kleisterlee (RDS, Non-Executive Director) asked, "*Can we really ever get rid of our Nigeria legacy ?*" and *"Have we considered stopping operations altogether (i.e. in the face of current oil theft difficulties) ?*"; Guy Elliot questioned the credibility of any government assurances and asked, "*Have we considered a 'royalty' paid into a fund as a means to create a clean up fund ?"*; Chad Holiday advised "*war-gaming*" the Nigeria Strategy with an independent team as "*you have identified some big obstacles, there are probably 10 more you haven't even thought of*"; Sir Nigel Sheinwald (RDS, Non-Executive Director) commented that "*[r]eputation exposure is big*", "*there is a real lack of capacity in N.gov't"* and that he "*[c]an't see a turn-around anytime soon"*; and Gerrit Zalm (RDS, Non-Executive Director) asked, "*Will our litigation / liability situation improve or deteriorate as a result of Iguana ? I.e. how do you way*

not being as much in control against passing on some liability contractually to a buyer ?".

933. Following the Board meeting of 22 May 2013 on a date unknown to the Claimants, the First Defendant established the "Iguana Steering Group" to oversee, advise and/or direct the execution of the Nigeria Strategy Review. The membership, remit and purpose of the Iguana Steering Group was closely connected to Project Iguana. The Iguana Steering Group met weekly between 24 May 2013 until the end of July 2013.

934. On 24 May 2013, the Iguana Steering Group held a meeting. Actions were assigned and decisions made in respect of legal / liabilities, reputation / stakeholders, operations and divestment. Those included (and were assigned to):

934.1. Clarifying options and recommendations for "*clean-up commitment post divestment (not just a fund, but a full activity plan)*" (Michiel Kool / Nebahat Albayrak).

934.2. Defining legal exposure from the aforesaid commitment (Mr Kool / Stephen Rees).

934.3. Defining "*how do we operate in the interim. Do we proceed as per Madrid or is there a point where we decide to P&A the wells?*" (Mr Rees / Markus Droll).

934.4. Defining "*how we can support NPDC in further strengthening their operations capability*" (Mr Droll).

934.5. Defining options for divestment from the NCTL ("*Guy*" / Mr Rees).

935. On 26 May 2013, the NCTL was due to restart. However, Vincent Holtam informed *inter alia* David Martin, Markus Droll and Mutiu Sunmonu by email that six new bunkering points had been installed on the NCTL at Krakama, which would delay the restart by two weeks. After inquiries it was established that the

surveillance inspector who had reported the points, was new and had erred. The six bunkering points were "*as old as 2009 on the old NCTL disused line*". However, Mr Holtam added that he had heard that four new theft points had been discovered on the new NCTL at Admikiri. Mr Droll responded: "*If true, we are back to square 1, and need to understand how this is possible with enhanced JTF support*".

936. On 28 May 2013, the technical workstream team of the COT DRB held a meeting to discuss the channelization of the NCTL. According to an email from Raymond Asuquo summarising the key points and actions from the meeting, the "*[m]anagement current steer*" was to "*[p]rogress NCTL channelization with focus on areas without ready access*". The key points included reducing the scope of the channelization project to focus on vulnerable and inaccessible areas between San Barth and Cawthorne Channel and constructing the channel within the Second Defendant's acquired areas by exhuming the old NCTL and using its RoW for the channel. The actions included obtaining a budget for the project. In a subsequent email to Richard Denny, Mr Asuquo stated: "*As you know there's renewed focus on the NCTL channelization project based on steers from the Directors' meeting passed down by Toyin. Today we held a meeting and review and drive progress*".

937. Also on 28 May 2013, the COT DRB held a meeting. Pre-read material was shared on 27 May, including on the proposed communications strategy around bunkering. By way of email to Martin Foley (VP Business Development, SPDC) on 28 May, Markus Droll flagged a potential tension between raising the public understanding of bunkering and Project Iguana (the planned divestment of certain OMLs) in that it *"paints a bleak picture of the Delta"*. Mr Foley's response included the following statement:

> *"Surely, with greater exposure to the issue, a good proportion of people are going to say "What is Shell doing? With its technology & resources (e.g. ability to detect pressure drops & helicopter over-flights), it took the decision to keep pumping oil knowing about the leaks, environmental impact and international theft. It had an alternate course of action to stop pumping which it did not elect. Now it has created a monster, it comes crying to me."*

937.1. Mr Foley also stressed the need for SPDC to have *"impeccable environmental records"* in order to *"box"* the issue.

938. On 28 and 29 May 2013, Markus Droll, Harry Brekelmans and Rob Donnelly discussed by email lobbying foreign governments to engage on crude oil theft.

939. On 29 May 2013, Peter Oriafo sent Bernard Bos and Barbara Blum a series of "*Discussion Documents*", containing draft observations in respect the ongoing 2013 COT Audit. In his covering email, Mr Oriafo stated:

> "*Let me clarify that the audit team is/has been mindful of potential sensitivities and sought legal clarifications/context accordingly. As agreed with you, the final audit report will be reviewed by Legal and issued as a Confidential / Legally Privileged Report with restricted circulation. I have also informed SIA LT (Armand Lumens and Laurie Schmidt) of your concerns and obtained their support for the audit report to be "Not Rated," i.e., no audit opinion*".

939.1. As to the content of the Discussion Documents:

939.2. Discussion Document No.1, "Governance: Clarity of Objective and Targets", stated that that the DRB set up in April 2012 to address heightened risk of illegal bunkering had aimed to "*have a significant impact on 3rd party deferment within 1 month, restore 3rd party deferment to the BP11 target of 6% and RF to >85% within 3 months*", but "*active follow-up* [had been] *difficult due to low commitment from some parts of the organisation*". Objectives for 2013 were to reduce oil theft by 50% from 50 kb/d to 25 kb/d and reduce deferments by 25%, but there was "*no specific work plan to achieve this – targets never realised*". A new DRB was established but there were gaps in the programme, including that "*timelines were still being finalised*", an "*[a]bsence of documented assurance*", "*[n]o consistency of views as to commitment of members of the core project team*", "*[n]o consistency of views as to who was responsible for coordinating the actions*" and "*[r]isk actions have been abandoned*".

939.3. Discussion Document No.2, "*Stakeholder management and follow-up*", observed that the COT DRB in 2012 "*limited the environmental impact by shutting down pipelines immediately after notification of spills, but did not achieve significant and critical reduction in COT or its environmental impact*". The new COT DRB was set up "*to provide more oversight*" over initiatives related to oil theft, but it was "*[u]nclear*" what had been done between the dissolution of the initial COT DRB and the establishment of the new COT DRB.

939.4. Discussion Document No.7, "*Asset Integrity, Process Safety and Security*", observed that flow stations had been upgraded to automatically shut in production when there is low pumpline pressure, a campaign to secure 103 non-producing wells was instituted in November 2011 following TPI at Krakama and Jones Creek wells but there was no clear plan to secure all similar non-producing wells, crude theft had "*compromised the integrity of pipelines*", and it was unclear what technical integrity impact assessments or consequent pipeline management/maintenance upgrades had been carried out.

940. On 30 May 2013, Richard Eyers (Geomatics, Geo-information Consultant & Principal Technical Expert for Remote Sensing, SPDC) shared the DRB proposal for satellite and aerial surveillance, including the Caverton FLIR system, with Richard Evans (Corporate Aviation Manager, SNEPCO), requesting comments to be sent that day to enable Richard Denny to then share the proposal with David Martin and Jan van Bunnik for their approval.

941. On 30 May 2013, Peter Oriafo and Laurie Schmidt (Head of Audit, Upstream and Projects & Technology, Shell Expatriate Employment US) had a meeting with Bernard Bos and Barbara Blum to discuss the draft observations in the abovementioned Discussion Documents.

942. On 30 May 2013, the "Iguana Steering Group" held a meeting. Actions were assigned and decisions made in respect of operations, communications, legal,

stakeholder engagements and "*[i]nvolvement in clean-up post divestment*" . Those included (and were assigned to):

942.1. Liaising with other IOCs regarding their response to bunkering (Mr Droll).

942.2. Providing a square kilometre overview of the area affected by oil contamination (Mr Droll).

942.3. Developing a comprehensive overview of "*all issues that can/will hit us (in country and at RDS level)*" (Mr Albayrak).

942.4. Developing a framework of options and assessing options in respect of involvement in clean-up post-divestment, and defining "*boundary conditions*" for the framework (Michiel Kool). The minutes then record:

> "*Likely starting point: we cannot offload liabilities to buyers*
> *We need to control where money flows if we set up a fund*
> *Clean up is a JV commitment*
> *We will need more than only a fund (need to get actively involved in program management etc)*"

942.5. Decisions were also made to *"transfer liabilities to buyers*", "*decide at a later stage and on voluntary/moral basis whether we do more clean up*" and "*define an alternative to legalistic minimal approach (for RDS Board)*".

943. On 31 May 2013, the Second Defendant and the JTF held a security workshop in Port Harcourt, Nigeria. Mutiu Sunmonu, Vincent Holtam, Agans Aganmwonyi and others attended on behalf of the Second Defendant. During the workshop:

943.1. Mr Aganmwonyi delivered a presentation titled "*SHELL COMPANIES IN NIGERIA (SCIN): CURBING CRUDE OIL THEFT*". The presentation slides *inter alia*:

(a) Identified a series of security challenges and constraints, including "*[a]lleged complicity – Contractors, Shell, JTF???*", "*[u]ncoordinated Surveillance Strategy /Contracts across the Company*", "*[u]navilability of appropriate technology*" and "*[d]esign of Pipelines did not take into consideration making patrol by JTF difficult and cumbersome*".

(b) Set out a "*SHELL CRUDE OIL THEFT STRATEGY ROADMAP*". 2012 to Q1 2013 was described as involving various layers of JTF and contractor surveillance and weekly overflights. Q2 2013 to Q4 2013 was described as involving flights with infrared capabilities for night vision, "*restructuring surveillance contracts with clear accountability*", a mix of GSA, JTF and the Nigeria Security and Civil Defence Corp ("NSCDC") and community surveillance and "*[r]emoval of all illegal tapping points*". Q1 2014 onwards was described as involving the dredging of trunk lines for ease of security and surveillance patrols, deployment of "*fit-for-purpose technologies*", possible UAVs and complete destruction of illegal refineries.

943.2. The JTF delivered a presentation, titled "*Security Intelligence & Surveillance (SIS)*". The presentation noted that "*[d]uring the ground trotting patrols conducted between 19-21 Mar 13, over 25 breached points along the NCTL, earlier identified by JTF and reported to the oil companies were found still unclamped"* and a *"[f]ew other new breaches were also discovered and some were close to the oil unrepaired points"*. The presentation further noted that "*[o]ne of the most glaring factors that have contributed in sustaining illegal oil bunkering is the activities of ex-militants of questionable character who were given surveillance contracts by the NNPC and other multinational oil companies since December 2011"*.

943.3. Maj. Gen. BA Debiro delivered a presentation, during which he encouraged the Second Defendant:

> "*to adopt international best practices by installing ICT based sensors within their pipelines to provide early warning of acts of sabotage. This*

will assist in protecting oil facilities, preventing acts of sabotage on pipelines and curtailing crude oil theft."

Commenting on the discovery of over 25 unclamped yet reported bunkering points (see above), Maj. Gen. BA Debiro requested that the Second Defendant:

"*hasten efforts at repairing the identified breached locations. It should be noted that the inability or refusal of the oil companies to repair identified breached areas contribute to their losses and encourage criminals to continue in their criminal acts of oil theft"*.

At the conclusion of his presentation, the JTF Commander reiterated:

"*Oil companies are enjoined to employ ICT devices for timely spotting of breached points, while at the same time providing standby teams for timely repair of faults on trunk lines. There is also the need to vet all those to be awarded pipeline surveillance contracts.*"

944. Between mid-April and 31 May 2013, under the direction of the COT DRB, the Second Defendant purportedly removed 29 bunkering points from the NCTL.

June 2013

945. On 31 May and 1 June 2013, Richard Eyers, Richard Denny, Jan van Bunnik and Ireti Omotoso (Regional Head – Budgeting & Financial Planning, Upstream - Sub-Saharan Africa, SPDC), had an email exchange regarding a funding proposal for aerial and satellite surveillance (including FLIR) of crude oil theft. In particular:

945.1. On 31 May 2013, Richard Eyers emailed Richard Denny, stating that "*DRB approval is sought*" for the surveillance programme ($2,867,400 for 2013 and $4,838,000 for 2014, with helicopter operational costs of $6.75 million in 2013 and $9 million in 2014).

945.2. Richard Denny forwarded the proposal to Jan van Bunnik, but noted that "*we don't have (NAPIMS approved) budget for it, so we would potentially need to find offsets or seek exclusive funding*".

945.3. On 1 June 2013 Ireti Omotoso responded, stating:

> *"Gents, we will need to engage NAPIMS before expenditure otherwise we will not receive cash calls and ultimately may suffer non cost recovery. We should not be thinking Shell exclusive for this; NNPC and our Mediterranean friends should pick up their tab.*
>
> *We also need to find offsets from the base budget unless we are able to convince NAPIMS to provide incremental funding*".

946. On 1 June 2013, Mutiu Sunmonu asked Agans Aganmwonyi by email how the lines were being secured while bunkering points were being removed. Mr Aganmwonyi responded that it was through combination of JTF, Shell and contractor patrols, overflights and ground trotting surveyed the NCTL, but it is "*not totally foolproof especially during the night*".

947. On or around 2 June 2013, G4S provided the COT DRB with a study, titled "Shell Petroleum and Development Company of Nigeria (SPDC): Feasibility Study into Surveillance and Interdiction of Stolen Crude in the Niger Delta (Project MANTA)". The "*key findings*" of the study included: "*Illegal refining has increased exponentially since the 2009 amnesty – the new flank on reputational damage*"; "*JTF is under resourced to deal effectively with the issue*", is "*capable of positive action but frequently lacks capability and good information*"; "*[T]here is no formalised collection or analysis*" of existing sources of surveillance information; "*Enhancement of surveillance systems and processes is required to improve quality and quantity of information collected*"; and "*Interdiction by JTF should improve with passage of more accurate and timely information".* G4S recommended conducting a surveillance and interdiction pilot project, which involved establishing an "*Information Fusion Centre inside the IA*", improving

handling of existing surveillance information, enhanced technical surveillance capability and improved quality and passage of actionable information to the JTF. Proposed options for enhanced surveillance capability included a radar system, daylight and thermal imagery camera systems, meteorological point sampling, automatic identification systems and surveillance vessels. The benefits to Shell were stated as reducing the frequency of oil theft and refining due to JTF's increased interdiction and deterrence capability, and that the Shell Group would have the evidence to "*[d]efend itself against activist PR campaigns and litigation for creating environmental hazards*".

948. On 3 June 2013, Tom Ogboi (Chairman, EHI Consulting) emailed Rising Egwim (Onshore Pipeline Projects/Technology Manager, SPDC) and Richard Denny a proposal in relation to pipeline surveillance, monitoring and protection, involving the tagging of stolen crude oil, "*Sonic Barrier*" technology to detect intruders, manned and unmanned aerial surveillance.

949. On or around 3 June 2013, the First Defendant – through OSEC and the Centre of Expertise for Emergency Response – launched the "*RDS Emergency Response Directory of SMEs*", a directory of subject matter experts on oil spill and emergency response designed to share and provide expertise and advice to Shell Companies faced with emergencies. An email from Mark Weintraub (VP Health, Safety, Environment and Technology, Projects and Technology, SGSI), dated 23 May 2013 stated that the directory would be "*a critical part of our response to the lessons learned in incidents like the Gannett and Bonga oil spills and the Bukom fire – helping emergency response teams hook up quickly with the right deep technical experts in the Group for the particular type of emergency they face"*.

950. On 4 June 2013, Markus Droll sent Harry Brekelmans, Andrew Brown and Stephen Rees an email attaching the G4S study referred to at paragraph 947 above and the question of 'what else we can do to gather better intelligence. He stated that the key issues to resolve were: "*Would anybody actually make use of the information in a sensible way. If so, how?*" and "*To what extent is it sensible for Shell to be involved in this at all?*". His view was that "*we need to think this through extremely*

carefully before it goes anywhere". Mr Brown then forwarded the email to Rob Donnelly and Sander Koster.

951. On or around 4 June 2013, Oro Awaritefe sent to Sander Koster, Barbara Blum, Nike Olafimihan and Markus Droll a draft of Nigeria Highlights in preparation for the forthcoming ExCo meeting. The highlights included that the restart of the NCTL had been delayed from early June 2013 to mid-June "*following the progressive discovery of new 3rd party leaks from illegal bunkering points*", a preliminary assessment indicated that "*enhanced surveillance is now enabling early detection of attempts to intrude on SPDC pipelines, and facilitates intervention before the attempt is successful in a number of instances".* Mr Droll added that there had been enhanced surveillance activities, as well as repair campaign activities, which were putting substantial stress on these parts of the Second Defendant's organisation and operational expenditure on both was putting pressure on the cost ceiling for 2013.

952. On 5 June 2013, Andrew Brown had a meeting with the Norwegian Council of Ethics regarding its report of 20 February 2013. On 6 June 2013, Sander Koster updated *inter alia* Richard Denny and Markus Droll of the visit by email, noting that "*[i]t is likely that Shell will go on the watch list, mainly based on environmental impact of oil spills*". Mr Koster stated that "*the main thing they are looking for in Shell is behavior change*" and "*Project Madrid is exactly that*".

953. On 6 June 2013, G4S sent further "Project Manta" documents to Brian Mair and Cor Koster. G4S identified various problems with the Second Defendant's approach to surveillance, including that "*there appears to be no linkage or mechanism, formal or otherwise, between Geomatics and Security Department for the exchange of surveillance information*". G4S set out allegations that the Second Defendant's Pipeline Security Surveillance staff, which included the Second Defendant's District Security Supervisor (DSS), were "*benefiting from bunkering*". This allegation was said to come from individuals "*who have been able to provide accurate views of what is happening on the ground*". G4S identified and set out in detail surveillance solutions that they considered would achieve significant results in the fight against oil theft.

954. Also on 6 June 2013, Andrew Brown had a meeting with the Minister of Finance and the Minister of Petroleum, of the Federal Government of Nigeria to discuss crude oil theft.

955. Also on 6 June 2013, the Iguana Steering Group held a meeting. Minutes of the meeting, sent by Sander Koster by email record:

955.1. The initial assessment was that the area impacted by oil contamination along the NCTL and TNP was 4,000 km^2, but "*need to increase granularity in assessment*" (Mr Droll).

955.2. Nebahat Albayrak had prepared a draft overview of external events (i.e. "*all issues that can/will hit us (in country and at RDS level)*").

955.3. The following decisions were made, and actions were assigned, in respect of "*SPDC involvement in clean-up pre- and post-divestment*":

1. Decisions:

1. *Main starting point: transfer liabilities to buyers (like in Mauritius); decide at a later stage and on voluntary/moral basis whether we do more clean up; prepare for reactive response if we are unable to transfer liabilities*
2. *Need to define an alternative to legalistic minimal approach (for RDS Board) book end: please all stakeholders; define intermediate cases*
3. *All future obligations are proportional on all JV partners*
4. *Future liabilities are to be capped and should not be an admission of wrong-doing*
5. *Accept that we will not be able to please all stakeholders; main driver in any stakeholder engagement is impact/influence on value of RDS*

2. Actions

1. *Overall coordination in preparation for Policy Forum and in definition of options for SPDC involvement — Action: Michiel Kool*
2. *Provide overview of stakeholders and bucketing in "have to please" (e.g. council on ethics); "like to please"; and "can never win over" (e.g. Friends of the Earth) — Action: Nebahat*
3. *Deeper definition/assessment of affected area — Action: Rob Munster (via Markus)*
4. *Assess what has and hasn't worked historically under GMOUs — Action: Markus/Mutiu/Osagie*
5. *Assess how many people live in affected area — Action: Markus/Mutiu/Osagie*

3. Future decisions required

1. *What do we do more/better in the communities around our new hubs?*
2. *Are there other ways where we can step up to compensate for loss of livelihood?*
3. *Define what SPDC will look like 5 years from now"* (emphasis added)

955.4. The new actions included:

(i) " *4. Send a letter to JTF stating that any surveillance or other information coming from Shell can only be used to pursue criminals within the rule of law and adhering to human rights; prepare similar letter for CEPV to send to President — action: Mutiu*

(ii) 5. Prepare draft CSRC paper by Friday June 14th — Action: Harry

(iii) 6. JTF response and usage of SPDC surveillance intel (assessment of unintended consequences) — passed on to Madrid team — Action Rich Denny (via Markus)"

956. On 6 June 2013, Harry Brekelmans sent an email to the Iguana Steering Group setting out a proposed outline for the strategy implementation presentation and

discussion at the "*Policy Forum*", covering *inter alia* past, current and future management of spills, Project Madrid and post-divestment liabilities.

957. On 9 June 2013, Rob Donnelly emailed Markus Droll in respect of a statement that he was preparing for Andrew Brown to deliver at the Honorary International Investor Council. He stated that he shared Mr Droll's reservations about the G4S work and "*Shell involvement*" in providing a source of intelligence for JTF interdiction given the reputational risks of the JTF not upholding the Voluntary Principles on Human Rights. Mr Donnelly proposed that the Federal Government of Nigeria set up a task force with objectives based on the G4S study, and that the JTF target the "*tapping and transfer process*" more than the refineries.

958. On 10 June 2013, the Policy Forum was held. Members of the Iguana Steering Group delivered presentations on issues relating to crude oil theft, oil spill management, divestment and clean-up liabilities. As set out in presentation slides, titled "POLICY FORUM: NIGERIA STRATEGY UPDATE":

958.1. Mutiu Sunmonu addressed "*SPDC Spill Policy – Project Madrid"*. The "*Strengthened criteria for Pipeline Shutdown*" were described in similar but not identical terms to the presentation slides of 10 May 2013 (see paragraph ** above). The criteria were described as an "*[i]mperfect science, but reviewed at SE* [Senior Executive] *level daily*", and were as follows:

- *"Leaks detected / suspected on SPDC pipeline*
- *Confirmed running /uncontrolled spilling occurring outside SPDC Right of Way, from bunkering point connected to SPDC pipeline*
- *Inoperable facilities due to frequency of low pressure pipeline trips*
- *Security situation that is unsafe for our people to be in the field*"

Two criteria from the 10 May 2013 presentation slides no longer appeared:

- *"Other confirmed or suspected new environmental spills causing irreparable damage on land or water"*
- *"Increase in illegal refineries and associated crude theft*"

The Claimants infer that the Madrid Steering Committee and/or senior management of the First Defendant had rejected these two criteria and the Second Defendant did not apply them following the presentation of 10 May 2013 on the basis that they would have too frequently required the Second Defendant to shut down its pipelines and intolerably impacted production levels.

958.2. Mr Sunmonu addressed "*Crude Theft - Actions and ongoing progress*", which were listed as increased surveillance (overflights twice per day), senior level workshops with the JTF, repair programs in execution, and a dedicated project team focusing on medium/long-term solutions (such as the G4S study, stakeholder engagement, and DNA tracer technology).

958.3. Michiel Kool and Osagie Okunbor addressed handling of liabilities for past spills. The relevant slides identified that "*[t]wo extremes" were possible*. The first extreme was to transfer all liabilities to the new owners and accept a price discount. The slide noted: "May *be seen as walking away from its responsibilities with major impact on reputation"; "Possibility of an increase in litigation between announcement and closure".* The second extreme was that the Second Defendant "*gives commitment to clean up spills and remediate, both within and outside its right of way*".

958.4. Michiel Kool and Osagie Okunbor presented a "*Desk Top Assessment of Environmental Impact*", according to which: satellite images and aerial photos along NCTL showed more than 129 illegal refinery sites; in this area, "*visibly stressed vegetation and mangroves"* were apparent across 142 km^2, with "*heavily impacted sediments/soil is apparent across 48 km*" and "*[p]ermanent habitat loss is highly likely"*; illegal refinery activity was *"widespread along the TNP and NCTL"*; in the East Division of the Second Defendant, *"it is estimated 375 km^2 of vegetation and mangroves are stressed"* and that 75-100 km^2 of that are *"probably severely damaged, with potential complete loss of habitat"*; and, while the cost to remediate was too difficult to estimate, the "*Spread could be US$ 1 bn to US$?? bn*". The notes

under the slide asked: "*Do we have the appetite to take on this open-ended problem? […] when there is yet no end foreseen for the illegal oil theft activities*".

958.5. Andrew Brown addressed the "*Closing*" section of the presentation. According to the slides, the First Defendant's "*[b]ase case approach transfers liabilities for cleanup and remediation*" to the new licence holders on divestment, post-divestment commitments could be considered if the aforesaid was "*not tenable for practical, commercial or reputation reasons*", and any post-divestment commitment would be within clear boundaries. An alternative approach whereby the "*SPDC JV makes a commitment towards social and economic development*" was seen as more viable, whereas a "*more fundamental approach*" to clean-up and remediation was not deemed viable.

959. On 11 June 2013, Harry Brekelmans emailed the Iguana Steering Group to provide summary notes regarding the Policy Forum and direction on the preparation of related notes for the CSRC and the Board. He noted that there had been support for the strategic framework presented, albeit concerns raised that the Defendants were going to experience a "*firestorm*", should be prepared to run in "*crisis mode*" and may be perceived as "*walking away*" as a result of divestment.

960. On the same day, Jan van Bunnik emailed Bernard Bos and Uju Kela-Ukpabi (Personal Assistant to Managing Director Shell Nigeria Gas Ltd), SEPA) regarding Guy Elliot's upcoming visit to Nigeria, stating:

(i) "*As you can imagine, our business in Nigeria is regularly discussed at the Group Audit Committee level, in particular all Unsatisfactorily or Unacceptable audit results with material exposure to the Group.*

(ii) I am referring to the Metering Audit, Security (payment) audits, Right of Way and land mgt audit, the issues around oil spills and legal exposures, UNEP response, PIB, etc. etc […]

(iii) *Also as the PWC persons are actually the persons signing off on the RDS Group Accounts, I hope you realize the importance getting this visit right.*"

961. Between 31 May and 11 June 2013, Andrew Brown and Matthias Bichsel approved Group Investment Proposals for the TNP loopline and other projects. On 7 June 2013, Mr Brown shared the proposals with Simon Henry, noting that the TNP loopline proposal is "*at a level you and Peter need to approve*". He commented that the TNP loopline proposal could be the most difficult to justify "*given divestment plans*" and the scope of the Modified Carry Agreements, but "*[w]e feel we should proceed, given urgent integrity issues*". Upon Mr Henry supporting the proposals, Mr Brown sent them to Peter Voser for approval on 11 June 2013.

962. On 12 June 2013, Sander Koster sent Peter Voser a briefing note for an upcoming meeting with the Nigerian president. The purpose of the meeting was for Mr Voser and Andrew Brown to outline the Defendants' proposal to divest from the NCTL, TNP and onshore blocks around those pipelines and their concerns on crude oil theft.

963. On 13 June 2013, Harry Brekelmans, Andrew Brown and Osagie Okunbor discussed the preparation of a note to the CSRC regarding *inter alia* the Nigeria Strategy and Project Madrid, along similar lines to the Policy Forum presentation.

964. On 13 and 14 June 2013, Guy Elliott, Martin ten Brink and senior auditors from PWC visited Nigeria. The agenda for the visit involved presentations, meetings and/or discussions regarding operational spills, crude oil theft, the response to the UNEP Report, metering, ROW land management and security issues. The visitors participated in a helicopter overflight of crude theft areas. On 17 June 2013, Guy Elliott emailed Bernard Bos and Mutiu Sunmonu after the visit, noting that he was impressed with the "*long established and very strong RDS presence*" in Nigeria. A separate email by Bernard Bos to *inter alia* Harry Brekelmans, Martin ten Brink and Markus Droll, dated 19 June 2013, stated that "*[t]he helicopter flight over the crude theft areas was of course very sobering*".

965. On 19 June 2013, Raymond Asuquo emailed Victor Okaha (Security Advisor (Major Projects/Pipelines), Health, Safety, Environment Trainer, SPDC) and Olasupo Olageshin regarding the preparation of a "*business case*" for the

canalisation of the NCTL. *"[M]aterials (images, photos, etc.)"* were urgently needed *"to demonstrate how inaccessible, difficult and vulnerable the NCTL ROW is*" in order to engage the Senior Management.

966. Also on 19 June 2013, an explosion occurred in the Bodo area of the Niger Delta during an oil theft. The explosion caused a number of deaths and a major oil spill.

967. Also on 19 June 2013, 11 new subsurface Design and Engineering Practices (DEPs) were distributed to managerial staff across the Shell Group including staff of the Second Defendant, SEPA, SGSI and SEPA. The standards applied to all projects and wells under Shell's operational control and in Non-Shell Operated Ventures (NOVs) that have adopted Shell DEPs.

968. On 20 June 2013, Bert Ronhaar, the Dutch Ambassador to Nigeria, emailed Mutiu Sunmonu regarding a report from Stakeholder Democracy in relation to the spill the previous day. He noted that was "*[s]uspicious collusion between SPDC pipeline surveillance teams and security personnel engaged in oil theft*". Mr Ronhaar asked Mr Sunmonu for the Second Defendant's view on the spill and its causes, to explain what actions were being taken, and to conduct an independent investigation. Mr Sunmonu assured Mr Ronhaar that the Second Defendant would investigate. In a subsequent email, Mr Ronhaar stated that "*SPDC's credibility is at stake*" and that a staff member of the Second Defendant had denied that it was a serious problem. Mr Sunmonu proceeded to email Philip Mshelbila, Jurgen Janzen, Markus Droll and Barbara Blum, stating: "*This is fast becoming a reputation issue. We need to move faster to get the facts straightened out not just to the public but among our own staff*".

969. On 21 June 2013, Andrew Brown informed approximately 1,000 staff in Nigeria of the Defendants' plans to divest from the NCTL, TNP and associated assets.

970. Also on 21 June 2013, Joseph Croft (Executive Director, Stakeholder Democracy Network) emailed Mr Brown and Barnaby Briggs regarding "*one of the worst and therefore best case studies of why SPDC is structurally flawed to carry out its operations*". The incident was the explosion and oil spill in Bodo referred to at

paragraph ** above. Mr Croft reported, based on witness accounts, that Shell contractors, in collusion with the JTF, were stealing oil from the pipeline for several days, one of their barges caught fire, and the TNP was only shut down a few days after attention had been brought to the issue. Mr Croft stated that "*[i]t seems that SPDC were not aware of this huge emergency or chose to ignore it for at least 24 hours*", a large amount of oil was split as a result, and there was "*very poor containment of the spilt oil*". He stated that "*the SPDC machine still puts out a release that only a small amount of oil has been spilt*" but that "*[r]ecent photos prove this to be false*". In Mr Croft's view, this was a "*clear example of collusion, incompetence and an inability to respond*" and a "*classic example of Shell's service providers undermining the company and corruption / collusion between those who are supposed to be working for SPDC*". In summation:

> "*So what we have is:*
> *Contractors stealing what they are supposed to be protecting*
> *An inability to detect the problem*
> *Problem down played and assigned to third party intervention as a quick get out.*
> *Failure to respond to early warning signs*
> *Security who protect shells interests at all costs when transparency would have helped SPDC.*"

971. In response to the aforesaid report:

971.1. An exchange of emails followed between Joseph Croft, Andrew Brown and Markus Droll. In particular:

(a) On 21 June 2013, Mr Brown stated that he would dig deeper into the issue, everything had been shut in, and he needed to understand the collusion aspect further.

(b) Mr Croft expanded on the version of events from the Bodo chairman of chiefs, according to whom the contractors were meant to be repairing a break in the pipeline causing a spill but, instead, connived with the JTF to load

crude oil from the spill site onto a barge, and the fire started when a contractor started the engine of a barge.

(c) On 22 June 2013, Mr Brown informed Mr Croft that "*we plan to reduce our position in the delta*" and that he had a different version of events.

(d) On 24 June 2013, Mr Brown updated Mr Croft that the explosion occurred at 03:00 and they did not allow contractors to work at night, commenting: "*It could be concluded that our contractors work for us during the day and steal from us at night!*". He suggested that Mr Croft meet with Markus Droll in London to share perspectives. Mr Brown forwarded the exchange to Mr Droll to contact Mr Croft directly.

971.2. On 21 June 2013, the JTF issued a statement that they had arrested eight of Shell's contractors on suspicion of complicity.

971.3. On 21 June 2013, Mr Mshelbila forwarded Mr Croft's report to Mutiu Sunmonu and staff within the Second Defendant. He stated that he was struggling to ascertain the facts of the incident, noted his concern regarding the JTF statement, and called for an urgent meeting. A working group was established in the meeting to investigate the incident.

971.4. In a further email exchange, on 24 June 2013 Mr Mshelbila informed *inter alia* Rob Donnelly of the incident, asked him to raise the issue with Mr Brown, and stated that work was ongoing to establish the facts.

971.5. In a further exchange between Mr Brown and Markus Droll on 24 June 2013:

(a) Mr Brown stated that "*[i]t looks as if the contractor was involved and I think it is important to make an example of the contractor involved and suspend all work with them*". He added that he had briefed Peter Voser and further updates would be useful for the CSRC meeting on 25 June 2013.

(b) In response, Mr Droll provided an update on the status of the investigation. He stated:

- *"Can we guarantee that personnel who work as our contractors during the day do not engage as oil thieves at night ? No we can't. They can effectively hold two jobs of course.* […]
- *If you think about it, we have awarded contracts to local community contractors, as a way of encouraging sustainable development.*
- *There are now literally thousands of people employed in all sorts of activities supporting SPDC. Many of them from the same villages as the thieves / refiners.*
- *Do some of them take our money during the day, and then steal from us during the night ? My guess is that the odds of that are 100%.* […]

If this is a good example of anything, then for me it is that our strategy to exit onshore oil is the right one.

The incident demonstrates just how hard it is to know who your friends are, and also your enemies. At times they will be both at the same time."

971.6. In a separate email exchange on 30 June 2013, Markus Droll emailed *inter alia* Philip Mshelbila, Mutiu Sunmonu and Barbara Blum regarding the Bodo incident, stating that an independent investigation needed to commence and "*we need to get to the bottom of the accusations that our contractors were complicit*".

972. On 21 and 22 June 2013, Peter Voser, Andrew Brown and Markus Droll exchanged emails regarding a proposal by a technical engineer to plug illegal bunkering point connections by sending various sized plugs down the Pipelines and Ancillary Installations from a Trunk line pig launcher. In particular:

972.1. On 20 June 2013, a technical engineer employed by the Second Defendant emailed Mr Voser, stating[2]:

"I learnt from local colleagues that SPDC has lost as high as 100K -150K barrels/day of crude due to Crude theft by Hot taps into our Crude Line. This is a big loss in revenue for SPDC! Lately, about 9weeks ago, Shell has shutdown Nembe Creek Trunk Line (NCTL), losses to Shell are even higher.

I understand that to-date Shell is still unable to effectively control losses due to Crude theft. As a technical engineer, I will not say that we could 100% stop Oil loss, but a reduction of 60%-90% is possible by plugging off the Hot tapped points with suitable plugs and I am confident that we could achieve it.

The method is not complicated, minimum cost, we do not even need to go to hot tapped points where Crude was stolen, we do it in our own facilities, what we need to do is, sending various sizes plugs from Trunk line pig launcher similar to our pigging operation, instead of send normal pig, we send plugs. Note that most of the hot tapped points would likely to be at 12 O'clock position, therefore, our plugs must have a good buoyancy to float in the crude oil.

*Based on my estimate, the sizes of hot tapped points are likely to be 2", 3", 4", 6", 8" and 10". Therefore, we should send 10" plugs first, followed by 8" plugs and so on. To be effective, we only send the plugs when the oil thefts are in operation. All plugs should have unique number (ID) and the number sent must be recorded so that we know how many have successfully plugged the hot tapped points by counting the balance number of plugs received at the Oil terminal. There are many types of plugs which nee*d *some experts in Shell to assess/decide which type to be used.*

[2] The technical engineer asked Peter Voser to remain anonymous owing to perceived threats to his/her job security and life. In those circumstances, the Claimants consider it appropriate not the name the individual in these particulars.

There are many technical experts in Shell, with your instruction, I am sure a task force could easily be formed to look into the details how we could effectively carry out this anti-crude theft operation.

If the anti-crude theft operation is successful, in 1-2 years, the money saved would enable us to lay a new subsea trunk line to the terminal. With the current raining season, it is best time to carry out the Anti Crude Theft Operation.

If you decide to implement my suggestion, ***please do not disclose my name. I might lose my job and my life could be in danger if disclosed*** *as some ones in authority may have some interests in the oil theft/lose $$/income and I could not rule out that there are some insiders in Shell would leak out to Oil theft. Please ignore this email if you feel that my suggestion is not worth considering.*

For more information, please refer to the attachment." (original emphasis)

972.2. On 21 June 2013, Mr Voser forwarded the email to Mr Brown, stating: "*Can you ask someone to deal with this".*

972.3. On 22 June 2013, Mr Brown forwarded the exchange to Mr Droll, stating: "*An interesting idea that I am sure we have thought about. [...] would be interested if there are reasons why this couldn't work. Certainly using an internal solution could be interesting*".

972.4. Mr Droll responded: "*Thx Andy - will do, and keep anonymity (will claim it was my idea, if it works…….. !)*".

973. By email on 23 June 2013, Raymond Asuquo informed *inter alia* Toyin Olagunju and Richard Denny that the EIA for the canalisation and installation of an intruder detection system on the Awoba-Krakama segment of the NCTL was underway, "*[w]e can't hit the ground until we have that EIA approval*" and the notional delivery date for the project was 1 June 2014.

974. On a date unknown before 25 June 2012, during a visit to South Africa the CSRC had meetings with the Second Defendant's management and discussed crude oil theft, oil spill response, clean up and remediation, pipeline integrity management, UNEP Report follow-up, and land management and encroachment. The CSRC participated in an overfly of oil theft areas and illegal refineries.

975. On 25 June 2013, the COT DRB held a meeting, in which its members discussed and decided the proposals to respond to TPI set out in the presentation slides, "Crude Theft Solutions DRB". According to the presentation slides:

975.1. One proposal was the canalisation of the 17km section of the NCTL between the Awoba and Krakama manifolds, which were stated to host a significant number of the bunkering points and have limited accessibility for security and surveillance. The slides noted that there had been repeated calls by Corporate Security, the GSA and the Pipeline Asset team for access to the NCTL, and that the proposal was part of the effort to prevent the installation of new bunkering points. Canalisation was to be implemented alongside the installation of an intruder detection system and ongoing patrols. The proposal was costed at between approximately $30 to $42 million.

975.2. Other questions for the COT DRB to consider included: "*NCTL continues to encounter further theft points; if we continue to find them, we potentially move towards being shut in for longer and longer… At what point do we start to plug wells?*".

975.3. The presentation set out other solutions against crude theft, including network flexibility by looping the NCTL and TNP networks, alternative export routes, multi-layered coatings, and pipe-in-pipe construction.

976. On 25 June 2013, the CSRC held a meeting, which *inter alia* Peter Voser and Andrew Brown attended, and in which Mutiu Sunmonu and Markus Droll participated by telephone. Mr Brown presented an update on Nigeria. The minutes of the meeting record *inter alia* that:

976.1. Peter Voser advised that the President of Nigeria had indicated support for the Defendants' divestment plans (pursuant to the Nigeria Strategy Review).

976.2. The CSRC "*shared Shell management's view that the fund concept has challenges and needs to be carefully considered*", and looked forward to regular updates on progress in Nigeria.

976.3. The CSRC reported back on its visit to Nigeria, and made observations regarding progress in tackling operational spills and reducing remediation backlog in the Niger Delta, the challenges of "*today's chronic oil theft "industry"*, "*the extent of oil theft activities, and consequential environmental damage, has become worse since the Committee's last visit in 2010*". The CSRC encouraged the Second Defendant to consider how to encourage the Nigerian authorities to take greater action to address TPI and to continue leveraging third parties in its communications strategies on TPI.

977. On 25 June 2013, Richard Denny shared the proposal for the enhanced surveillance programme with the COT DRB for their approval (the "**Surveillance Proposal**"), with comment: "*Current base case is that we fund the increased surveillance from existing JV budgets through identifying offsets, though the offsets themselves are yet to be identified, I believe. Given the success we have seen that increased helicopter surveillance brings in our understanding of the scale of the issues we face, it is a powerful and logical next step to upgrade our capabilities in this area. Both to support our efforts in looking for new activities (eg. use of Infra-red to spot "warm" equipment early morning) and in environmental monitoring (satellite radar, annual fixed-wing surveillance). Hence, if we are unable to secure offsets, I would be grateful for your thoughts on where to go next, whilst still keeping momentum up*." The Surveillance Proposal, which was aimed at effectively mapping TPI and "*supporting operational activity and future litigation and remediation activities*" incorporated both proven and novel technologies. The "*proven*" technology comprised: daily helicopter surveillance flights; monitoring with handheld cameras (visible and infrared) which could within six months be

replaced by a "*more systematic*" infrared imaging system; quarterly radar satellite mapping of environmental change and refinery locations; and an annual aerial survey baseline. The "*novel*" technology comprised helicopter-based laser flurosensor technology (i.e. a remote sensing tool capable of detecting and differentiating hydrocarbons), which was proven for offshore oil spill response.

978. A SCiN note, titled "Guidance for interactions with the Government Security Agencies [relating to suspected criminal activities]" created on or around 25 June 2013, recorded that deployment of GSAs was "*under the exclusive command and control of the Federal Government through the command structure of the respective GSAs. As a consequence, SCiN staff and contractors should not seek to exercise direct or indirect control over the activities of GSA personnel or to give instructions to GSA personnel or to influence how they carry out their activities*." However, information could be shared with the GSAs relating to criminal activity such as TPI, and all information provided was to be given in writing to ensure proper record keeping, including to serve as evidence in future litigation. Communications relating to GSAs effectiveness were to be conveyed "*by SCiN management at the appropriate level in the Federal Government*".

979. On 26 June 2013, the Board held a meeting. The CEO reported that Bernard Bos had been appointed General Manager Commercial Nigeria and Gabon for a 3-year assignment, with effect from 1 December 2013. On Nigeria, the CEO reported that crude theft on the NCTL, TNP and part of the TEP caused shut in, with total deferment at 285kbd (thousand barrels per day), and noted a *"continuing shift of bunkering to the West"*.[260]

980. On 26 June 2013, Jurgen Janzen emailed Markus Droll requesting his approval of a further postponement to the "*High*" Fountain action referred to at paragraph ** above (i.e. the action to resource the Pipelines organisation sufficiently to ensure its effectiveness in respect of *inter alia* emergency response and repair requirements, efforts to reduce the existing backlog scope, efforts to reduce operational pipeline spills to acceptable levels). On the same Day, Mr Droll responded: "*Sounds like there is little choice here, so approved*".

981. In or around the end of June 2013, P&T and the Second Defendant initiated a "*SPDC Flowline Process Review*" project in response to premature flowline failures and non-sabotage leaks in the Second Defendant's operations. According to the "*COST TIME RESOURCE*" document for the project, it was agreed that P&T and the Second Defendant would carry out a review of the adequacy of the Second Defendant's flowline installation and asset integrity management processes, identify weaknesses in the aforesaid, and propose improvements and best practices.

July 2013

982. Between 25 June and 2 July 2013, Jurgen Janzen, Uche Igbokwe (Lead Incident Management Subject Matter Expert & Learning From Incidents Coordinator, Subsaharan Africa Region, SPDC), Elianne Leeffers **(**Learning from Incidents Manager, Upstream International, SIEP**)** exchanged emails regarding significant incident reporting in Nigeria. In particular:

982.1. On 25 June 2013, Mr Janzen submitted a significant incident report to the Upstream International HSSE Incident Mailbox regarding an oil spill on the TNP.

982.2. On 26 June 2013, Ms Leeffers asked Robert Munster and Amadi Amadi whether the incident and other significant incidents in June 2013 had been reported to Andrew Brown and Harry Brekelmans "*as per the UI Significant Incident Review procedure*". She asked for the status of investigations into significant incidents from February and March 2013 and for investigation reports to be shared. Those incidents included a "*Crude oil leak from the 30" NCTL*" on 3 March 2013 rated as "*Severity 4*".

982.3. On 27 June 2013, Ms Igbokwe responded:

"All the incidents listed are sabotage-related incidents and will be closed out from our records using JIV reports. We can only send in L1 Notification to UI Incident mailbox for info reasons only. No further reporting, investigation

or review will be scheduled. We are operating under a CF [Control Framework] waiver till end 2014 (renewable, except the situation changes) […] There are no new learning benefits derived by investing effort on the further reporting/investigation/review of same type of incident – sabotage where we have no control. Once the regulators concludes it as sabotage, we cannot shoot ourselves on the foot by saying it is not or that it is due to our MS failure."

982.4. On 28 June 2013, Ms Leefers responded, stating that the exception only exempted the Second Defendant from taking every RAM4+ sabotage incident to a significant incident review with Mr Brown, but that nothing was changed regarding reporting to the Upstream International Incident Mailbox or incident investigation requirements.

982.5. On 1 July 2013, Ms Igbokwe responded, stating that the Pipeline Asset Manager, Mr Janzen, would send the significant incident notification soon. However, she advised that the notification should only be sent to the Upstream International Incident Mailbox, copying in Ms Leeffers and Simon Roddy **(**Upstream Safety & Environment Delivery Manager, Shell International), and "*[b]ecause it is already belated, I did not advise wider notification*".

982.6. On 2 July 2013, Ms Leeffers responded, stating that the Upstream International Significant Review Process and the HSSE Control Framework required that all significant incidents (RAM4+), including sabotage-related incidents, be notified within 24 hours to the Upstream International Director (Mr Brown), the Line of Business EVP (Mr Brekelmans), the Country VP (Markus Droll), and the Upstream International Incident Mailbox. She stated she would set up a call "*to make sure we're absolutely aligned on this*".

983. On 3 July 2013, in an email exchange following from Tom Ogboi's proposal of 3 June 2013, Richard Denny informed Mutiu Sunmonu that the Second Defendant had received a number of similar enquiries and that "*[f]irst priorities*" were "*Protection / Intrusion detection […] still in early definition given linkage with channelization"* and "*Tagging – we are trialling the Tracer technology*". He stated

that they were compiling a "*status check*" on the options proposed and would feedback to the COT DRB.

984. Also on 3 July 20213, the Second Defendant received a report of crude oil theft in Bodo West carried out by JTF personnel acting in concert with the Second Defendant's contractors.

985. On 4 July 2013, the Iguana Steering Group held a meeting to discuss a range of operational matters relating to the Second Defendant's business, UNEP and IUCN reports, the media reaction to the Defendants' divestment strategy, and the creation of a social performance fund. As recorded in an email of Osagie Okunbor summarising the actions from the meeting, specific action points included: "*[d]raft[ing] TOR for New Look SPDC*".

986. Between 26 June and 7 July 2013, Harry Brekelmans, Osagie Okunbor, Markus Droll and Andrew Brown had an email exchange regarding divestment in advance of ExCo and Board meetings in July. In particular:

986.1. On 1 July 2013, Mr Droll sent Messrs Brown, Okunbor and Brekelmans a first draft of an Iguana update to be provided to the ExCo and Board.

986.2. On 2 July 2013, Mr Okunbor commented that they should consider "*narrowing the band of the proposed funding levels*" for the cleanup fund, and that the update should include a statement that "*[c]urrent protocol is that sensitive SPDC surveillance data is not shared with security forces out of precaution against becoming an active party in military retaliation or collateral harm to civilian communities*".

986.3. On the same day, Mr Brekelmans provided comments and feedback on the draft, noting: "*On crude theft, you refer to accusations of SPDC complicity, in addition, we hear of SPDC staff pro-actively referring to 'novel' bunkering methods before we uncover them. How do we ensure categorically there are no such things happening?*"

986.4. On 3 July 2013, Mr Droll responded:

> "*The SPDC staff being complicit etc. The truth of the matter is we can't be sure. We have employed thousands of community contractors, and their loyalties are at best split. This is a situation we have created over a couple of decades (with admittedly good intentions), but will take years, and a complete SPDC reshaping to undo. A massive task, and most people don't even realize how deep the rot really is."*

986.5. On 4 July 2013, Mr Brekelmans responded, stating: "*we will discuss how we deal with the 'rot'. Trust you are doing that on the ground but we have not done much at UI/Group level and we cannot point at much 'progress' assuming indeed the rot is deep*".

986.6. Mr Droll responded on the same day: "*I would quite appreciate some help with this from UI/Group, as I don't think we can realistically do this from inside SPDC*".

986.7. On 7 July 2013, Mr Brown sent Mr Brekelmans an email, stating: "*I think he is right and we need to step up - can we discuss around the UILT?*"

987. On 8 July 2013, James Hall, Richard Denny, Cor Koster, Brian Mair, Agans Agonmwonyi, Dean Emanuel and others held a meeting with Palantir to review the potential of Palantir solutions to crude oil theft.

988. On 10 July 2013, the COT DRB held a meeting. Following the meeting, Richard Denny shared minutes of the meeting with Oro Awaritefe, for approval by Markus Droll, commenting that there were "*[s]ome important steers in today's meeting*" and "*please review with Barbara [Blum] also and issue […] under legal privilege*". On 12 July 2013, Mr Droll approved the minutes, which recorded:

988.1. Updates from the COT DRB workstreams, including: (i) consideration of whether the scale of illegal refining meant that less stolen oil was being exported internationally, with the COT DRB supporting the need to improve

the underpinning of the "*80-20 split for destination of stolen crude*", and the action being to carry out an assessment of volumes; (ii) Ms Blum was working on guidelines for interaction with security forces; (iii) Philip Mshelbila highlighted the "*emerging issue*" of "*alleged involvement of SPDC contractors in theft*"; and (iv) Cor Koster noted the increase in incidents that require investigation.

988.2. The COT DRB decided not to pursue the "*hard surveillance G4S options*", directional support was given to the "*Fusion Centre approach*" and to prepare a firmer proposal, and support was given to continue investigating possibilities for Unmanned Aerial Surveillance deployment. A steer was given to "*avoid getting too distracted with the divestment process*".

988.3. On surveillance strategy, a steer was given to continue pursuing the approach in the previous DRB documents, but that "*we should not be afraid to try out new techniques, but also disciplined to stop them if they outlive their usage*".

989. On 13 July 2013, the JTF arrested contractors of the Second Defendant suspected of illegal bunkering at the Cawthorne axis.

990. On 15 July 2013, the Second Defendant issued a draft report for Phase 2 of the "Decommissioning & Abandonment Of SPDC Assets (Wells, Facilities, Pipelines and Borrow Pits)" project. The draft report provided:

990.1. Certain facilities and wells were old and/or no longer required in the Second Defendant's operations. In some cases, local communities had encroached the RoW of suspended wells, moth-balled facilities and disused pipelines, and "*[s]uch locations currently constitute environmental as well as safety exposure to SPDC*". A drive to mitigate those risks led to the establishment of decommissioning programmes for wells, facilities and pipelines, but there was "*no clear integration resulting in high implementation cost and long schedules […] worsened by the fact that SPDC had limited prior*

decommissioning experience and existing contracts and work units are not designed for decommissioning".

990.2. Prior to 2010 "*SPDC had done little or no decommissioning*". Between 2010 and 2012, the Second Defendant decommissioned 1 disused flowstation and carried out physical verification on 198km of disused trunklines, finding that 158km had been stolen.

990.3. The preferred concept for "*Phase-2*" of the project (2014-2023) was "*integrity driven with cost optimization*", with priority being given to assets with identified integrity issues. 432 wells were identified in the decommissioning portfolio for this phase of the project, 352 of which were categorised as partially abandoned, 38 as completed un-abandoned and 69 in unknown condition.

990.4. "*Disused sites continue to create Health, safety, security and environmental exposure*" and "*[a]bout 1000 wells may be ready for final decommissioning*".

991. On 16 July 2013, Markus Droll sent the members of the Iguana Steering Group an email setting out updates and progress on action points since the meeting of 4 July 2013. He stated that the NCTL repair progress was ongoing and, provided no new bunkering points were "*installed / discovered*", the aim was to restart the downstream section of the NCTL towards the end of the following week. He further stated that there was "*[i]ncreasingly evidence that bunkering activity may now head upstream to flowlines and well-heads*", "*[i]n general the situation is getting worse, and even with increased repair crews we are struggling to keep up with their activity levels*", and "*[p]rotection from authorities pretty much non-existent at this point*".

992. An unreported spill incident near Bille on the NCTL at two points (4.567710, 6.884452 and 4.567816, 6.885035) was active as of 18 July 2012. Full details are provided in Annex 013.

993. On 18 July 2013, the COT DRB held a meeting. The technical workstream of the COT DRB delivered and the COT DRB deliberated upon the matters set out in a presentation, titled "*CRUDE OIL THEFT DRB*". As to their content:

993.1. The slides set out an "*[o]pporunity statement*" to negate 30 kbopd of "*stolen/ spilled crude [...] from our production facilities [...] by deploying additional technologies that will compliment [sic] existing surveillance systems, protect facilities and actively deter intruders while minimizing our reliance on JTF*". The slides identified four themes to deliver on that opportunity statement, (i) "*Improved Prevention*", (ii) "*Improved Monitoring*", (iii) "*Faster Intervention*" and (iv) "*Improved Remediation*".

993.2. The "*JOURNEY SO FAR*" described the technical workstream of the COT DRB as having identified 23 potential solutions, later screened to 14 solutions and then narrowing to 7 frontrunner solutions.

993.3. The proposal, for which COT DRB approval was sought, involved creating four workstreams on each of the themes mentioned above, conducting further assessments of technological solutions, and piloting solutions.

993.4. An "*Opportunity Road Map*" was proposed, which involved several rounds of evaluation, reports, review, COT DRB engagement and pilot projects, before execution and commissioning in 2015 and 2016 for approved technologies.

993.5. The frontrunner "*[f]ocus areas*" for prevention were active denial systems, airborne deterrence (UAVs), drill proof coating and anti-tamper locks on well heads. Areas for further review were installation of concrete slabs, construction of roads on the RoW, installation of pipelines at height, pipeline electrification and surface friction charges, while deep reburial of pipelines and canalisation in swamps were listed as "*[n]on-focus areas*".

993.6. The frontrunner focus areas for detection were metering, Onramp technology and intelligence analysis. Areas for further review included nighttime aerial surveillance, "*Pipe angel*", mobile observation towers, covert cameras and sensors, smart pigs, satellite optical mapping, digital image analysis, automatic vehicle trackers, sentry vessels, wellheads / pipeline infrared cameras, "*V-monitor*", hovercraft, "*ROV/AUV*", "*Wolff system/Heat*", coastal radar, smart phone mapping, satellite radar mapping, atmospheric hydrocarbon detection and "*Atmos Pressure WAVE*".

993.7. There were no frontrunner focus areas for intervention. Areas for further review were RoW parallel access roads, hovercraft, mud bridges in swamps for faster access, non-lethal measures such as "*[l]ong range acoustics*" and surface friction change.

993.8. The frontrunner focus areas for remediation were capping and hot tapping. Areas for further review were DNA tracer technology, composite materials to fix non-leaking bunkering points, "*Pipeline tie repair/lock O ring plug*", prefabricated cofferdams, platelet injection, patching and "*E-save (hydrocarbon inerting chemical for stolen crude)*".

993.9. The following were stated as "*Facts*": "*GSA response is a major weak link"*; "*Considerable effort have been spent to date and have resulted in an apparent reduction in crude theft"*; "*Gaps are in night time detection and technical deterrence"*; "*Deployment of additional technologies can further reduce environmental pollution and loss of production*."

994. Also on 18 July 20213, the Iguana Steering Group held a meeting.

995. An unreported spill incident in Enesirama at a point on the NCTL (4.563129, 6.849970) was active as of 19 July 2013. Full details are provided in Annex 041.

996. On or around 19 July 2013, a process was underway whereby the JTF's role in dealing with TPI was to be largely replaced by the NSCDC.

997. On 19, 20 and 21 July 2013, Mutiu Sunmonu and Markus Droll exchanged emails in response to a news article published in the Vanguard newspaper on 19 July 2013. The article reported that that the Special Adviser to President of Nigeria on Niger Delta Affairs, Kingsley Kuku, accused IOCs of complicity in oil theft, stating:

> "*I know of one thing and this is the bombshell that there are workers in the oil and gas industry who have the expertise, the technical know-how and knows about the ways and means of sabotaging the oil and gas industry, who are likely to be involved […] So you have a situation where some pipeline protection contractors empowered by the oil companies participate in the theft […] The same people, who are meant to be securing these pipelines participate in oil theft. So the oil multinationals must look inwards at their contracting process, their procurement process, look at the status of some of their vendors and security contractors, x-ray them, review their processes very well and deal with the issue of oil theft as it affects participation in-house in the oil and gas industry."*

997.1. In their exchange, Messrs Sunmonu and Droll dismissed the accusations as "*diversionary*", as "*rumors, speculation and wild allegations*".

998. On 22 July 2013, the UIO/G Leadership Team (Nigeria Leadership Team) had an operational update teleconference, attended by *inter alia* Tony Attah, Markus Droll, Barbara Blum, Akin Ogunkoya (on behalf of David Martin), Marc de Hartog, Bernard Bos and Mutiu Sunmonu. An email by Oro Awaritefe dated 23 July 2013 set out the highlights of the meeting, which included "*delayed finalization of the MCA-2 funding agreements […] giving room for second thoughts on the decision to pursue the investment in the NCTL area*" and four crews working on removing five remaining bunkering points on the NCTL (bringing the total to 55). On 24 July 2013, Mr Droll shared the minutes with Harry Brekelmans, who asked to receive weekly updates.

999. Also on 22 July 2012, Sander Koster asked Markus Droll to provide presentation slides addressing bunkering point removal on the NCTL for Andrew Brown to include in his Upstream International presentation at a Board meeting. Mr Droll

provided the requested slides on 25 July 2013. The slides described the adopted approach to crude oil theft as involving "*[s]hut in on leak detection*", "*[s]tep-up in surveillance & increasing response capability*", "*[d]aily review with VP Nigeria*", "*[d]eploy technical solutions*", engagement with the Federal Government of Nigeria and lobbying of international governments. The slides stated that 51 bunkering points were on the NCTL in January 2013, 31 had since been discovered, 56 had been removed, and 26 bunkering points were outstanding in July 2013.

1000. On 24 July 2013 Markus Droll emailed Harry Brekelmans and Tony Verbraeken (VP Human Resources Upstream Operated, Production Excellence & Safety, SIEP) about Richard Denny. He explained that since declaring a crisis on oil a few months ago Richard Denny had been the BOM, doing much of the work to pull together Project Madrid. Mr Droll explained that they had initially borrowed Richard Denny from the commercial team on an agreement that it would be a six-month assignment. In the remainder of the email he set out his view that they needed someone in place for a further 3 years to run Project Madrid and identified three options as to how this might be achieved including by granting a promotion to Richard Denny and signing him up for the next three years to run Madrid and report directly to him.

1001. On 28 July 2013, in light of increased JTF arrests of trespassers along the NCTL RoW, Agans Aganmwonyi informed several staff of the Second Defendant by email: "*The JTF is under pressure from FGN to stem the tide of crude theft and, so will not accept any presence on the Pipeline ROW without prior notice especially against the background of connivance of some of our contractors*".

1002. On 29 July 2013, the ExCo held a meeting. The ExCo reviewed the Nigeria Strategy Review, CSRC papers, Q2 2013 audit reports, the Q1/Q2 HSSE&SP Assurance Report, and HSSE updates.

1003. On the same day, Mutiu Sunmonu informed Markus Droll, Akin Ogunkoya and David Martin by email that he had "*insisted*" that the JTF at Bodo be rotated out and that the change had been effected. He stated: "*we have reasons to believe the*

surveillance contractor is complicit and hence we are working a different scheme to replace him with community surveillance".

1004. On 29 and 30 July 2013, Okonkwo Paulinus (Principal Project Engineer, SPDC), Nkili Nwadike (Production Technology Discipline Principal, Wells Integrity, Regional Gaslife Subject Matter Expert, SPDC), Arjen Kooijman (Regional Discipline Lead, Production Technology Sub-Saharan Africa, SPDC) and Meshach Maichibi discussed by email a suspected incident regarding the closure of well integrity workorders without the requisite work having been done. In the exchange, Mr Kooijmans explained that:

> *"[T]he behaviour of closing out well integrity workorders to keep wells green without doing the work is a great concern to me. Note that this is how several hundred wells were kept green until the eWIMS review of 2012. Could you investigate this matter and let me know how we can help prevent this from happening again.*"

1005. Reported spill incident ID 1018005 was reported by the Second Defendant to have taken place on 30 July 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1018005.

1006. On 30 July 2013, the CSRC held a meeting. The CSRC was provided with a "Note to Corporate & Social Responsibility Committee: 2013 Q1/Q2 HSSE&SP Assurance Report". The note was based upon and summarised the 2013 HSSE&SP Audit findings for 2013, which "*observed weaknesses in oil spill response*" and noted that "*EC support had been sought to close the gaps identified*". Andrew Brown provided an update on recent developments in Nigeria and the reaction to Shell's divestment plans in there.

1007. On the same day, the Audit Committee held a meeting. The CEO highlighted "*the deteriorating operating environment in Nigeria*". The Chief Internal Auditor mentioned three unrated audits in Upstream International on oil spills in Nigeria. The Chair of the Audit Committee provided an update on a visit to Nigeria in June

2013, noting the scale of the challenge on oil theft and the environmental issues caused.

1008. On 31 July 2013, Richard Denny discussed measures to prevent TPI with a colleague from Shell Italy, John Pay (Technical Manager Italy, Shell Shareholder Representative, SITEP). Mr Pay highlighted that Shell Italy had buried pipelines at 3m, installed trip and alarm lines in the soil above the lines to alert the control room of digging, installed level detectors at cellars that house manual isolation valves, installed locked cage protection of cellars, and increased patrols.

1009. On 31 July 2013, the Board held a meeting. Andrew Brown gave an update on the Upstream International business covering issues that included theft and production in Nigeria. The minutes further record that the Board noted the Nigeria Strategy and Refresh of the Shell Control Framework in the Board Book.

1010. At a date unknown to the Claimants in July or August 2013, the IUCN-NDP published its report, "Sustainable remediation and rehabilitation of Biodiversity and Habitats of Oil Spill Sites in the Niger Delta: Main Report including Recommendations for the Future". The findings of the report, which correctly described the circumstances to which they related, included that:

1010.1. "*[S]tricter monitoring of contractors is required during and after remediation, to ensure that the activities they have implemented are in accordance with regulatory standards"*. For example, hydrocarbon levels in a recently concluded remediation site in Soku were higher than the EGASPIN standards, even though all the authorities had signed off on the certificate for the site. In the IUCN-NDP's view, "*[t]he SPDC monitoring protocols need to be reviewed and tightened up to ensure that remediation guidelines are followed and implemented as directed"*.

1010.2. The EGASPIN standards were outdated and inadequate. "*[T]he target limits for* [Chemicals of Special Concern] *were higher than the limits set in other countries such as USA, Canada and the Netherlands*". Further, "*[t]he rehabilitation and recovery of biodiversity and ecosystems seen so far in the*

Niger Delta is not sufficient, and this is partly due to inadequate benchmarks for pollutant levels in the environment". Further, "*[t]he Niger Delta needs more stringent target levels for recalcitrant hydrocarbons, based on the soil types of various ecozones and taking into account levels that will affect sensitive biodiversity and human health"*.

1010.3. Yet, the Second Defendant's RMS "*provide environmental standards for the remediation of oil spill impacted sites and these standards are in line with revised DPR-EGASPIN (2002) levels; but higher than international standards seen for TPH levels"*. As such, *"[a] new guideline should be developed for ecosystem rehabilitation in the Niger Delta*".

1010.4. "*Oil spill containment and clean-ups should occur rapidly after spill incidents to limit the spread and depth of subsequent pollution*". However, "*spill containment and clean-up are not implemented rapidly.*"

1010.5. In addition to using RENA, "*there is a need to employ biostimulation to speed up biodegradation*" in the cleanup of impacted sites. A combination of technologies and techniques should be employed, including land farming/bioremediation, rhizoremediation technology, phytoremediation, phycoremediation, and the application of biosurfactants. In the IUCN-NDP's view, *"the methodologies currently being used for the remediation and rehabilitation of oil spill-impacted sites in the Niger Delta do not fully address the need for rehabilitation of biodiversity"*.

1010.6. Against that background, the IUCN-NDP made a series of recommendations, including:

(a) "*Recommendation 4.1.2: Redefinition of monitoring protocols*". The IUCN-NDP recommended that the Second Defendant introduce independent monitoring teams to undertake visits to check "*more stringently*" that remediation targets had been achieved.

(b) "*Recommendation 4.1.4: Review some of current activities in RMS 2011*". While "*RENA may be suitable where spills are spread out to a thin spatial distribution of less than 10 centimetres on land"*, "*[f]resh and residual hydrocarbon pollutants are toxic to micro-organisms and the application of RENA to improve nutrient availability to increase populations can only achieve about 40% remediation, as increasing toxicity of metabolites (formed by incomplete degradation) inhibits or kills off viable populations of oil-degrading organisms"*. Thus, *"[e]ven for small spills, it is desirable to use bioagents (especially enzymes) to increase degradation exponentially"*. Further, *"the nutrient criteria for RENA requires that soil conditions be known prior to application*".

(c) "*Recommendation 4.2.1: Speed-up response to oil spill incidents"*. The Second Defendant should continue with its revised processes to contain Tier 1 and 2 spills within 24 hours, follow up "*immediately with recovery of oil and commence remediation*", and carry out remediation feasibility investigations to ascertain the procedure for bioremediation within a week.

(d) "*Recommendation 4.2.2: Redefine nature of treatment of oil spill sites bringing it up to acceptable and comparable national standards that support quicker ecosystem recovery*". The EGASPIN target levels/standards should be reviewed and the remediation process to the point of secondary remediation should be completed within three to six months.

(e) "*Recommendation 4.2.5: Introduce annual monitoring post remediation to reduce residues of chemicals of special concern (CoSC) and support biodiversity rehabilitation*". There should be two sign-off levels and annual monitoring to ensure adherence to "*more stringent target levels*".

(f) "*Recommendation 4.3.1: Expand the range and improve the efficiency and effectiveness of remediation approaches targeting major habitats drawing on known best available scientific information and experience*".

(g) "*Recommendation 4.3.3: Initiate programmes to rehabilitate critical habitats including mangroves*".

(h) "*Recommendation 4.3.4: Further to the existing sign-off procedures, introduce a final sign-off process within three years post-remediation to ensure that residues of Chemicals of Special Concern have reduced to the required levels*".

August 2013

1011. In August 2013, a "Country Security Threat Assessment" for Nigeria, authored by Brian Mair, assessed as "*at the upper end of High*" the overall country security threat, a rating "*underpinned by an Extreme threat*" from TPI. A section about the JTF recorded that their operations against crude oil thieves remained "*sporadic*", acknowledged "*credible allegations*" of JTF collusion with criminal groups, and stated that their role protecting oil and gas was open to "*political manipulation*", exemplified by a temporary March 2013 withdrawal of JTF escort services for oil and gas companies which illustrated "*the risks associated with dependence*" on the JTF in the Niger Delta.

1012. At a date unknown to the Claimants in August 2013, the Second Defendant issued Version 4.0 of its "Oil Spill Response and Remediation Management System (OSRRMS)" ("**OSRRMS v4**"). The revision followed audit review findings and was approved by SGSI. Material amendments and retention of existing procedures included:

1012.1. Integration of Oil Spill Response and Remediation.

1012.2. A new "*Part One: Oil Spill Response and Remediation Management Strategy*" relevantly provided as follows:

(a) SCIN have an "*obligation to have in place, maintain and implement a response to combat oil spill on land, swamp and at sea*". The "SciN Oil

Contingency Plan (OSCP)" ("**OSCP**") is designed to assist SCiN in responding to oil spills. The OSCP provides SCIN personnel with methodologies, procedures and information required during the "*critical few hours of an oil spill incident*", as well as setting down organisational responsibilities, actions, reporting requirements and resources to ensure "*the effective and timely management of all oil spills from SCiN operational facilities*". The SCiN was aligned with the Nigerian National Oil Spill Contingency Plan and "*Shell global standards for oil and chemical spill response plan specified by […] MOSAG*".

(b) The EGASPIN intervention levels was retained as the relevant standard at Tier 1 assessment level. Such levels were stipulated in the Table 6 of OSRRMs v4.

(c) Oil spill containment and recovery work procedures were intended "*to provide logical and consistent process steps for the containment and recovery of spilled oil or chemicals from SCiN onshore (land and swamp) based activities to ensure protection of the environment, sustainable development and best practice*". Those procedures applied to all oil spills from SCiN operated assets and equipment that impact the environment, including "*accidental spills resulting from third party interference*". In particular:

(i) The first response to oil spill was "*to isolate the primary source or leak point to minimize as much as reasonably practicable the volume of oil released into the environment*", which will "*typically require isolation and depressization of asset*". Subsequently, the asset holder "*shall endeavor to minimize the flow of oil at the leak point, via the use of temporary plugs, bungs or other containment devices*".

(ii) As regards containment of spills on land, "*it is important to reduce penetration*" on permeable ground by *inter alia* blocking inlets, flooding the area to introduce a water bottom under the oil, consider spreading the oil more widely over the surface, pump out puddles as quickly as

possible, spread sorbents to increase sorption of the surface layer, and move free oil to the nearest impermeable surface. Containment methods were listed as including constructing earth banks, interceptor trenches or slurry walls, and blocking culverts and drains.

(iii) As regards containment of spills into rivers, "*immediate response action* [was required] *to stop the source of the discharge and to limit the spread of the oil*". Response options included putting in place sorbent and containment booms, barriers and damns.

(iv) The procedure for oil spill recovery and disposal included excavating contaminated soil and replacing it with clean soil, removing dammed or pooled oil with vacuum trucks, pumps and skimmers, collecting contaminated solids, and using sorbents.

(v) The procedure for initial clean up of oil spills stated that "*SCIN will remove all free phase oil as far as reasonably practicable*". Cleanup options included water flushing, removal of impacted vegetation, manual recovery of oil and use of sorbents, and the use of sorbent booms to prevent oil migration.

(d) As regards assessment and remediation work procedures:

(i) The procedure for assessing the site, including the trigger for more detailed soil and groundwater investigation, remained unchanged from Version 3.

(ii) Procedure 4.9 was retained as the Procedures for Remediation Execution, Additional information was included regarding "*Bioremediation and land-farming techniques*". Off-site RENA was an option *"in cases where in-situ method is not practicable due to space constraints or presence of water (flooding) which will not allow for the effective spread and aeration of contaminated soil to enable bio-degradation to proceed in an efficient manner*".

(iii) The Procedure for Remediation Execution included additional wording in relation to the "swamp methodology", by way of reference to the Mangrove and Swamp Areas Framework.

1013. On 1 August 2013, Amos Gagar sent Markus Droll a note on potential additional funding for emergency pipelines repairs, emergency spills clean up, site remediation, security for the NCTL and TNP, and aerial and surveillance systems. The note provided that such charges were historically funded by the "*JV Base budget*" but "*[w]ith the escalation in bunkering activities, attendance costs and flat JV base budget for the last three years, it has become necessary to seek incremental funding from NAPIMS for these 'extra ordinary opex [operating expenditure]'*".

1014. On the same day, Godwin Okuns (Manager ROCI Program, SPDC) informed Richard Denny, Cor Koster and Ronald Cramer (Principle Optimization Engineer, Projects and Technology, SGS US) by email that the Second Defendant was working with SGSI on a technology that would enable the identification of real-time tapping points, sizes and locations, using real-time pressure data from wireless devices (OnRamp) and pump line pressures. In response, Mr Koster stated that the challenge was that they needed to have live pressure and flow data. Mr Cramer agreed, commenting "*rubbish (or nothing) in, rubbish out*", but noted that export pressure and flow per station would suffice and that could be achieved with wireless pressure transmitters and a sample point with an isolation ball valve.

1015. On 2 August 2013, Vincent Holtam informed Obinna Ukaegbu (Senior Business Advisor, General Manager Production, Upstream International Operated, SPDC), David Martin, Grzegorz Kulawski (General Manager, Onshore Assets, SPDC) of onshore weekly highlights in the Second Defendant's business, including that swamp facilities on the NCTL were still down for repairs, restart of the downstream section was imminent, 60 bunkering points had been removed with two in progress and another two remaining, and that capping technology was on hold as production was required to use that methodology.

1016. On 6 August 2013, the NCTL was restarted but shut it down again due to an oil leak.

1017. On 8 August 2013, the NCTL was restarted.

1018. Reported spill incident ID 1024199 was reported by the Second Defendant to have taken place on 14 August 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1024199.

1019. Reported spill incident ID 1024129 was reported by the Second Defendant to have taken place on 14 August 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1024129.

1020. An unreported spill incident at the Cawthorne wellhead 039 (4.552613, 7.003085) was active as of 14 August 2013. Full details are provided in Annex 032.

1021. On 16 August 2013, Raymond Asuquo, Technical Workstream Lead, delivered a presentation to the COT DRB, titled "CRUDE THEFT SOLUTIONS PROJECT (CTSP)". The presentation slides provided an overview of the deficiencies in the Second Defendant's response to crude oil theft (repeating those identified in the presentation of 30 April 2013 referred to at paragraph ** above) as well as the solutions being assessed and progressed under the COT DRB's remit. Of note:

1021.1. The "*Options Matrix"* for security of supply included a "*Rings Main System*" connecting the NCTL to the TNP to allow for two-way flow, barge lifting of crude role from manifolds to the Bonny Terminal and storage facilities at flow stations.

1021.2. The "*Options Matrix*" for asset protection included:

(a) Multi-layer protective coating (drill/blast proof) was ranked first as a front runner. The slides explained that such coating would prevent cuts, drilling and/or the installation of bunkering points on the pipeline, but came with maintainability challenges and did not offer corrosion protection.

(b) Canalisation of the NCTL was ranked second as a frontrunner. The slides explained that this would facilitate enhanced surveillance and security response to TPI, but may ease access for thieves and was reliant on response and intervention. The option was costed at $50 million for the 17km section between Awoba and Krakama. The slides purported that the option was already being "*[m]atured*".

(c) A fibre-optic intruder detection system was ranked third as a frontrunner. The slides stated that such a system could detect movement around the RoW, provide "*[o]n-spot breach detection*", enhance production flexibility by segmenting the line, would require only minor modifications required on manifolds, and "*[r]apid (immediate) deployment*", but was susceptible to sabotage, and would require provision of security and opex. The option was costed at $31.2 million for the entire NCTL.

(d) Parallel road construction alongside vulnerable sections of the RoW was ranked fourth as a frontrunner. The slides provided that the aforesaid would include ease of access for security/surveillance, but may ease access to thieves, increase military confrontation and was reliant on response and intervention. The option was costed at $0.8 million per km.

(e) 4.5m deep burial on new lines was ranked sixth as marginal. The slides stated that "*[i]nstallation of new pipelines at a 4.5m depth […] will be prohibitive to thieves*", the option was being deployed at Soku, but was technically challenging and had maintainability risks. The option was costed at $645 million for 43km of NCTL and TNP bridging lines.

(f) Constructing high-security fencing for NCTL was ranked eighth and had been dropped. The slides stated that this would provide a physical barrier to slow down breach time and would not require continuous security intervention, but may impact the free movement of host communities and was susceptible to sabotage. The option was costed at $460 million for the entire NCTL.

1022. Reported spill incident ID 1026092 was reported by the Second Defendant to have taken place on 18 August 2013, with the cause reported as Operational. Full details are provided in Spill Annex 1026092.

1023. On 19 August 2013, Joep Coppes emailed David Martin to confirm whether outstanding actions from the GAIR could be closed out. The actions involved implementing GAIR recommendations to confirm the competence of the Second Defendant's pipeline integrity team, 17 pipeline integrity actions identified in a P&T workshop in November 2012, and creation of a resource and succession plan for pipeline integrity engineering and TA positions.

1024. On 21 August 2013, Mutiu Sunmonu sent a letter to NAPIMs requesting additional funding of $159 million for the Joint Venture Partners for extraordinary operating expenditure arising from crude oil theft and sabotage activities to cover the measures referred to at paragraph ** above.

1025. On 27 August 2013, the ExCo held a meeting. Andrew Brown provided detailed updates on Nigeria and Matthias Bichsel provided an HSSE update.

1026. On 29 August 2013, Richard Denny informed Amos Gagar by email that "*[t]he DRB supported that we go ahead with the surveillance activities, irrespective of whether we get funding from partners*", having regard to the urgency and delays and uncertainty in securing NAPIMS funding. Mr Denny noted that "*[t]he benefits of improved surveillance in this area have been well demonstrated, it's time for us to take it to the next level… noting DRB steer for urgency*".

1027. On the same day, Mutiu Sunmonu delivered a presentation, titled "SHELL COMPANIES IN NIGERIA (SCIN): Crude Oil Theft". The slides stated that , by 2011 to early 2012 stealing crude *"had become an all-comers affair*", and there was a further increase from February 2013. The slides set out a near identical "*CRUDE OIL THEFT STRATEGY ROADMAP*" to that in Agans Aganmwonyi's presentation slides of 30 May 2013.

1028. An unreported spill incident on a flow line near Akaso wellheads 004 and 014 (4.543454, 6.960997) was active as of 29 August 2013. Full details are provided in Annex 036.

1029. Reported spill incident ID 1033486 was reported by the Second Defendant to have taken place on 30 August 2013, with the cause reported as Operational. Full details are provided in Spill Annex 1033486.

1030. On 30 August 2013, the Second Defendant prepared an EIA proposal in respect of the channelisation of a 45km canal project from the San Barth Manifold to the Cawthorne Channel Manifold.

September 2013

1031. As of September 2013, the Second Defendant had at least 93 red banded pipelines without UIO EVP approval, at least 28 of which were in service.

1032. At a date unknown to the Claimants in September 2013, Mark Shively prepared a document titled "Nigeria Review – September 2013", which evaluated a range of different technological solutions to respond to crude oil theft. The review stated that the "*net result"* of discussions with Jurgen Janzen, Cor Koster and Brian Mair was that *"they knew when, where and who was stealing the crude and these technologies would not provide additional benefit. The matter was more political than technical."* As to the technological solutions identified, the review provided:

1032.1. "*Smartball*" was a free-swimming device (ball) with acoustic, temperature and pressure sensors that could record data as it traverses the pipeline and be used for leak detection and surveillance. The challenges were that it could stall in the pipeline if pressure drops and cost.

1032.2. "*OnRamp*" technology would contribute to the surveillance of pipeline assets by continuous monitoring of the pipeline for early detection of pressure

drops from sabotage or leaks and corrosion. The technology had already been tested and deployed in Nigeria. No challenges were identified.

1032.3. Chemical deterrents or agents, such as a foaming agent, agent to produce a foul odour or sugar to gum equipment, were feasible and could be used to make crude oil un-refinable in illegal refineries. Challenges were getting the agent to the well site for inclusion on the line and providing intended recipients of the crude oil with a reversing agent.

1033. Between 21 August 2013 and 1 September 2013, Vincent Nwabueze (Operations Manager, Swamp 2 East, SPDC), Meshach Maichibi, Arjen Kooijman, Chuks Ikeobi and David Martin exchanged emails regarding measures to secure wellheads from TPI. In particular:

1033.1. On 21 August 2013, Mr Kooijmans asked senior managers within the Second Defendant to inform their well integrity management staff that the e-WIMS clean-up exercise carried out in 2012 showed that there was a preventative maintenance backlog for wells and appropriate preventative maintenance needed to be performed. He stated that many of those wells were added to the "*well hunt basket*". He explained that deviations were granted in 2012 for one year but, as addressing the backlog was taking longer than anticipated, further deviations or extensions would be supported for most wells, provided that fit-for-purpose risk assessments were carried out, forward plans were established and deviations were requested. However, he stated that "*the requirements of a standard Risk Assessment cannot be me[t] for a number of the wells until they have been physically verified*".

1033.2. On 24 August 2013, Mr Martin stated that "*we need to maintain the momentum on improving our well integrity management to ensure all wells are located, covered by PM's, and routinely monitored*". He suggested increasing the frequency of visits given the threat of crude oil theft from wellheads.

1033.3. On 29 August 2013, Mr Ikeobi stated that increasing visits during working hours would not mitigate theft which mainly occurred at night, it would put further strain on GSA gun boats, and would result in low preventative maintenance compliance.

1033.4. On 1 September 2013, Mr Martin disagreed. In his view, more frequent wellhead visits would mitigate the consequences of bunkering, cost was not an issue, and preventative maintenance compliance was a secondary consideration to reducing oil theft.

1033.5. Mr Maichibi stated that "*we need to accelerate the well hunt exercise to be in full compliance*" and that "*fencing/caging of our well heads is what we need to capture especially we in swamp to deter interference*".

1033.6. Mr Nwabueze stated that the fencing or caging of wellheads should be front-end loaded and that he supported forming a team for the initiative.

1034. On 2 September 2013, Jurgen Janzen requested EVP UIO approval for the Second Defendant to continue operating 32 red banded pipelines outside their operating parameters until 31 December 2014. The request was contained in a document titled "*EVP Support Request Form for Operational Red Banded Pipeline*". As to the content of the request:

1034.1. The "*Case Description and Integrity Assessment*" stated:

> "*The SPDC Pipeline Asset organisation operates lines that as a result of numerous illegal oil theft connections are categorised as "red" according to the GAIR definitions. By these definitions, an illegally installed connection renders a line to be outside of the code/standard and as such be considered to be "red", requiring immediate corrective action or shutting in of the line. […]*
>
> *Due to the high number of illegal connections throughout the Pipeline infrastructure, it would take considerable system downtime to remove all*

connections. Experience indicates that during the shutdowns to remove illegal connections a significant number of new illegal connections would be installed elsewhere on the system."

1034.2. The "*Consequence of Failure Assessment*" rated the overall severity of the consequences as "*5D (Red) – Justification: Reputation*".

1034.3. The "*Risk Mitigation Plan*" described short-term mitigations as follows:

"All known illegal connections are registered with coordinates and further detail within the Pipeline Integrity Management System (PIMS). These known illegal connections are monitored on a daily basis by our Pipeline RoW surveillance contractors who will report any observed leak following which production will be shut-in immediately, the line isolated and depressurised to minimise the spill volume and to allow for the removal of the connection and repair of the line.

In the short term, where a significant number of Illegal Connections are still present on our lines, enhanced daily surveillance of our RoW's through both helicopter overflights and controlled ground surveillance, active leaks from our lines will be identified early with subsequent shut-in, depressurisation and isolation of the line prior to repair. Also in those situations where no active leaks can be observed but oil theft activities cause significant environmental devastation, production will be shut in and further investigation and repairs where required will be executed.

Whereas in previous years the focus was on repair of leaking Illegal Connections and non-leaking Connections on an opportunity basis, the emphasis has now shifted to removing non leaking illegal connections on a campaign approach

The campaign, which started in April this year with the NCTL, aim to remove all known oil theft points on the main trunk lines. Once all known points are removed a ground trotting exercise will be carried out by company and JTF

(Government Security Forces) and if both parties agree that all points are removed. JTF will undertake the prevention of the re-installation of oil theft points on that particular pipeline section.

Significant efforts are ongoing to reduce the impact of oil theft (volumes stolen, volumes deferred and volumes spilled) through the activities of this year's implemented Oil Theft DRB.

Together with SGSi, work is ongoing to identify alternative methods to safely disable/ remove non-leaking illegal connections without having to interrupt flow (e.g. Capping of bunkering points). These solutions would be permanent and would re-instate the full integrity of the pipelines within the GAIR definitions.

Leaking clamps will always require production shut-in to execute repair (clamping or sectional replacement)."

(a) The long-term mitigations involved the removal of all bunkering points and having sufficient assurance that no oil theft points would be installed.

1034.4. The "*Business Impact of Pipeline Outage*" described the rationale for the request: "*Closing in the entire pipeline system to remove oil theft points will cause about 250,000 b/d oil production deferment*".

1034.5. At dates unknown to the Claimants, the request was first approved by Servie Simons and David Martin, and then by Markus Droll and Harry Brekelmans.

1035. On 4 September 2013, the COT DRB held a meeting.

1036. On 4 and 6 September 2013, Richard Denny and Mutiu Sunmonu exchanged emails regarding combatting crude oil theft on the NCTL. In particular:

1036.1. On 4 September 2013, Mr Denny commented that after three and half months of NCTL shut in, "*we have made a material impact*", citing the lack of return to large scale refining, fewer sightings of "*boats of product*" and less environmental damage in the area one month after re-opening the NCTL. He stated that "*the supply lines have been hampered, and do not lead us to believe there are several undiscovered points in operation*". He added that their "*great fears*" that a large number of new bunkering points would be installed in the shutdown period had not materialised and that this "*should embolden our efforts going forward that we can make repairs and reopen regularly as needed to keep on top of the situation*". He stated that it has been unfeasible for thieves to attach new bunkering points in one night hence the daily overflights and response have been a "*vital tool*", the "*reduction in water-borne environmental damage is visible*", and the attempts to install new bunkering points have been limited. He added that this is "*positive news for the divestments*" as it shows a story that they have "*structurally addressed a problem*", that it can be controlled, and they have "*pushed back the scenario whereby we feel it is "out of control" and we would need to consider a semi-permanent, longer-term shut in*".

1037. On 5 September 2013, a meeting was held to discuss the Defendants' response to the IUCN-NDP Report. Presentation slides, titled "IUCN – Niger Delta: Report Recommendations and Next Steps" identified areas of exposure as "*[q]uestions the veracity of sites previously deemed as remediated. In the worst case this could result in revisiting (majority?) of remediated sites to re-assess and re-remediate as required"* and "*[s]ignificant reputational (and financial) impact which could impact us both locally and globally*". The proposed way forward involved the establishment of a Project Manager to manage the report's findings ("*Additional resources / support as required*"), and a "*Shell / SciN Environment DRB established to steer and co-ordinate activities*".

1038. Between 8 September 2013 to 22 October 2013 inclusive, there was a full shut down of the Bille section of the New NCTL.

1039. On 8 September 2013, the JTF provided Olasupo Olageshin an email report of a patrol following an overflight on 7 September 2013, noting that bunkering points had been opened at Awoba N 4 31'50" E 66 44'25", a "*New Escavation"* was observed at Krakama N 4 33'44" 6 54'37" at a spot where a bunkering point had been clamped during repairs and "*[t]he pit dug was not properly back filled*", hence there was "*Heavy Crude Oil Perculation*" at Krakama N 4 33'51" 6 53'45", and the troops destroyed hoses at the Awoba Manifold.

1040. On 10 September 2013, in response to a JTF response to an overflight report of 8 September 2013, Cor Koster observed that "*[w]hat we believe are new points they often come back with saying that they are old or not removed or badly clamped*".

1041. Reported spill incident ID 1038004 was reported by the Second Defendant to have taken place on 11 September 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1038004.

1042. Reported spill incident ID 1038005 was reported by the Second Defendant to have taken place on 11 September 2013, with the cause reported as TPI. Full details are provided in Spill Annex 1038005.

1043. On 11 September 2013, Richard Denny met James Hall and/or Remko Huigen (Upstream International, IM & IT Manager Operated, SIEP) in The Hague to discuss information management issues regarding the response to crude oil theft.

1044. On the same day, the Second Defendant presented a "COST TIME RESOURCE (CTR)" to SGSI to fund and support an "*SPDC Integrity Support*" project through which PTE would provide the Second Defendant with assistance in addressing asset integrity and TPI issues. Under business and technical objectives, the CTR states:

> "*To address some of these challenges, SPDC requested the support of PTE to help tackle some of the challenges by developing an On-Shore Pipeline Integrity Program […] At the completion of this program, SPDC will be in a*

better position to handle activities such as pigging lines with bunkering points, marking of stolen crude oil, certification of flow lines, leak detection and surveillance system, pipeline integrity date management etc. This will eventually improve the integrity of the pipeline system."

1044.1. The scope of work involved assistance with pipeline operating procedures, cathodic protection, corrosion training and support, updating oil contingency plans, JIV training, pigging in lines with bunkering points, defects or bore restrictions, leak detection and surveillance, and pipeline integrity data management. The total cost of the project was not to be exceeding $3,474,000. The Claimants understand that funding was never received for the proposed project.

1045. Reported spill incident ID 1044377 was reported by the Second Defendant to have taken place on 19 September 2013, with the cause reported as Operational. Full details are provided in Spill Annex 1044377.

1046. Between 19 and 23 September 2013, Raymond Asuquo and Ming Tan (Materials & Corrosion Research Engineer, SIEP) exchanged emails about the feasibility of drill-proof pipeline coating technology. Mr Asuquo forwarded a proposal by Silverweb Technologies & Logistics Ltd to install "ROK Blast Protection Technology" on pipelines, noting that they potentially "*provide some of the best options against crude oil theft*". On 23 September 2013, Mr Asuquo shared a comparison table, setting out the features and his comments on two options, which "*SPDC management*" wanted to have "*tested and proven*": "*Multi-Layered Anti-Ballistic Coating Silverweb Technologies*" and "*Superhard Coating Nanosteel*", the latter of which was stated to be used in drillproof safes.

1047. On 19 September 2013, Unackukwu Bennett (Head of Inspections Onshore/Offshore, (SPDC) and Victor Udora requested an exception to "AIPSM Manual Requirement 15 - Onshore and Offshore Assets Corrosion management" for Shell Nigeria until December 2015. Requirement 15 required Shell Companies to establish and maintain procedures to inspect the technical integrity of HSSE Critical Equipment, and to inspect and verify the performance of such equipment.

The reasons for request noted a "*SEPCiN Corrosion and Integrity Management Review which identified significant challenges with corrosion and corrosion management*" and initiatives being put in place to achieve control of corrosion management issues and address deficiencies by December 2015. At dates unknown to the Claimants, Markus Droll gave Business Leader approval for the exception, Paul Buijsingh gave Technical Authority recommendation in favour of the exception, and Tony Paul gave Discipline Head approval for the exception.

1048. On 26 September 2013, Richard Denny, Cor Koster, Grzegorz Kulawski and other staff of the Second Defendant held a wellhead bunkering meeting. Minutes of the meeting recorded that surveillance and response capability needed to be enhanced, well access needed to be ensured, well securing technologies (such as drop plugs, plugs with special profiles, xmas tree locks, and xmas tree surveillance options) would be reviewed to secure wellheads, and a wellhead surveillance strategy would be prepared.

1049. Between 8 and 30 September 2013, Robert Munster, Dan Walsh (Regional Manager Americas / DTL Soil and Groundwater, Shell Projects & Technology), Ben Gowland (Environment Manager, Upstream International – Operated, Shell UK) and Allard Castelein exchanged emails regarding the criticisms of the Second Defendant's remediation standards and practices in the IUCN-NDP Report. In particular:

1049.1. On 8 September 2013, Mr Munster emailed Mr Castelein, stating that "*[w]e have been guided by SGSi's RENA approach and maybe we have not kept up with best practice*". He reported that Ben van Beurden had visited Nigeria the previous week and "*challenged that our standards may not reflect best practice and thus would be seen externally as Shell applying double standards*". He commented: "*our remediation activities have focused on individual sites where as our challenge in the Niger Delta is on an industrial scale"*. He asked Mr Castelein whether RENA remediation standards were in line with best practice.

1049.2. On 26 September 2013, Mr Walsh provided Mr Castelein with a draft response, which asserted – notwithstanding the UNEP and IUCN-NDP Reports – that RENA and the "*[a]pplied TPH criteria (3000 to 5000 mg/kg)*" reflected best practice.

1050. On 30 September 2013, Rik Prager emailed Ben Gowland, Mark Weintraub, Allard Castelein, David Saint-Laurent (Soil and Groundwater Global Discipline Head, Shell Canada), Karen Bennetti (Soil and Groundwater Global Discipline Team Lead, Shell Americas), Dan Walsh, Robert Munster, Oby Moore (Manager, Health, Safety, Environment, SPDC) and Andrew Lee regarding the Second Defendant's remediation standards in light of the IUCN-NDP Report. He accepted that the Second Defendant's remediation standards were "*probably due for a review*" and explained that "*[t]he current standard is based on the risk to human health"* as opposed to environmental concerns.

October 2013

1051. At a date unknown to the Claimants in October 2013, the Second Defendant deployed the "*Sea Watchers*" security surveillance strategy in an attempt to ensure that new bunkering points were not installed in segments of the NCTL under repair and/or which had been repaired.

1052. On or around 1 October 2013, the Second Defendant and SGS (US) commenced a "*Soil and Groundwater Training Program*". According to the "COST TIME RESOURCE (CTR)" for the project:

> "*Advanced soil and groundwater (S&G) remediation assessment and design have been identified as a key skills gap in the oil spill response and remediation department staff. The risk posed by complex spill sites to the environment and SPDC reputation have been assessed as high on the OSRRT risk register and advanced (S&G) training has been identified as a means to mitigate identified risks.*"

1052.1. The CTR provided that SGS (US) would provide expert trainers to deliver a three-day advanced training to the Second Defendant on the issue.

1053. Between 25 September and 3 October 2013, staff of the Second Defendant including Cor Koster exchanged an email about an incident of flow line theft in which one of the Second Defendant's engineering contractors was involved.

1054. An unreported spill incident at Cawthorne wellhead 042 (4.561620, 7.002499) was active as of 2 October 2013. Full details are provided in Annex 031.

1055. On 6 October 2013, Peter Voser and Andrew Brown exchanged emails regarding an NNPC letter informing Shell that the Second Defendant's joint venture budget would be reduced by approximately $1 billion. Peter Voser opined "*it seems that they are trying again to push the outcome of the sabotage and theft onto our doorsteps*".

1056. On 7 October 2013, Bernard Bos emailed Oluwaremilekun Soyannwo (Principal Mergers & Acquisitions, Structured and Commercial Finance, SPDC) about the "*SPDC funding crisis*", noting that only $100million was left in the Base JV budget for the final three months of 2013 "*which is not sufficient to run a company like SPDC. It will mean we have to shut down helicopter operations, and other contractors which will have a major impact on production, and the financial position of our contractors*."

1057. On 8 October 2013, Richard Denny sent an email to *inter alia* David Martin, Grzegorz Kulawski, Barbara Blum and Jurgen Janzen. Pursuant to a direction at the previous COT DRB meeting, Mr Denny attached draft "*Theft Point Protocols*", intended to guide the Second Defendant's approach to tackling new bunkering points, that had been finalised with Legal. He stated that the protocols largely codified existing practice, but noted: "*when we see significant new environmental damage coming from refining, and have reason to believe the crude supply is coming from our line, we will seek to investigate, but if we have not reached a conclusion within 3 days, we will shut down pending that investigation. This mirrors what we have done recently in TEP and NCTL, though the hard 3-day limit*

would be a something new." He stated that the proposal was agreed between the persons in the email chain, it would be taken to the next COT DRB meeting for approval and noted, in particular, that Markus Droll was "*keen to review".* David Martin stated that he was in broad agreement but wanted the rationale for the three-day limit explained.

1058. On 10 October 2013, Anthony Offor delivered a presentation titled "UIO/G Asset Integrity Process Safety Management". The presentation slides:

1058.1. Highlighted that there were "*[k]ey* [Process Safety] *challenges […] in the areas of Red banded pipelines, effectiveness of corrosion management and 3rd party encroachment*", and that the "*[n]umber of red banded lines in operation, Tier 1 and Tier 2 Process Safety Events and Alarm Rates are KPIs where we need improvement*".

1058.2. Identified that approximately 500 wells did not receive bi-annual preventative maintenance, approximately 1,000 wells were not "*Annulus Pressure Management compliant*", "*[t]he well hunt basket currently contains 469 wells*", and when preventative maintenance and annulus pressure management is implemented on all wells and the well hunt is completed, corrective maintenance requirements may increase significantly and threaten the 2% deviation target.

1058.3. Identified support required from leadership as including "*[r]esource the SPDC corrosion management organisation*" and "*[b]udget for corrective maintenance (CM) activities for wells in the Well Hunt Basket*".

1059. Also on 10 October 2013, the Second Defendant held a workshop regarding well integrity. Boma Brown and Arjen Kooijman delivered a presentation, titled "WRFM Planning /Execution On Management of Well Integrity in The Operate Phase". According to the presentation slides, Well Failure Model ("**WFM**") compliance was approximately 30-40%, and there was an "*[u]rgent need to close the large gap in Well Integrity & Maintenance Execution*". Further, not all of the

Second Defendant's wells were listed in e-WIMS, in part, due to "*[u]nknown Well locations (Well hunt project yet to identify all wells)*".

1060. Between 1 and 14 October 2013, *inter alia* Grzegorz Kulawski, Chuks Ikeobi and Meshach Maichibi exchanged emails regarding theoperational workstream of the COT DRB. In particular:

1060.1. On 1 October 2013, Mr Kulawski stated that he would like the workstream to "*define "what success looks like" in our operational management of crude theft prevention*". He stated that crude theft could not be eradicated in the medium-term, but "*we need to know what is our game plan for the operational sphere we do control or have influence over*". He proposed an agenda for a strategy meeting, covering "*Pipeline protocols feedback from DRB*", overview of current threats and hotspots, plans for pipeline repair capabilities, wellhead protection strategy, and targets and priorities.

1060.2. On 11 October 2013, Mr Ikeobi proposed KPIs, including the number of wellheads that are fenced, the frequency of inspection visits to wellheads, frequency of boat patrols, the number of suspended/closed-in wells that have been secured, the percentage of wells with active surveillance contracts, the number of incidents recorded for contractors, and the number of crude theft incidents.

1060.3. On 14 October 2013, Mr Maichibi set out highlights of the workstream's "*revised strategy*", which included an "*[o]nion type security strategy*" with surveillance, intelligence gathering and JTF response, monthly engagement with the JTF, "*[t]raining/certification of surveillance guards and supervisor*", "*[d]aily monitoring of well heads and flowlines*", and provision of accommodation to right of way inspectors to enable daily monitoring.

1061. The operational workstream of the COT DRB subsequently held a strategy meeting in Port Harcourt, Nigeria, to discuss the matters in the aforesaid email exchange.

1062. On 16 October 2013, Andrew Brown submitted an update to the ExCo on Nigeria, in advance of further discussion at the CSRC on 29 October 2013. The note provided an update to the overall Nigeria Strategy execution, describing crude oil theft as remaining a *"serious problem"*. It outlined the Second Defendant's *"toughened stance"* on shutting in pipelines for the removal of theft points from its pipeline systems, noting the closure of the NCTL in mid-April to early August to facilitate removal, initially of 14 known bunkering sites, but ultimately of more than 50. To the end of September 2013, more than 170 theft points had been repaired but 130 purportedly new ones discovered. The note also referred to the Second Defendant's efforts to improve surveillance of illegal activities and enable *"faster response"* to new theft points and spills. It acknowledged accusations of complicity against community-based contractors working for Shell, *"effectively working for Shell during the day, while bunkering at night"*.

1063. On 18 October 2013, the UIO/G AIPSM Steering Committee held a meeting. Anthony Offor and others delivered a presentation, titled "Q3 2013 UIO/G AIPSM Steering Committee Meeting". The presentation slides:

1063.1. Recorded action items for members of the AIPSM Steering Committee, including items for Jurgen Janzen to "*[s]eek EVP approval for mitigations for red banded lines in operation*" and for Grzegorz Kulawski to develop a plan for installing pressure monitoring devices on wells.

1063.2. Identified pipelines as a "*Key Risk"*, noting that there were "*[s]ignificant gaps*" in various areas "*due to other priorities of leadership*".

1063.3. Outlined that only 55% (298 out of 434) of wells in the Second Defendant's Swamp East assets had been added to its eWIMS system and only 45% of wells achieved WFM compliance (including annulus pressure management).

1063.4. Identified key asset integrity performance management challenges as including the "*[h]igh number of Red banded pipelines and flowlines in SPDC*", "*[c]orrosion management*", and "*[w]ell integrity*", noting "*[w]ells in*

unknown location/No Go Areas" and "*[o]utstanding Fix Programme / wells due for abandonment*".

1064. On 20 October 2013, Robert Munster announced by email to staff of the Second Defendant, SGS and SIEP that an Environmental Assurance Team, led by Nick Tangney (Environmental Assurance Manager, SPDC) had been established to provide support, advice and guidance to Shell Companies in Nigeria to meet their environmental commitments, and its initial focus would be to implement governance and assurance on remediation activities.

1065. On 21 October 2013, Olasupo Olageshin emailed Cor Koster a proposal for a well surveillance strategy. Mr Olageshin stated that that "*[w]e fully recognised the spike in incidents of theft of crude from wellheads as a result of unavailability of the trunklines, especially in Swamp East […] [and] the failure of the current wellhead and flowline surveillance strategy in most areas*". The proposal involved deploying an "'*Onion type' security strategy*" with several layers involving regular ground patrols to wellheads, intelligence gathering on persons planning theft from wellheads, JTF response and focus on well heads, terminating surveillance contracts which "*do not give value for money*", monitoring contractor performance, training and certification of surveillance guards and supervisors, resolving the "*issue of late payment of salaries to surveillance guards*", and daily monitoring visits to wellheads by the production operations team.

1065.1. On 23 October 2013, the Second Defendant held a meeting with Chevron to discuss TPI in the Niger Delta. Emmanual Anyim (Head Social Performance, SPDC) sent Richard Denny and others an email on 25 October 2013 setting out the highlights of the meeting.

1065.2. The email noted areas where Chevron had had far greater success in responding to crude oil theft than the Second Defendant and did not experience *"the scale and dimensions of COT and illegal refining compared to Shell"* and had "*considerable success*" as a result of the channelisation of their pipelines. This included in areas where the Second Defendant had been experiencing TPI.

1065.3. Chevron operated a "*Pipelines Facilities Surveillance Programme*" in which communities, the JTF and the GSA sat on a joint board and collaborated successfully in tackling oil theft and illegal refining, "*in stark contrast with SPDC CDB's* [Cluster Development Board] *who want to be separated and believe they have no role to play in the issue*". Chevron's GMOUs *"contributed immensely to building trust, reducing community disruption"* and ensuring that communities viewed themselves as *"partners in the oil and gas business"*. Strong emphasis was placed on institutionalising a set of guiding principles to support the framework, including accountability and transparency, community ownership, participatory partnerships through stakeholder engagement, and peace building through grievance management and rule of law. These principles complemented more structural factors built into the GMoU.

1065.4. Chevron "*maintains a policy of keeping their lines clear of vegetation and so their ROWs are easily accessible and visible both on land and from the air*". Mr Anyim stated that learnings from the meetings with Chevron and others would be presented to the COT DRB to highlight areas for "*possible improvements*".

1066. On 23 October 2013, the downstream section of the NCTL from San Barth Manifold was restarted. The upstream section remained down for repairs.

1067. On 24 October 2013, the Department of Petroleum Resources wrote to SPDC in relation to 'Audit of Shell Petroleum Development Company and Chevron Nigeria Unmetered and Theft Crude Loss at Inda and Robertkiri Production'. The DPR approved several resolutions, including that (i) "*Both parties (SPDC and CNL) should be jointly investigating any incident of crude oil theft and the calculation of volumes involved. In case only one party is involved, evidence of the theft point should be clearly demonstrated*"; (ii) "*In the long term, both SPDC and CNL should consider installation of check meters at strategic points for real time monitoring of crude oil measurements*"; and (iii) "*Both parties should improve in record keeping, especially meter tickets, calibration and meter proving records*".

1068. Reported spill incident ID 1060942 was reported by the Second Defendant to have taken place on 25 October 2013, with the cause reported as Third Party Interference. Full details are provided in Spill Annex 1060942.

1069. An unreported spill incident at the Cawthorne wellhead 022 (4.548515, 7.011640) was active as of 26 October 2013. Full details are provided in Annex 033.

1070. An unreported spill incident at the Cawthorne wellheads 048 (4.543906, 7.006647) and 023 (4.543524, 7.006752) was active as of 26 October 2013. Full details are provided in Annex 034.

1071. An unreported spill incident at the Cawthorne wellhead 040 (4.551228, 7.005157) was active as of 28 October 2013. Full details are provided in Annex 029.

1072. On 29 October 2013, the CSRC held a meeting. In advance of the meeting, the CSRC was provided with a 2013 Q3 Safety & Environmental Performance Update (which noted that a significant operational spill occurred in Nigeria in October 2013) and a 2013 Q3 HSSE&SP Assurance Update and 2014 HSSE&SP Assurance Plan, and Andrew Brown provided the CSRC with a Nigeria Update. In the meeting, Harry Brekelmans and Osagie Okunbor presented a review regarding the execution of the Nigeria Strategy Review. The minutes of the meeting recorded that "*[t]he situation in Nigeria has deteriorated this year, but the organisation is managing the "crisis" and shutting-in pipelines when sabotage and theft results in leaks that cause environmental damage"*.

1073. On the same day, the Audit Committee held a meeting. The CEO noted challenges in the operating environment in Nigeria.

1074. On 30 October 2013, the Board held a meeting. It was given a Business Update, including from Andrew Brown on issues relating to Upstream International, such

as the political outlook and asset divestment in Nigeria. The minutes further record the Board as having noted a Nigeria Update in the Board Book.[343]

1075. Reported spill incident ID 1065644 was reported by the Second Defendant to have taken place on 31 October 2013, with the cause reported as Operational. Full details are provided in Spill Annex 1065644.

November 2013

1076. On a date in November 2013 unknown, the Defendants reopened the NCTL in full.

1077. On or around 4 November 2013, Richard Denny and others held a meeting with the Commandant-General of the NSCDC. A summary of the meeting, sent by email by Ndubuisi Nwakalo, notes that the Commandant-General "*alleged that both JTF and IOC personnel are complicit in crude theft*", advocated better community engagement, "*strongly condemned the current practice of JTF destroying seized crude theft equipment*" because it destroys evidence and suggested that it "*may be carried out deliberately to shield suspects from being successfully prosecuted in court*". He mentioned that "*SPDC does not always keep faith with its commitments/promises to his men, and inferred that this has sometimes forced his men to adopt a nonchalant attitude towards protecting SPDC's facilities*".

1078. Also on 4 November 2013, Robert Munster emailed staff in the Second Defendant, informing them that a SCiN Environmental Assurance Team had been established, and "*[t]he significance of this activity is such that it is being watched closely by the UI LT"*.

1079. On 6 and 7 November 2013, the Environmental Assurance Team held a kick-off framing workshop in Port Harcourt, Nigeria, attended by local and global HSSE teams and legal departments to establish shared priorities for environmental

assurance in Nigeria. At all material times, the Environmental Assurance Team was governed by the Environment DRB.

1080. On 8 November 2013, the Technical Workstream of the COT DRB issued a draft "CTSP Options Evaluation Report". The report relevantly provided:

1080.1. On 10 November 2013, the Second Defendant provided an initial response to the IUCN-NDP Report, stating that it "*appreciates*" the recommendations in relation to internal environmental management, oil spill response procedures, bioremediation procedures and a socio-environmental strategy, "*accepts* […] *there is a need to introduce a final sign-off process within three years post-remediation to ensure that chemicals of special concern have reduced to required levels"*, and "*acknowledges the need for longer term monitoring of the biodiversity recovery*".

1081. On 13 November 2013, Gerianne Hazewinkel (Governance, Risk and Assurance Manager, Upstream and PT, SIEP) delivered a presentation at the Upstream International Business Assurance Forum Q3 2013. The presentation slides noted changes in Upstream International's business assurance approach, involving "*real time reporting*", with the aim being to "*assess quarterly whether we have the right coverage and interventions in place to maintain a robust UI level control framework*". Harry Brekelmans was identified as the owner of "*Nigeria (RDS risk)*", which was considered to be high likelihood, high financial impact and requiring major improvement. The slides identified that AIPSM programmes were not progressing on expected timelines, there was delay in closing out audit actions, and "*Management in Control and self assurance needs major improvement – we need to know we're operating safely*".

1082. On 14 November 2013, the Iguana Steering Group held a meeting to discuss divestment and crude oil theft and bunkering.

1083. Also on 19 November 2013, the Second Defendant held an Operations Review meeting with the JTF at Port Harcourt. It appears that such meetings then began to

be conducted on a monthly basis. An email by Olasupo Olageshin on 20 November 2013 recorded that the Commanding Officer of 343 Battalion of the JTF "*raised concerns that the NCTL has been left vulnerable because the removed section of illegal connections to the NCTL were limited to those within the RoW, whilst those outside the RoW, most of which extend for hundreds of metres to illegal loading points, were left untouched*."

1084. On 21 November 2013, Lt Col Mukhtar Adamu emailed Olasupo Olageshin and others with an update regarding NCTL ground trotting on 20 November 2013 at Nembe. He noted that repair teams had clamped illegal connection points and removed illegal pipelines, "*but only within the limits of the pipeline Right of Way (ROW), leaving the remaining illegal pipelines out of the ROW not removed*". He recommended that the remaining illegal connections be removed, "*otherwise the illegal oil bunkerers could immediately reconnect to the NCTL and resume their illegal operations with ease*". Mr Olageshin forwarded the update to *inter alia* Richard Denny, David Martin and Cor Koster.

1085. An unreported spill incident at the Awoba wellhead 006 (4.533420, 6.840628) was active as of 21 November 2013. Full details are provided in Annex 002.

1086. An unreported spill incident at the Awoba wellhead 003 (4.535203, 6.834926) was active as of 21 November 2013. Full details are provided in Annex 006.

1087. Reported spill incident ID 1076203 was reported by the Second Defendant to have taken place on 22 November 2013, with the cause reported as Operational. Full details are provided in Spill Annex 1076203.

1088. On 25 November 2013, *inter alia* Andrew Brown, Harry Brekelmans, Markus Droll, David Martin, Simon Durkin (VP Safety, Environment and Social Performance, Upstream International, SIEP), Mutiu Sunmonu, Osagie Okunbor,

Simon Roddy, Robert Munster and Richard Denny attended a Significant Incident Review meeting convened at Andrew Brown's request. In particular:

1088.1. A presentation was given, titled "Annual Nigeria Sabotage Significant Incident Review (Section 3 Strategy)". The slides summarised the approach taken in 2013, including increased leadership involvement and surveillance and a more proactive approach to shutting down pipelines and removing bunkering points. The next steps noted that "*DRB work has taken us to a new "plateau"; further impetus now required*" and that "*[c]apping methodology soon to be trialled*".

1088.2. According to presentation slides:

(a) There had been 144 oil spills and 12,263 bbls spilled between October 2012 to September 2013, 119 of which were sabotage-related, 17 were operational and 8 were yet to be determined.

(b) The Second Defendant's approach in 2012 was described as "*re-active removal of Illegal Connections*" whereby leaking illegal connections were removed and repaired, whereas non-leaking connections were "*removed on an opportunity basis only*".

(c) There were 51 illegal connections on the NCTL as of January 2013, 38 had since been installed, 74 had been removed and 15 were remaining on the line.

(d) As to the controls in place to prevent sabotage and oil theft, *inter alia*: the Second Defendant's pipeline infrastructure "*has no real-time monitoring capabilities, other than station discharge pressures with Hi-Lo pressure trip settings*", only "*major pipeline ruptures*" result in station trips, and "*average 3rd Party spills will not be observed on station discharge pressure profiles*".

(e) Explained the COT DRB decided in April 2013 that all existing illegal connections on the Second Defendant's main pipelines would be removed.

1088.3. The minutes of the meeting record: The general steer was to "*stay the course, with focused step up (e.g. repair crews, surveillance, capping etc*". Mr Droll was assigned responsibility for "*[r]eview[ing] how can increased block valve installation be deployed to minimise volumes in event of spill*". Messrs Droll and Sunmonu were assigned responsibility to "*keep pushing defensive measures*", such as intelligence gathering, aerial surveillance and repair crews while "*look[ing] for options to drive positive change*". Mr Denny was assigned responsibility to ensure that the aerial surveillance programme was connected to onshore activities. Mr Martin was assigned responsibility to "*[d]evelop a plan ready for implementation to improve community surveillance contractor management*". Mr Munster was assigned responsibility to provide an update on oil spill response and remediation performance to UIO.

1089. On 25 November 2013, the THISDAY newspaper published an article regarding failures to install fibre-optic leak detection systems on pipelines and facilities in the Niger Delta. In response, Grzegorz Kulawski asked Cor Koster by email whether they were involved in the matters reported. In his response, Mr Koster stated that the technology is being planned for the new TNP, but that they have had "*long discussions internally*" and decided not to install it on existing lines as it would be too vulnerable to sabotage if installed next to existing lines at a depth of around 2.5 metres.

1090. On 26 November 2013, the Stakeholder Democracy Network published a report regarding illegal refining in the Niger Delta. In response to the report, Dennos Dolhain (Commercial Development Manager, SNEPCO) emailed Richard Denny, highlighting the following from the report:

(i) "*During the tapping process the pressure on pipes must be reduced before a tap can be installed, otherwise the pipe could explode. As oil companies control pipeline pressure from manned control rooms, some of their staff may be complicit in reducing pressure to allow tapping to occur. They would then inform the union members when pressures are being reduced for routine maintenance. According to one source in the*

field, some control room operators will lower pipeline pressure to a required level after payment of around $6,000."

1091. Reported spill incident ID 1078869 was reported by the Second Defendant to have taken place on 27 November 2013, with the cause reported as Operational. Full details are provided in Spill Annex 1078869.

1092. On 28 November 2013, Robert Munster wrote to Markus Droll, reflecting on site visits he had done. Based on his assessment of the Second Defendant's "*producing assets and the poor state many are in*" he wondered whether they "*should not halt all but necessary project activity and divert our organisation to complete, renovate and fix our assets".* He noted *"very stretched engineering organisations who are focused on the new projects*" while the development team was looking at new opportunities, and asked "*Is there a disconnect between looking after the old and doing the new?*". Markus Droll responded on 29 November 2013 stating that budget constraints were "*forcing us to take a good look at the SPDC portfolio*". The email chain goes on to discuss issues across all assets and a proposal to review all asset reference plans, but in the meantime the approach was to "*stabilise the patient*" (David Martin to Robert Munster in final email of chain).

December 2013

1093. In the period leading up to December 2013, there was an increasing trend of trips on the NCTL as a result of low pressure caused by oil theft and/or spills.

1094. Reported spill incident ID 1082291 was reported by the Second Defendant to have taken place on 2 December 2013, with the cause reported as Third Party Interference. Full details are provided in Spill Annex 1082291.

1095. On 2 December 2013, Grzegorz Kulawski and David Martin discussed the aforesaid by email, with Mr Kulawski stating that the main actions were to continue removing bunkering points from flowlines to the NCTL and to "*escalate with GSA*

command, try to change forces on the ground particularly the Navy around Santa Barbara where it's worst […] and Navy appear well and truly part of the problem".

1096. On 4 December 2013, Chimezie Onwugbuta emailed Mpakaboari Jack regarding bunkering attempts at Dasaba creek and Bille. As regards the latter, Chimezie Onwugbuta stated that on 2 December 2013, a vendor in Bille reported a "*very serious conspiracy between the JTF at the army houseboat stationed at KM 45 in Bille and Bunkerers (crude oil thieves) to open new bunkering points on the 30" NCTL*". Chimezie Onwugbuta stated that actions were required, including discussions with the JTF and increased patrols in affected areas.

1097. Reported spill incident ID 1085925B was reported by the Second Defendant to have taken place on 9 December 2013, with the cause reported as Third Party Interference. Full details are provided in Spill Annex 1085925B.

1098. On 10 December 2013, the Audit Committee held a meeting. According to the minutes of the meeting, the Controller informed the Audit Committee that risks of a systematic and pervasive nature had remained stable but that "*risks with a more unique character such as Nigeria*" had deteriorated. Nigeria was reported with a "*Red declining trend within the High Impact, High Likelihood section*" of the First Defendant's risk visual.

1099. On the same day, a PTE-E expert team visited the Second Defendant's offices in Port Harcourt to discuss and agree the scope of ongoing PTE-E to the Second Defendant regarding onshore pipeline integrity. According to a written summary of the meeting, the Second Defendant indicated that it was having difficulties securing operating expenditure support with its shareholders for 2013, the Second Defendant asked PTE-E to "*develop the backup solution with RDS funding only*", and that costs were being collected on a "*special PTE-E overheads account*" which would be paid when a budget was secured.

1100. On 11 December 2013, the Board held a meeting. Andrew Brown presented an update on issues including HSSE performance and Nigeria production and the associated *"impact of crude theft"*.

1101. On 12 December 2013, SIA issued the 2013 COT Audit. The audit was not rated (as a result of the decisions referred to at paragraphs ** above). The report observed crude theft response gaps, governance weaknesses, poor surveillance contracting and inadequate data management. In particular:

1101.1. The executive summary explained that the audit period was initially 2009 to 2012 but had been adjusted to include 2013 given "*recent significant progress*" in mitigation actions taken. As to the latter, the audit purported that the Second Defendant was "*making it more difficult for thieves to tap into its pipelines, by burying new pipelines to deeper depths with concrete slab coverings, retrofitting well heads to make them more tamper proof and shutting in production to remove illegal taps and repair damaged pipeline sections"*.

1101.2. Audit finding no.1, "*Governance: Clarity of Objectives and Targets*", described the Second Defendant's current mitigation actions as including: the establishment of the COT DRB in April 2013 and daily review meetings of senior management to assess and deploy mitigations (i.e. the DSRM); daily helicopter overflights; ongoing surveillance activities; cataloguing of bunkering points for removal; and "*[u]pgrading of production facilities safeguarding systems to include safe shut-in of production on sensing low pressure due to third party or other interference*". However, the audit highlighted governance issues regarding the COT DRB, finding that there was a need to clarify and secure the full-time participation of its members, improve accountability, clarify its interface with other teams, and review its progress against its objectives.

1101.3. Audit finding no.2, "*Management Response Strategy and Implementation (Managing risk to ALARP)*", found that management's actions to mitigate crude oil theft needed to be improved, including that the Second Defendant needed to assess the robustness of its policy on securing non-operational wells.

1101.4. Audit finding no.3, "*Management of HSSE in Pipeline Surveillance Contracts*", found that there were inconsistencies in the Second Defendant's management of contracts with surveillance contractors.

1102. Also on 12 December 2013, the SCiN Environmental Steering Group held a meeting. According to presentation slides, titled "SCIN ENVIRONMENT STEERING GROUP:

1102.1. The Decision Executive was David Martin, supported by Ben Gowland. The membership included "*SCiN Members*" (Mutiu Sunmonu, Robert Munster, Oby Moore, Barbara Blum, and Philip Mshelbila) and "*Group Members*" (Rupert Thomas (VP Environment), Simon Durkin (VP UI E&SP) and Simon Roddy (UIO SE&SP Manager)).

1102.2. The objectives of the Steering Group were the same as those mentioned in the revised TOR for the Environment DRB dated 7 May 2013 (paragraph ** above). The Claimants infer that the Steering Group and the Environment DRB were the same. A specific objective was to establish an "*internal Environmental assurance team, independent of execution teams, to assure that we are doing what we say we do*". A tiered schedule was agreed: in Q1 2014, the quality of execution of remediation would be tested and analysed, and "*P&T HSE Technology will add deep technical assurance assistance for Tier 2 spill sites*"; in Q2 2014, it would be tested that all departments were securing the required permits; and in Q3 2014, deeper compliance reviews would take place.

1102.3. Workstreams were created in response to the IUCN-NDP Report, which included "*Oil Spill Response & Quality Improvements (Oil Spill Response & Remediation Team)*" and "*Assessment of recommended new techniques for remediation & rehabilitation (P&T HSE Technology Team)*". As to the latter, "*[t]he primary task is a detailed technical review of the IUCN-NDP recommendations to be conducted by the Global Centre of Excellence on Remediation based in P&T HSE technology*".

1102.4. Progress against action items was summarised, which referred to:

(a) "*Competence of Nigeria laboratories*": The action of building capacity of contractors was in progress, with samples to be sent overseas for testing.

(b) "*Oil Spill Response and Remediation activities*": The action of defining improvement in KPIs such as spill response time, JIVs and remediation timeframes was ongoing.

(c) "*Implementation of IUCN-NDP recommendations*": A Project Manager had been appointed to drive implementation of the recommendations, and a series of actions were underway.

1103. A note titled "Crude theft solutions project: status and way forward", dated 15 December 2013, stated that consideration should be given to Business Opportunity Managers having their own budget for use on pilot studies and trials, having regard to delays in seeking funding through NAPIMs. The note stated that "*guidelines will also need to be established where Shell exclusive (or IOC partner only) funding would also be considered acceptable*".

1104. Reported spill incident ID 1088500 was reported by the Second Defendant to have taken place on 15 December 2013, with the cause reported as Third Party Interference. Full details are provided in Spill Annex 1088500.

1105. On 16 December 2013, Markus Droll updated Andrew Brown on the pipeline availability. noting that the NCTL was operational, with *"no low pressure trips so far"* despite overflights detecting an *"increase in activity"*

1106. A note on the 2013 Security Budget Performance dated 17 December 2013 referred to high levels of TPI in 2012/3, It noted a reduction in the security budget allocation for the NCTL / TNP (initially F$31.6m; reduction in funding meant this reduced to $23.5m) and Special Security East (initially F$47m; reduced to F$41m). The note records potential exceeding of the realigned budget for 2013.

1107. Between 20 December 2013 to 21 December 2013 inclusive, there was a full shut down of the Bille section of the New NCTL.

1108. An unreported spill incident at the Cawthorne wellhead 043 (4.548230, 6.978363) was active as of 23 December 2013. Full details are provided in Annex 027.

1109. According to presentation slides prepared by Jurgen Janzen, titled "Pipelines and Flowline Integrity Management Review" and dated 1 October 2014, the Defendants carried out 364 pipeline repairs on the NCTL in 2013, including the removal of 208 non-leaking illegal connections (as well as 117 leaking connections). In contrast, and reflecting the more permissive approach to the removal of bunkering points prior to March/April 2013, in 2012 only 180 repairs were carried out, and 41 non-leaking bunkering points were removed (as well as 116 leaking bunkering points).

The period following the 2011-2013 Bille Spills

1110. In 2014/5, the Defendants, including through the COT DRB, continued to discuss substantially the same security, technological and environmental measures as were under consideration in 2013, albeit with the objective of relying less on the JTF. As was the case in 2013, only a limited number of the measures considered were either implemented or trialled, oftentimes with considerable delay. The First Defendant continued to execute the Nigeria Strategy, divesting from the OML 18, OML 24 and NCTL by March 2015.

<u>January 2014</u>

1111. On 1 January 2014, Ben van Beurden (Chief Executive Officer, RDS) replaced Peter Voser as CEO of the First Defendant.

1112. Between 20 December 2013 and 15 January 2014, staff within P&T and SGS exchanged emails regarding leak detection system requirements. In particular:

1112.1. On 20 December 2013, Ronald Cramer stated that equipment design and safeguarding needs to be ALARP, subject to a Hazard and Effects Management Process ("**HEMP**") analysis and leak detection requirements will vary case-by-case. He continued:

> "*However, suspect that the least that project can do is to install well proven, continuous LD technology that can cost effectively and sustainably quicky detect larger leaks. Leak detection being one of the HEMP recovery barriers, along with others such as automatic, low pressure trips.*"

1112.2. In response on 23 December 2013, "*[t]o drive the change that is required in this area*," Vincent van Beusekom (Global Asset Integrity Review Programme Lead, Projects and Technology, SGSI) recommended that the Shell Group update the Pipeline Engineering DEP to "*[m]ake ability to detect HC released in relation to volume, time and goal zero requirement a mandatory document during design stage*" and "*[i]nclude a statement [...] that selection should be based on best available technology*". He commented that such a statement "*could fill the gap and avoid that we continue not to install leak detection systems on new lines*".

1112.3. On 14 January 2014, William Nisbet (Technical Authority-1, Subsea and Flow Assurance**)** agreed that they should update the PC006 and DEP to "*provide more clarity around the requirements for leak detection*".

1113. On 21 January 2014, Peter Voser prepared the Performance Report of Andrew Brown. He noted that 2013 had seen *"significant negative impact from Nigeria due to the deterioration of security and the Nimasa effect. A clear disappointment was production delivery which had significant earnings and cash impact".* He identified that Nigeria was one of the "*key areas for Andy where his personal focus and leadership was required."*

1114. On 27 January 2014, a draft of the "2013 Shell Internal Audit Annual Report" note to the ExCo and Audit Committee, sponsored by Simon Henry, summarised

the 2013 Nigeria audit programme. The Claimants are unable to plead fully to the content of the document as much of the disclosed version is redacted. The document noted that ongoing resource constraints were being observed across Upstream International, both in number and in technical and operational capabilities. Following the audits on Illegal Crude Oil Bunkering and Onshore Oil Spill Response and Remediation, actions were said to be underway "*to improve overall risk mitigation in those areas*" including by way of "*increasing helicopter surveillance and the formation of a dedicated Crude Oil Theft project team*" and strengthening soil and groundwater remediation controls.

1115. On 31 January 2014, Maarten Wetselaar (Acting Director, Upstream International) and Chris Streng (EVP Finance, Upstream International) submitted the 2013 Business Assurance Letter ("**BAL**") to Ben van Beurden (RDS-CEBB). The BAL relevantly provided:

1115.1. Nigeria was a continuing area of risk due to increased security risks (including increasing levels of sabotage/crude-oil theft), and continuing scrutiny of environmental performance, including the UNEP Report.

1115.2. The Second Defendant held a significant number of assets at the end of their economic life, with some wells suspended for many years, others inaccessible for required integrity maintenance, and others tampered with or encroached upon, creating potential environmental, safety and litigation exposure.

1115.3. A large number of wells remained outside the management system and a *"significant number"* of red-banded pipelines were in operation with Upstream International Executive Vice President-approved mitigation plans. Systemic challenges remained, including the need to *"better manage pipeline corrosion*", weaknesses in Management of Change controls, and gaps in spill-response capability. Most pre-2012 spill sites had not been remediated. Although TPI spill frequency increased in 2013, total spilled volume had decreased. A campaign to remove bunkering points and repair leaks had been fully implemented in 2013 and would continue.

1115.4. Control-Framework exceptions were recorded in relation to Nigeria, including in relation to corrosion-management due to challenges across Nigeria assets, and the establishment and maintenance of documentation for HSSE Critical Equipment and operating Procedures on pipeline assets as a result of numerous illegal connections categorised as "*red*".

February 2014

1116. In February 2014, the Second Defendant published its 2013 Annual Pipeline Integrity Report (the "**2013 Pipeline Report**"). The 2013 Pipeline Report:

1116.1. Noted that the preferred method for repair was bolt on clamps in most cases and with very few exceptions, only clamps had been applied for repair of leaking defects.

1116.2. Recorded that the maintenance reference plan was not being met due to access challenges, and sabotage/bunkering attacks on the pipelines, and that pipelines within restricted areas were not being maintained due to security and community issues.

1116.3. Noted that an increasing number of emergency repair activities diverted resources reserved for planned maintenance operations.

1116.4. Noted that numerous of the Second Defendant's procedures had expired and were out of date.

1117. In February 2014, the Second Defendant published its 2013 Annual Flowline Integrity Report (the "**2013 Flowline Report**"). The 2013 Flowline Report:

1117.1. Contained similar findings and conclusions to the 2012 Flowline Integrity Report in relation to data management, namely:

(a) The location/co-ordinates of replaced flowlines were not specified, making integrity evaluation of sectional replaced lines difficult;

(b) Many flowlines were not captured in FIMS; hence a comprehensive assessment of those flowlines was not achieved;

(c) Lack of sampling and consistent UT measurements records hampered the detailed integrity assessment work of some flow lines; and

(d) Lines appeared on both the decommissioned line list and the BP13 producing line list. The Asset Team was to clarify this discrepancy to facilitate more accurate integrity assessment of the flow lines.

1117.2. In relation to repair of flowlines, the 2013 Flowline Report recorded that buried flowline sectional replacements were carried out with uncoated line pipes. In addition, the as-built status of flow lines was jeopardised by the deteriorated condition of the line pipes before installation. The 2013 Flowline Report also noted poor line pipe storage and handling and flowline coating failure.

1117.3. In relation to the Second Defendant's construction practices, the 2013 Flowline Report recorded inconsistency in pipe schedules on the same line and same pipe size, including varying wall thickness.

1117.4. In relation to abandonment and decommissioning, the 2013 Flowline Report noted that a substantial number of flowlines with decommissioned wells were not properly abandoned and disconnected.

1117.5. Regarding cathodic protection, the 2013 Flowline Report noted that some flowlines were not protected by cathodic protection. In particular, the 2013 Flowline Report recorded that the absence of cathodic protection access walkways in some stations prevented cathodic protection effectiveness monitoring, and East Swamp flowlines were without cathodic protection for prolonged periods. The 2013 Flowline Report also specifically noted that there

was a lack of budget to finalise service level agreements for the relevant cathodic protection.

1118. An Upstream International presentation from February 2014, titled "Upstream International Operated Business: Nigeria – Monthly Sabotage Impact", noted that "*[t]he pipeline repair strategy and management strategy to take short pipeline shutdowns to remove points proactively appears to be yielding benefits in pipeline availability YTD*". The same message was repeated in an Upstream International presentation in June 2014.

1119. On a date unknown in February 2014, David Martin or persons on his behalf prepared an "Asset Integrity & Process Safety" Risk Sheet. The risk sheet identified a series of "*negative trends*", including: (i) "*Pipeline failures in SPDC due to sabotage (increasing incidents of oil theft) and non-pigable flowlines corrosion incidents"*; (ii) "*[S]ignificant levels of competence gaps among contracted local workforce that contributes to repeat failures of repaired pipelines/flowlines"*; (iii) a *"[c]umbersome contracting process that leads to delays in executing integrity works*"; (iv) the *"[h]igh number of Red banded pipelines and flowlines in SPDC"*; (v)*"3rd Party Encroachment"*; (vi) "*Well Integrity :Transparent management of all wells in the operate phase (Producing, Closed-in, to be abandoned, suspended) through eWIMS";* (vii) *"Annular Pressure Monitoring Compliance"*; (viii)*"[W]ells asset verification exercise for wells in unknown location/No Go Areas";* and (ix)*"[W]ells due for abandonment*."

1120. On 6 February 2014, a Niger Delta Security update recorded that Q1 of 2014 had "*witnessed relative stability in terms of availability of the trunk lines after the repair works and reopening of the NCTL and TNP for crude evacuation*."

1121. On or around 12 February 2014, the Second Defendant prepared a note, titled "Business Challenge – Pipeline Surveillance (On Ramp)", which recorded challenges including "*frequent loss of pipeline pressure leading to unplanned shutdowns, deferment etc*" and described the need for obtaining "*pipeline status information in real time (Pipeline surveillance) for early detection/determination of leaks as a result of sabotage, oil theft etc"* including to "*improve environmental*

performance". The note stated that On Ramp technology would be able to do the aforesaid, as demonstrated by a successful field trial. It was proposed that this would replace the "*current approach*" to acquisition of pressure data, which involved sending operational staff to remote pipelines to read pressure gauges, and to remote manifolds to test posts. The note proposed to further develop the technology to include flow measurement along the pipelines for flow monitoring to enhance surveillance capability.

1122. On 26 February 2014, Olasupo Olageshin asked Agans Aganmwonyi to help to obtain retrospective approval from Jan van Bunnik for the cost of Sea Watcher deployment from October to December 2013, during which time Sea Watchers had "*helped stabilize the NCTL*". Mr Aganmwonyi emailed Mr van Bunnik as requested, stating that Sea Watchers had brought a *"great deal of relief*" when trialled in the Nembe area in 2012 to ensure that new bunkering points were not installed during shutdown period. He further stated that there had been "*relative stability*" on the NCTL since November 2013, and "*[w]e strongly believe that using this strategy in addition to the JTF deployment will guaranty us a sustained stability on the line."* He also confirmed plans to contract with the Sea Watchers from January to May 2014.

1123. On 26 February 2014, meeting minutes were circulated from the quarterly Asset Integrity Safety Management review with the VP Nigeria and Gabon, Markus Droll, also attended by Robert Munster, Anthony Offor, David Martin, Grzegorz Kulawski and others. The highlights noted:

1123.1. An action to add the Corrosion Management DRB and Well Integrity Review DRB to the "*UIOG DRB List*";

1123.2. Following a "*Group steer*" for 2014, Annular Pressure Monitoring was to be included in the Well Failure Model compliance KPI to ensure that "*the big risk is being given attention"*. It was noted that the reported Well Failure Model compliance figure of 99.7% could not be accurate as APM compliance was <21%, and the numbers would have to be revised.

1123.3. On well integrity Nigeria, "*the big issue / risk in well integrity is the large number of wells still in the well hunt bucket, for which the integrity status is yet to be determined*". Actions included: (i) providing a road map showing "*how and when SPDC would conclude the task of locating and assessing the status of all wells in the hunt basket*"; and (ii) including all the wells in the well hunt basket within "*Asset performance*" in order to "*reflect the true risk*", rather than basing performance on only the wells captured in e-WIMS.

March 2014

1124. On 3 and 4 March 2014, the ExCo held a meeting. The ExCo had *"detailed discussions"* on and approved the Shell Nigeria Strategy.

1125. On 5 March 2014, Version 1.0 of the Second Defendant's Swamp East (Security) Operations SOP on Vandalism was issued, which aimed to address the recent "*recurring and significantly heightened impact*" of sabotage and vandalism on the Second Defendant's operations. The SOP advised that Facility Specific Emergency Response to Security Incident plans be written for all facilities.

1126. A note dated 14 March 2014, titled "Business Challenge – Corrosion Management / Maintenance Inspections" described the "*very serious issue*" of corrosion on the Second Defendant's assets. It noted that there had been a significant number of corrosion-related oil spills in 2013, which were estimated as follows: "*Between January and December 2013, 2,823bbls and 22# of corrosion related spills in SEPCiN operations, a total of 19,761bbls an average of 55bbls/d deferments*". The note commented that: "*our inability to meet production targets due to operational/other reasons are factors in the group's ability to meet its target earning (ca 20% contribution)*". Reasons as to why implementing corrosion monitoring and control techniques had not yielded expected results included inadequate inspections, inadequate deployment of corrosion management techniques, inadequate corrosion data and analysis, failures to implement reports and recommendations on corrosion, and projects not being totally designed for corrosion prevention.

1127. On 14 March 2014, Johnson Akinnawonu (Head Pipeline West, SPDC) circulated draft Root Cause Analysis (RCA) slides to other staff of the Second Defendant. In his email he asked Jeremiah Anietie "*why don't we take the bold decision to scrap these 50yearold pipelines, otherwise we continue to have operational leaks".* Arie Dijksman forwarded this on to Jurgen Janzen criticising Mr Akinnawonu for being "*openly so negative regarding the integrity of our pipelines*".

1128. On 28 March 2014, in an email exchange regarding the process of notification of high deferment events in Nigeria within the Shell Group, Markus Droll confirmed that when the Second Defendant experienced bunkering resulting in a leak (and immediate shut down), this was typically reported to him and David Martin within hours, and that he typically informed Harry Brekelmans and Andrew Brown of the same. He continued: "*In terms of volume, it is also relatively easy to establish, as a bunkering stop on most trunk-lines will result in (significantly) more than 50kbbl.*"

April 2014

1129. In April 2014, the COT DRB met for the first time in 2014. Markus Droll called for a strategic refresh and focus. He did not approve the technological solutions identified in 2013 on the basis that they relied too heavily on the GSF, and mandated the COT DRB to eliminate or minimise its dependence on the GSF. A new project, Crude Oil Theft Solutions ("**COTS**"), was initiated to explore technological solutions. It had a broader remit than previous initiatives, covering the full spectrum of assets affected by TPI, including flowlines and wellheads. The project was grouped into four themes of deterrence, detection (monitoring), intervention and remediation. The strategy was "*to have to a multilayered system of technology to combat the crude theft in an onion concept manner"*.

1130. On a date unknown in April 2014, Simeon Eze and/or Raymond Asuquo prepared presentation slides, titled "CRUDE THEFT SOLUTIONS PROJECT" ("**CTSP**"). The presentation recorded the same trio of deficiencies in the Second Defendant's asset safeguarding processes noted on 30 April 2013 (see paragraph

** above). It identified and assessed substantially the same solutions as appeared in previous presentations, namely the NCTL-TNP Rings Main System, alternative export routes and methods, pipe-in-pipe technology, canalisation, fibre-optic intruder detection systems, deep burial and installation of concrete slabs, multi-layer protective coating, high security fencing, condensate spiking, and parallel road construction.

1131. On 6 April 2014, an email concerning SCiN Production Weekly Highlights, sent by David Martin recorded plans to deploy the "*bunker point capping technique*" during the forthcoming week.

1132. On 16 April 2014, the Crude Oil Theft DRB held a meeting. The meeting minutes, circulated to various individuals within the First Defendant, recorded approval by the COT DRB of the multilayered technology deployment strategy (i.e. the "*onion concept*") referred to above.

June 2014

1133. On or around 3 June 2014, SCiN prepared a presentation, titled "Niger Delta Remediation Activities", which noted that EGASPIN set the Second Defendant's remediation standard, though it permitted a risk based approach. The presentation stated that the *"Regulator is not conversant with risk based approach nor consultants & focus is on target values"*, and the *"Standards do not address biodiversity eco-system services"*.

1134. On 4 June 2014, Ayoola Olatinji (Principal Pipeline Engineer, SPDC), in an email to Bashir Bello (Project Leader, SPDC), set out concerns about the installation of the Second Defendant's Alakiri delivery line. Despite being a new project, many were longstanding concerns regarding the NCTL. They included the absence of an engineering report outlining how the pipeline would be protected from TPI, the absence of a leak / intruder detection system installed or planned, and that surveillance for the Alakiri field was "*not an active pipeline protection methodology*" and was ineffective to protect the high-risk pipeline.

1135. On 20 June 2014, in advance of the upcoming Crude Oil Theft Solutions ("**COTS**") Opportunity Framing Workshop, Raymond Asuquo explained that "*the earlier concepts and solutions weren't "innovative enough" as they tended to depend too heavily on factors beyond Shell's control, e.g. Government forces"*.

1136. On 27 June 2024, a "Note for Information to Executive Committee/CSRC – Nigeria Update" was prepared. It noted that during the period of NCTL shutdown in six months during 2013, a total of 101 illegal connections had been removed and during that period "*noticeable improvement was observed with water ways visibly cleaner and vegetation returning in some areas"*. The note summarised the *"new pipeline repair model*" introduced in 2013 as ensuring that "*illegal connections are removed in a planned but prompt process*". It stated that pipeline repair crews had been doubled in 2013 to remove illegal connections more quickly. It further stated that Government security forces were more visible and had introduced the tactic of *"crushing"* identified illegal refineries (increasing the time to rebuild them from between three to seven days to over 70). The note included an update on the actions taken in light of the UNEP report and IUCN NDP recommendations, including pilot trials recommended by IUCN to expedite the crude oil remediation process, which would start in Q3 2014.

1137. On or around 30 June 2014, a "PTS/T Groundwater and Laboratory Technical Support" project commenced, pursuant to which environmental soil and groundwater experts in P&T and/or SGS US were to provide the Second Defendant with technical advice and support in undertaking the groundwater remediation. The Cost Time Resource document for the project, dated 30 May 2014, highlighted the need for a follow up audit of local laboratories previously visited in 2012 by SGSI to, *inter alia*, assess their capabilities in analysing Chemicals of Concern for oil impacted sites.

July 2014

1138. On 30 June and 1 July 2014, a COTS Opportunity Framing Workshop took place and was attended by various individuals across the Second Defendant's organisation. It sought to identify and map technological solutions and agree a

work plan to reduce crude oil theft from the Second Defendant's assets while minimising reliance on the JTF. The workshop had been prompted by a request of Markus Droll and conceived by Max Prins (Technology Manager, Upstream International Operated, SIEP).

1138.1. The Terms of Reference for the workshop recorded, by way of background, that the effects of TPI were so wide ranging as to be "*unquantifiable*" and that the ideas generated in 2013 in response to the trio of deficiencies referred to at paragraph ** were "*judged unacceptable as their effectiveness or sustainability would depend heavily on the intervention of Government Security Agencies (which is severely weak).*" New ideas were therefore required, including to address *"inadequate deterrence*".

1138.2. A workshop presentation, prepared by Raymond Asuquo and titled "Crude Oil Theft Solutions: Opportunity Framing Workshop", identified a series of deficiencies with the present system on the NCTL, including that the Second Defendant's pipelines were "*soft targets, easily reached and easily breached*", the "*[l]ack of early warning systems to indicate intrusion into asset areas*", "*[w]eak and ineffective response*" to TPI, "*[d]ifficulties in accessing the pipeline*", "*[l]imited operational flexibility in the pipeline network*" and *"[i]adequate deterrent*".

1138.3. A further workshop presentation, titled "Crude Oil Theft Solutions: Technical Workstream", set out:

(a) The following as "*Facts*": GSA response was "*a major weak links* [sic]"; efforts to date had "*resulted in an apparent reduction in crude theft"*; "*[g]aps were in night-time detection and technical deterrence*"; and "*[d]eployment of additional technologies can further reduce environmental pollution and loss of production*".

(b) The following "*Assumptions*": 24 hour imagery was possible; there was an opportunity to undertake night surveillance to address day-time surveillance

gaps; technologies could replace current surveillance processes in a cheaper and more effective way, and could achieve faster repairs of assets.

(c) Technology mapping, which explored various solutions including:

(i) In respect of prevention, an active denial system (infrared, microwave transmitter), airborne deterrence via Unmanned Aircraft Vehicles, drill proof coating and anti-tamper locks on wellheads were listed as focus areas. *Inter alia,* installation of concrete slabs, building a road on the pipeline right of way, pipeline electrification and surface friction charge were listed as focus areas to be reviewed further. Deep burial and canalisation were listed as non-focus areas.

(ii) In respect of detection, metering, OnRamp technology and intelligence analysis were listed as focus areas. *Inter alia*, night time aerial surveillance, mobile observation towers, Smart Pigs, coastal radar, acoustics sensors, mobile smart phone mapping, satellite optical and radar mapping, infrared surveillance cameras, and sentry vehicles were listed as focus areas for further review.

(iii) In respect of intervention, a RoW parallel access road, hovercraft for swamp surveillance, long range acoustics and surface friction charges were listed as focus areas for further review. Replacing the JTF with a centralised response and lighting were listed as non-focus areas.

(iv) In respect of remediation, capping and hot tapping were listed as focus areas. *Inter alia,* DNA finger printing (tracer) and injection of platelets were listed as focus areas for further review. *Inter alia,* fibre optic leak detection systems were listed as non-focus areas.

1139. On 13 July 2014, Obi Akosa wrote to colleagues, including Markus Droll, with updates on crude oil theft trends. The email recorded complaints by the military that IOCs had not provided them with hovercrafts for access and night vision equipment to enable night surveillance, and that they wanted IOCs to provide them

with real time information from surveillance flights. A segment on the COTS Opportunity Framing Workshop recorded "[a]*greed strategy is to deploy multi layered defense and active deterrence systems built up on a layered system of monitoring, deterrence, intervention and remediation.*" A segment on "Trends" recorded "*quite extensive crushing of illegal refineries*" in June and July 2014, with ongoing evaluation of effectiveness.

1140. On or around 15 July 2014, the SCiN Environmental Steering Group / Environment DRB held a meeting. Presentation slides, titled "SciN Environment Steering Group", recorded inadequacies in respect of assessments of soil and groundwater contamination and swamp remediation. The slides introduced "Project Nautilus", environmental baseline work to determine the condition of the environment within the Second Defendant's operating footprint considered for divestment and position Shell to defend future legal claims. The slides mapped the process to be followed when contamination was found in the Second Defendant's RoW, which included: (i) remediation would occur if the concentration exceeded EGASPIN criteria, there was a documented history of a Second Defendant spill and there was a community nearby; (ii) if the EGASPIN criteria were not exceeded, the contamination would only be documented; and (iii) if the criteria were exceeded but there was not a documented history of a Second Defendant spill, including when there was illegal refining nearby, the Second Defendant would *"assess potential legal/reputational cost of NOT remediating"*.

1141. On 18 July 2014, the COT DRB met to discuss solutions, including strategy, progress, technological solutions, and current issues. The proposed time period for defining and executing the solutions under consideration was between Q4 2014 and Q2 2016.

1142. On 21 July 2014, Raymond Asuquo emailed an update on the COT DRB to Toyin Olagunju . The email explained that the COT DRB, headed by Markus Droll, had "*no appetite*" for the 2013 proposals to use canalisation together with intruder detection systems to protect the NCTL, as they were (i) "*based on the 'traditional engineering' approach, which made them heavy on cost and schedule and thus*

poor on economics" and (ii) *"their overall effectiveness would depend heavily on the intervention of the GSF"*.

1143. On or around 24 July 2014, SEPCiN requested assistance from "PTS/ESC" in respect of mangrove remediation. A CTR proposed a "Joint Oil Industry & Regulators Mangrove Management Workshop", the primary objective of which was to "*get a clear subject matter steer and agreement on what to do and what not to do in response to an oil spill in the mangrove".*

1144. On 25 July 2014, the COTS team issued a "Crude Oil Theft Solution – Technology Deployment: Project Premises Document" to support the project work done up to Decision Gate 1. The document stated that many of the technological solutions under consideration were "*easily deployable, scalable and may not be too expensive*", and included solutions that would require "*minimal reliance on GSFs*". The document stated: "*We have the opportunity to negate the impact of ±30 kbopd stolen/ spilled crude and associated deferment of about 120 Kbopd, from our production facilities (wellheads, flowlines and pipelines) by deploying additional technologies that will complement existing surveillance systems, protect facilities and actively deter intruders while minimizing our reliance on JTF*". The strategy was to deploy a "*multilayered protection system (onion concept)"*, involving a suite of technologies that could not be easily breached. Ten frontrunner solutions had been presented to and supported by the COT DRB, and were to be deployed in phases. Technology deployment strategies would be prepared, and pilot projects put in place between Q4 2014 and Q2 2015, before decisions were made on full deployment. The frontrunner technological solutions included: drill proof coating; anti-tamper locks for well heads; active denial systems; installation of concrete slabs; static surveillance for well heads and hot spots; night time aerial surveillance; hovercraft ROW surveillance; composite materials to fix non-leaking points without hotwork.

1145. On 30 July 2014, Markus Droll approved a request from Elizabeth Usen (Contractor Health, Safety, Environment Management Subject Matter Expert, SPDC**)** for a 12-month extension to the Fountain due date to re-evaluate sites certified based on analytical results prior to the 2012 laboratory audit.

1146. On 30 July 2014, the COTS Team held a meeting. It noted that the COT DRB had supported its strategy and requested that around ten front-runner solutions were matured for implementation and presented to it in September 2014.

August 2014

1147. In August 2014, SPDC published version 4 of the Work Instructions for Joint Investigation of Oil Spill Incidents.

1148. On or around 12 August 2014, Rik Prager prepared a presentation, titled "Corporate Oil Spill Response and Remediation", as pre-reading for an EMIP DRB meeting. The presentation noted the need for DRB steer around supporting NOSDRA inventorisation of illegal refinery locations along Imo River and reporting and clean-up of illegal refinery impact. A presentation raised issues around (i) whether the remediation assessment criteria should be 5,000 mg/kg TPH, localised visual impact or dead mangroves; and (ii) what the consequences could be if impact was found ("*Risk assessment? Large scale remediation? Rehabilitation?*"). A management steer was urgently required on "*how far we go with the clean up and remediation of illegal refinery sites*".

1149. On 14 August 2014, in an email to Second Defendant staff in relation to an East overfly report, Cor Koster stated that the Soku area was an *"eco disaster"* and the JTF was *"an absolute joke"*. He recommended plugging the wells and only opening them up after the illegal refineries had been *"'fully' crushed"*.

1150. On 19 August 2014, Raymond Asuquo emailed the COTS Team following feedback from a technology development meeting, stating: "*I think we can all admit that we're not making good progress. I've been going around the various project teams and observed that even now none has fully taken off."*

September 2014

1151. A presentation dated 6 September 2014, titled "Crude Oil Theft Solutions Feasibility Report: Well head Scope" considered crude oil theft solutions in respect of well heads, manifolds and block valves. Active denial systems were considered, with suitable technologies identified for operations including: pepper spray; malodorant; a running gear entanglement system; acoustic generators, utilising messages, alerts, focused sounds, or high-intensity searchlights; combined light, sound and malodorant technologies; and modified water cannons and foams.

1152. As at 10 September 2014, hovercrafts were in use by the Cawthorne Channel Asset team for surveillance of well heads with dredged slots.

1153. A presentation on 'Wellhead Theft and Vandalization Trends & 'Prevention' Strategy' dated 16 September 2014 reported a "*significant*" near threefold increase in wellhead vandalism in the Swamp East Asset since 2013. The root causes were stated to include "*[i]neffective surveillance contracts"*, "*[l]imited implementation of the Wellhead Vandalism prevention Project*", and limited progress in implementing new techniques and technologies. The slides recorded that "*[i]t is believed that religious deployment of these technologies on our well heads will drastically reduce wellhead equipment & crude oil theft from our facilities.*" The slides recorded various weakness in respect of wellheads, including that less than USD$1.6m was used for Land 2 in 2013, that not all facilities were covered by surveillance, and that the "*cost of surveillance plus JTF in addition to deferment cost is not worth the strategy*".

1154. On 17 September 2014, the COTS Team held a technology implementation meeting to discuss the technological solutions identified in previous presentations, workshops and meetings. The minutes recorded that the "*team should ensure that concepts address the potential for insider leaks/internal sabotage"*.

1155. On 26 November 2014, a pilot of night-time surveillance by hovercraft was proposed, with comment that: "*if it becomes public knowledge that surveillance also occurs at night, the impact on the TNP in this area from theft activities is expected to reduce considerably."*

October 2014

1156. In October 2024, a presentation titled "Technology Deployment Pilots" was prepared. It set out pilot projects for the protection of pipelines and wellheads for which approval was being sought. In respect of pipelines, the following were listed: under "*deterrence*": installation of concrete slabs, ADS, drill proof coating; under "*detection*": long range infra-red cameras with control hubs and IT infrastructure and hovercraft/airboat; under *"intervention*": control hubs/IT infrastructure, later with ADS; under *"remediation*": capping, composite coating, prefab cofferdams, platelets. In respect of wellheads, the following were listed: under "*deterrence*": marine floating barriers, anti-tamper lock system, LRAD, ADS, under "*detection*": long range infra-red cameras and sensors with control hubs and IT infrastructure, ADS and hovercraft/airboat; under *"intervention*": control hubs/IT infrastructure, mudders and ADS (Intervene). The request for funding referred to $800,000 to be committed in 2014 and Q1 2015.

1157. The pilots mentioned above are further set out in a presentation titled "Crude Oil Theft DRB" also dated October 2024. The presentation slides refer to actions taken by the Defendants to date as: traditional risk response, including well securing/abandonment, overflights to identify suspect wells, accelerated repair of old units and use of discarded AVA units, commencement of wellhead fencing on land, heightened surveillance and retrieving Christmas trees (equipment installed on top of a wellhead) from abandoned wells for storage, purchase of AVA units including anti-theft lock nuts, inscription and marking of units, review of technological solutions and monthly tracking at onshore Production Directorate and Technical Directorate leadership meetings. The next steps were described as: pursuing large scale refinery disabling by GSA, deployment of disposable infrared cameras for night-time surveillance, more GSA presence at hotspot areas, night patrols, review of whether hotspot areas should be producing, review, pilot and deployment of detention and deterrent technologies, using xRM and predictive tools for analysis, and of real time data and other systems to indicate theft from wellheads.

1158. On or around 1 October 2014, Jurgen Janzen delivered a presentation, titled "Pipelines and Flowline Integrity Management". The presentation stated that key actions such as capping suitable illegal bunkering points and disconnecting and removing hoses and pipes within the ROW had not been introduced until 2014. The slides recorded that, as at 31 August 2014, the old NCTL was still awaiting de-commissioning, noting that "*we will have more Operational leaks as long as the line is not fully de-commissioned.*"

1159. On 11 October 2014, in advance of the expiration of the Illegal Connections Exception regarding the operation of red-banded pipelines, Arie Dijksman and Jurgen Janzen submitted a further request to extend the exception until 31 December 2016. The request repeated wording from the 12 November 2012 request. This exception request was approved by Bart van de Leemput on 30 November 2014, recommended by Technical Authority, Eamon Chandler (Production Manager, SIEP), on 2 December 2014, and approved by Discipline Head Tony Paul on 9 December 2014.

1160. At a date unknown in October 2014, the SCiN Environmental Steering Group held a meeting. A presentation, titled "SCIN Environmental Steering Group Meeting", noted a "*[s]ignificant failure to perform environmental monitoring at SPDC*" and accepted that past initiatives to restore and protect biodiversity *"had limited effect"*.

1161. On 30 October 2014, an email chain titled "Confidential & Legally Privileged - BAL amendments" was circulated to David Martin. The email noted that the Second Defendant continued to keep red banded pipelines in operation. The email further noted the potential for environmental, safety and litigation exposure in respect of "*Asset Decommissioning & Restoration*" as a result of suspended wells, some of which had limited access for the Second Defendant to carry out integrity maintenance and others which had been tampered with resulting in spills. The email highlighted the environmental threat posed by disused pipelines which had not been decommissioned, demonstrated by the fact there had been five operational leaks from the old NCTL in 2014.

November 2014

1162. In November 2014, the Second Defendant divested its interest in OML 24.

1163. In November 2014, the "Annual Significant Incident Review: Nigeria Sabotage" was prepared. The presentation slides included statistics on the number of illegal connections removed in 2012 (total of 180, including 41 non-leaking connections), 2013 (total of 364 including 208 non-leaking connections) and 2014 (total of 237 including 129 non-leaking connections). The slides noted that the number of leaking connections removed in 2014 was lower than in 2013 "*in part due to our prevention strategies*". The slides noted planned divestment of the Swamp East asset and that this would lead to "*further material reductions"* of exposure to sabotage. The plan for 2015 included, *inter alia*, continued daily surveillance and repair efforts to deter and reduce the impact of crude oil theft, starting with night surveillance and implementation of technologically enhanced barriers to crude oil theft.

1164. On 3 November 2014, the SIA issued audit titled "UIO-G 2014.003 Nigeria SPDC/SNEPCo Production Well Integrity Management". The audit received an "Unsatisfactory" rating. The audit report found that there were "*significant gaps in key controls"* in relation to well integrity and that *"the current framework for managing Well Integrity in SEPCiN* [Shell Exploration and Production Companies in Nigeria] *cannot provide reasonable assurance that the Production business objectives will be met consistently*". There were significant gaps in compliance with the Shell Group Well Integrity Management Manual. This included 1,055 wells overdue well integrity tests, 720 of which did not have approved deviations. In relation to the Swamp East Asset, 185 out of 563 wells had overdue well integrity tests, 107 of which were without approved deviations. There were errors and inconsistencies in the classification of the wells across the various well integrity databases, including that a total of 18 wells in the "*operate*" phrase were wrongly classified as being abandoned.

1165. On 5 November 2014, Isaac Iyamu emailed Markus Droll about a fire at one of the Second Defendant's oil wells at Akaso (in the Cawthorne Channel area to the

east of Bille). He stated that this was "*another case of third party freely operating our well... Thanks Markus for your timely caution not to be complacent even though we have had many incidents of this nature.*" Mr Droll offered support from himself and his leadership team in responding to the incident.

1166. On or around 11 November 2014, the Second Defendant's Oil Spill Response and Remediation Team delivered a presentation, titled "Oil Spill Response and Remediation Team 2014 Group Audit Grounding / Opening Presentation", which provided an overview of key issues facing the team:

1166.1. A slide on "Threats and Opportunities" lists "RBCA" and "technology" as opportunities, and a number of threats including but not limited to poor past performance, regulators, the UNEP report, the IUCN-Niger Delta Panel, *"uncoordinated, uninformed support initiatives*", confusion on refinery dumping, and laboratory capabilities.

1166.2. A draft "Desk Top Assessment of Illegal Refinery Impact", states that illegal refinery activity was "*widespread"* along the NTCL, and satellite images and aerial photos along the NCTL showed *"visibly stressed vegetation and mangroves [...] across 142 km2",* with *"heavily impacted sediments/soil [is] apparent across 48 km2"*. A first order estimate of illegal refinery impacts in the East Division of Second Defendant was estimated as 375 km2 of stressed mangroves and vegetation, with 75-100 km2 of this area *"probably severely damaged, with potential complete loss of habitat"*. The cost to remediate is noted as being *"too difficult to estimate"* but *"Spread could be US$ 1 bn to US$?? bn, depending on exact scope, methods applied, acceptance criteria adopted, rehabilitation in- or excluded".*

1167. On 12 November 2014, the COTS Team held a meeting with the Nigerian Agip Oil Company Ltd ("**NAOC**"; a joint venture operated by Agip and owned by NNPC). Reporting on the meeting in an email on 13 November 2014, Jeremiah Anietie wrote that NAOC's strategy with the JTF appeared to have been effective. The strategy involved twice daily overflights with real-time information sent to the JTF, mounting houseboats at strategic hotspots on the pipeline, regular strategy

meetings with the JTF, routine JTF patrols during the day and at night, unannounced JTF raids and regular rotation of JTF to reduce collusion. Mr Anietie also confirmed that NAOC's use of anti-tamper locks for wellheads had been "*hugely successful*". He identified note-worthy measures including that NAOC did not use clamps due to previous experiences of clamps being tampered with.

December 2014

1168. On or around 1 December 2014, the COT DRB held a meeting. The COT DRB considered a presentation setting out the differences in the approaches to TPI between the Second Defendant and NAOC. These included that NAOC "*closed in pipelines more frequently to remove theft points"*; placed surveillance fully under the control of their security team; conducted daily overflights and sent reports immediately to NAOC's office, and site crews were deployed via GPS / satellite enabled phones; used fillet welds, patches, sleeves, cones or sectional replacements for repairs instead of clamps; installed anti-theft studs / nuts and anti-tamper valves; used tack welding of bolts; and used infrared cameras at night. NAOC's utilisation of the GSAs / JTF also differed to SPDC's. With NAOC's operations, the GSA "*deployed 'Cordon & Search' missions in hotspots*"; ground trotting was conducted along the pipeline length; the pipeline stretch was "*flooded*" with security houseboats and sentry points; and houseboats were moved every 45 days. The presentation further considered a variety of wellhead anti-tamper hardware, live surveillance on wellheads, and installing various active denial systems.

1169. On 8 December 2014, the Second Defendant's Annual Significant Incident Review of Nigeria Sabotage took place. The review summarised the response to TPI in 2014 as involving: continued use of daily surveillance flights; faster response by security, pipelines and remediation teams to surveillance imagery; and immediate shutdown and removal of leaking illegal connections and removal of non-leaking connections in batches. These initiatives had produced "*some*" results, including evidence (albeit inconsistent) of speedier response to TPI from GSAs. However, thieves were reported to have shifted their focus to other lines and increased wellhead theft. Plans for 2015 included: sustaining pipeline repair efforts; testing of night surveillance by hovercraft; accelerating installation of

tamper proof bolts/valves on wellhead equipment; piloting use of cameras on selected wellhead and pipeline RoW locations; unpredictable deployment and relocation of GSA houseboats; and continued technology screening including of acoustic deterrents and floating access barriers.

2015

1170. On 19 February 2015, Raymond Asuquo prepared a presentation, titled "Crude Oil Theft Solutions Technical Workstream Engagement Pack". According to the presentation:

1170.1. The front runner solutions for swamp pipelines, wellheads and/or manifolds were active denial systems, night-time surveillance, hovercraft RoW surveillance, mudder shoes, control hubs and IT infrastructure, capping, prefabricated cofferdams, composite coating, swamp carriers, anti-tamper locks, and static site surveillance.

1170.2. Trials or demos had been carried out by the Second Defendant or NAOC in respect of anti-tamper systems/locks, active denial systems, and mudders, with trials pending for marine floating barriers and long-range cameras on pipelines. Scalable first phase deployment was planned for anti-tamper systems and active denial systems, described as the "*[f]irst demonstration of the Onion concept on a high priority asset group*". Second phase deployment of active denial systems would occur on nominated high priority fields and pipelines. Other matured solutions would be deployed in third phase deployment. Finally, there would be opportunistic deployments of AVA units to wellheads, choke valves on well heads, and marine floating barriers.

1171. On 12 February 2015, a SIA Audit titled "UIO-G-2014.006: Nigeria Oil Spill/Environmental Remediation (Onshore) and Records Management" was issued. Covering the period from 1 June 2013 to 31 October 2014, the audit assessed the Oil Spill Response and Remediation Team and the Ogoni Restoration Project Team, and the implementation of the OSRRMS. In particular:

1171.1. The audit found (as a high finding) that there were inconsistencies in the application of the OSRRMS, there was a need to update the OSRRMS to guide the application of post-certification monitoring activities, and that certain controls in the OSRRMS were inconsistent with Group Standards and did not effectively address risks. The audit also observed instances in which the OSRR and ORP Teams were not complying with the OSRRMS and/or the HSSE Control Framework.

1171.2. The audit found (as medium findings) that there had been a lack of progress on the implementation of environmental assurance and stakeholder and records management were inconsistently applied across the OSRR and ORP teams.

1172. On 20 February 2015, John Hofland (Upstream Portfolio Leader, Shell International) emailed Loek Vreenegoor (Manager – Pipeline, Flow Assurance and Subsea Projects & Technology, Europe, Middle East Africa, Projects & Technology, SGSI) about the "*enormous volume of crude oil*" being lost to theft and sabotage in Nigeria. He noted that they had used "*sealing balls to temporarily block perforations*" in wells and asked if this could be explored for pipelines, noting that "*[i]f we add ball sealers to the flow these can act to temporarily seal the hole and frustrate attempts to steal large volumes of crude and reduce spill volumes*". On 24 February 2015, Vreenegoor replied that the Pipeline Integrity Support CTR [PTE] co-created with the Second Defendant "*some years ago*" had included a proposal for similar technology (platelets). However, the CTR never got funded and associated development work did not take place. He concluded that "*the sealing ball idea is interesting but key question is where to get the support/funding*".

1173. In March 2015, the Second Defendant divested its interest in OML 18 and the NCTL.

1174. On 20 March 2015, the HSSE & SP Assurance Team issued an HSSE & SP Audit in respect of the Second Defendant's "*Pipelines Asset 2015*":

1174.1. Finding no.1, “Social Performance”, was classified as a high finding. The audit found that material improvements were required to engage effectively with impacted communities to manage social impacts arising from the Second Defendant’s business activities.

1174.2. Finding no.2, “Process Safety – Assurance”, was classified as high. The audit found that material improvements were required in controls to provide assurance that the HSSE Control Framework requirements were being implemented and effective, as evidenced by five repeat findings from the 2012 HSSE & SP Audit relating to missing Permits to Work; failures in process safety operations, inspection and maintenance; no evidence of functioning Management of Change verification assurance programme; inadequacies in social performance; and inadequacies in contractor HSE management. In respect of process safety, critical activities in the Second Defendant’s Maintenance Reference Plan for 2014 had not been completed. The Second Defendant only achieved 62% of its Maintenance Reference Plan, relative to its goal of 70%, including completion rates of 54% for chemical injection, 36% for routine pigging, 35% for cathodic protection rehabilitation, 60% for corrosion defect repair, and 22% for water sampling on the NCTL.

1174.3. Finding no.3, “Process Safety – Operations, Inspections, & Maintenance”, was classified as high. The audit found that there was a need for material improvements in the Operations, Inspection, and Maintenance requirements to prevent Process Safety Incidents from an unintentional release of energy or hazardous substances, as evidenced by *inter alia* incomplete inspection programme due to budget constraints, no continuous pressure monitoring at the manifolds to support leak detection, and operating red banded pipelines without a formal assessment to determine alternate controls.

1174.4. Finding nos. 4 and 5 (classified as medium) found that improvements were required in incident investigation and learning from incidents, and managing HSSE risks arising from unforeseen consequences of changes.

1174.5. Finding no.6 (classified as medium) found that improvements were required in managing the competence of people managing HSSE risks.

1174.6. Finding no.7 (classified as medium) found that improvements were required in "*the Design and Construction Requirements to prevent Process Safety Incidents from an unintentional release of energy or hazardous substances*".

1174.7. Finding no.8, "Process Safety – Risk Management", was classified as medium. The audit found that improvements were required in the AIPSM Risk Management requirements to prevent Process Safety Incidents resulting from unintentional release of energy of Hazardous Substances, as evidenced by a lack of ALARP Demonstration conducted by technical safety to validate the major threats outlined in the Pipeline Integrity Report and no evidence of a risk assessment to determine the impact of adjoining communities.

1174.8. Finding no.9, "Contractor HSSE Management", was classified as medium. The audit found that improvements were required to ensure contracts consistently and effectively cover the management of HSSE risks, noting that "*[s]ome subcontractors' ability to meet HSSE requirements and manage HSSE risks had not been fully assessed*" and "*KPIs [were] not in alignment*".

1174.9. The audit further provided that if a dispute regarding the findings or actions in the audit could not be resolved between the auditor and auditee, "*the view of the independent lead auditor will prevail*".

1175. In June 2015, SciN published SCiN Standard for the Management, Investigation & Remediation of Soil & Groundwater Contamination (Version 1).

1176. On 28 July 2015, in an email chain about funding for the COTS Project, Obi Akosa advised Ireti Omotoso that "[d]*ue to criticality of the crude oil theft initiatives, we are willing to shell exclusive based on comments from Markus at the DRB. We have gone this route for other initiatives. Approach is always to seek cost recovery but not let that slow down or stop project implementation (e.g. xRM)*." In

response, Omotoso noted the need for "*explicit approval from Markus/Dave"* for the Second Defendant to "*commit/spend prior to NAPIMS support"*.

1177. On 18 September 2015, Noor Azita (Process Safety Advisor, SPDC) issued an ALARP Demonstration Report for the Second Defendant's Pipeline Asset in response to Finding No.8 of the 2015 HSSE & SP Audit (referred to at paragraph **). As far as the Claimants are aware, there were no other ALARP Demonstration Reports issued at the material times, despite being required by Requirements 2 and 21 of the Process Safety Requirements. The report made recommendations to *inter alia* execute the activities and tasks identified in the Bow Tie review and complete a DEM2 gap assessment. The report did not identify any specific measures intended to address or mitigate risks associated with TPI and/or the operation of pipelines which were red rated as a result of illegal bunkering points having been identified. Notwithstanding, the report concluded that the mitigations identified in the Bow Tie review and the recommendations in the report were sufficient controls to achieve ALARP.

1178. On 22 October 2015, Raymond Asuquo provided a progress update on the COTS Technical Workstream to Abimbola Tijani (East Execution - Lead/Engineering Manager, SDPC): "*Overall, great improvement recorded in combating oil theft from pipelines*".

1179. Slides from a "Crude Oil Theft Re-Framing Session", dated 19 November 2015, recorded ongoing workstreams including maturation of engineering solutions on pipeline safeguarding and deterring TPI:

1179.1. Activities marked in green, meaning they were in place and working, comprised use of patrols, sentry posts, rapid GSF intervention, helicopter flights/FLIR cameras for aerial surveillance, multi-layered engagement with government and security forces (identified as high impact), spatial tracking of incidents in GiS and shutting down pipelines for repair at a set number of illegal connections (identified as medium impact).

1179.2. Activities marked in orange, meaning that they required further work to be effective, included surveying small to mid-sized tankers regularly anchored offshore the Delta, data management via a fusion centre, onramp pipeline stimulation, securing non-flowing wells and GSF demobilisation of illegal refineries.

1179.3. Activities marked in red, meaning they had stopped or not been planned or started included the use of UAVs for aerial surveillance, fibreoptic technology and remote wellhead monitoring strategies, and stopping production at night (despite this being indicated as a high-impact strategy).

1180. On or around 22 November 2015, the Second Defendant prepared a document, titled "Security data gathering across OPTS [Oil Producer Trade Section] member companies", which recorded the effectiveness of the Second Defendant's 2015 security management actions. The document provided:

1180.1. Deployment of GSA across the pipeline network in houseboats and at sentry points for surveillance were partly effective, but a properly equipped command centre was required to coordinate industry response, and the GSA needed to be properly equipped with logistic, communication and military response capability.

1180.2. Manned aerial surveillance and overflights were very effective in providing up-to-date information on incidents, but these were expensive, high risk, and flights could not take place at night.

1180.3. Regular campaigns to remove illegal connections from pipelines were "*very effective*" in eliminating illegal connection points, but this was "*costly in terms of deferment incurred and cost of activity".*

1180.4. The impact of information sharing with GSA on aerial and ground intelligence was "*fair*", noting that night capability was limited due to the relative difficulty in accessing terrain with the necessary equipment.

1180.5. The impact of improved surveillance of wellhead locations by local security contractors and along pipeline ROW on sabotage was "*fair*".

1180.6. The impact of deploying the capping and sleeving methodology of repairing sabotaged pipelines was "*effective*".

1180.7. Installation of anti-theft lock nuts and anti-tamper valves to protect wellheads, wellhead control systems, and wellhead accessories was in progress.

1181. As of 19 December 2015, the only deployed COTS Team Technology Options were two detection technologies (metering and Onramp) and two deterrence technologies (installation of concrete slabs and anti-tamper locks on wellheads). The wider range of other technological solutions considered by the COTS Team and the COT DRB, over an extended period, had still not been deployed by the end of 2015.