Northern Territory of Australia
Submissions

Montara Commission of Inquiry

The Montara Commission of Inquiry is examining the uncontrolled release of oil and gas from the Montara Wellhead Platform in the Timor Sea on 21 August 2009 and subsequent events. The Inquiry has sought submissions from interested parties by 22 December 2009.

The Northern Territory's submissions comprise:

A Introduction

1. The Commission of Inquiry has been set up to examine "the uncontrolled release of hydrocarbons at the Montara wellhead platform that commenced on 21 August 2009, and subsequent events, including the fire that commenced on 1 November 2009": see Terms of Reference. This document sets out the submissions by the Northern Territory of Australia ("the Territory") to the Commission of Inquiry. The structure adopted in the submissions is to address the Terms of Reference in the order in which they occur.

2. The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) ("the Act") sets out the regulatory framework for the exploration for and recovery of petroleum in offshore areas around Australia.

3. Northern Territory Background Paper 1 titled "Legislative and administrative arrangements under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth)", sets out the administrative and legislative framework. Specific powers and functions of the Designated Authority for the Territory of Ashmore and Cartier Islands offshore area have been delegated to the holders of various positions in the Northern Territory Department of Regional Development, Primary Industry, Fisheries and Resources ("DRDPIFR"), including the persons from time to time holding the office of the Director of Energy and the Petroleum Registrar: see Background Paper 1, paras [13]-[21].

4. Northern Territory Background Paper 2 titled "Timeline detailing the involvement of Northern Territory agencies in the administration of the licence area for Production Licence for Petroleum AC/L7, including the response to the incident on 21 August 2009", provides a timeline of relevant events.

5. It is the Territory's primary submission that:

   - at all material times prior to the uncontrolled release, the Territory appropriately administered the licence area within which the Montara wellhead platform is located (under Production Licence for Petroleum AC/L7), in the role of delegate of the responsible Commonwealth Minister as Designated Authority for the Territory of Ashmore and Cartier Islands offshore area; and

   - the Territory has responded in an appropriate and timely matter to the uncontrolled release and subsequent events, and within the confines of its legislative and administrative responsibilities.

6. On 4 December 2009, the DRDPIFR was restructured and is now the Department of Resources ("DOR"). This restructure does not bear upon the operations of the Minerals and Energy Division.

B Term of Reference 1

Investigate and identify the circumstances and likely cause(s) of the Uncontrolled Release.

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7. The division of responsibility between various agencies following the Uncontrolled Release may be described generally as follows:

   - the National Offshore Petroleum Safety Authority ("NOPSA") assumed responsibility for occupational health and safety issues;
   - the Australian Maritime Safety Authority ("AMSA") assumed responsibility for environmental issues; and
   - the relevant Territory officer, in the role of delegate of the responsible Commonwealth Minister as Designated Authority, had responsibility for the assessment and approval of drilling programs, well operations management plans and environmental plans submitted by the operator ("PTTEP") for the purpose of bringing the Montara-H1 well under control. These assessments and approvals were conducted in consultation with the relevant Commonwealth agencies.

8. On the day of the Uncontrolled Release:

   - NOPSA issued prohibition notices for the *West Atlas* rig and the Montara wellhead platform; and
   - AMSA assumed the role of the Combat Agency in accordance with the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances.

9. Under the Act, petroleum project inspectors appointed by the Designated Authority may have access to and inspect any structure, etc in an offshore area that is used in connection with petroleum recovery operations (Part 6.5). The Designated Authority has not presently appointed any Territory officer as a petroleum project inspector. The Designated Authority also has information gathering powers in relation to such matters as dealings (Part 4.9) and petroleum recovery operations (Part 7.1). In line with contemporary regulatory practice the Territory, as delegate of the Designated Authority, does not conduct physical inspections of operations or well infrastructure during routine operations. Part 9.10A of the Act provides a mechanism for enquiries into significant offshore incidents. On 5 November 2009, the responsible Commonwealth Minister announced a Commission of Inquiry into the Uncontrolled Release. Access to the *West Atlas* rig and the Montara wellhead platform was prohibited until NOPSA advised that Prohibition Notice Nos 0223 and 0224 had been lifted with effect from 20 November 2009. In those circumstances, the Territory did not undertake a physical inspection of the the *West Atlas* rig and the Montara wellhead platform prior to the Uncontrolled Release, and has not undertaken an inspection or sought formally to exercise its information gathering powers since that time.

10. The Territory has undertaken the following steps to identify the circumstances and likely cause(s) of the Uncontrolled Release:

    - reviewed all relevant documentation in its possession in relation to operations in AC/L7, and in particular the operations of Montara H1 ST1 well;
    - reviewed its involvement in the processes that led to the approval of operations in AC/L7, and in particular the operations of Montara H1 ST1 well; and
    - following the incident, sought information from PTTEP regarding the current status of the wells and possible cause of the incident.

11. The audit of the relevant documentation confirmed that all approvals met the requirements under the relevant legislation. The material available to the Territory does not disclose the cause(s) of the Uncontrolled Release.

12. For the purposes of this inquiry, the Territory has assessed the information at its disposal against the four major causes of non-intentional hydrocarbon gas releases: see NOPSA Annual Report 2007/2008, pp 33-34.

Inadequate preventative maintenance

13. The Territory has not identified any matter that would suggest a failure of preventative maintenance on the part of PTTEP.

Defective equipment parts

14. On 6 March 2009, PTTEP made application pursuant to reg 17 of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004 to undertake Stage 1 of the process of suspending operations on the Montara-H1 ST1 well. That process involved, amongst other things, pumping concrete down the well casing for displacement into the annulus (ie the void between the exterior of the well casing and the wall of the well bore) to secure the well casing in place. In that process, the concrete is pumped through a casing shoe float valve located at the casing shoe joint at the bottom of the well. The casing shoe float valve is a one-way valve which is designed to allow fluid (cement and drilling fluid) to flow in one direction when cementing the well casing in place within the borehole. This ensures that the concrete remains in place in the annulus while setting, rather than backflowing into the casing.

15. The Montara Phase 1B Drilling and Completion Program (Document No TM-CR-MON-B-150-00003, Rev 0, June 2009, p15) identified a fault with the 244 mm (9⅝") casing shoe float valve in the following terms:

> ...the 244mm (9⅝") casing was subsequently run, ... the shoe was set at 3796mMD and plugs bumped however the floats failed. Pressure was held on the casing until the cement had set.

16. Although the float valve failed, the Drilling and Completion Program reported that pressure was held until the cement had set. The Daily

Drilling Report of 7 March 2009 reported that the casing and cement passed a 27.6 MPa pressure test. If correct, that report provided a sufficient indication of the integrity and security of the well casing.

17. The Territory has not identified any other matter that would suggest a defect in the equipment parts employed by PTTEP.

Procedure not followed or inadequate

18. As stated, on 6 March 2009 PTTEP sought approval to undertake the Stage 1 suspension of the Montara-H1 ST1 well. That operation included, amongst other things, the setting of the 244 mm (9⅝") Pressure Containing Corrosion Cap (see Figure 1 below).

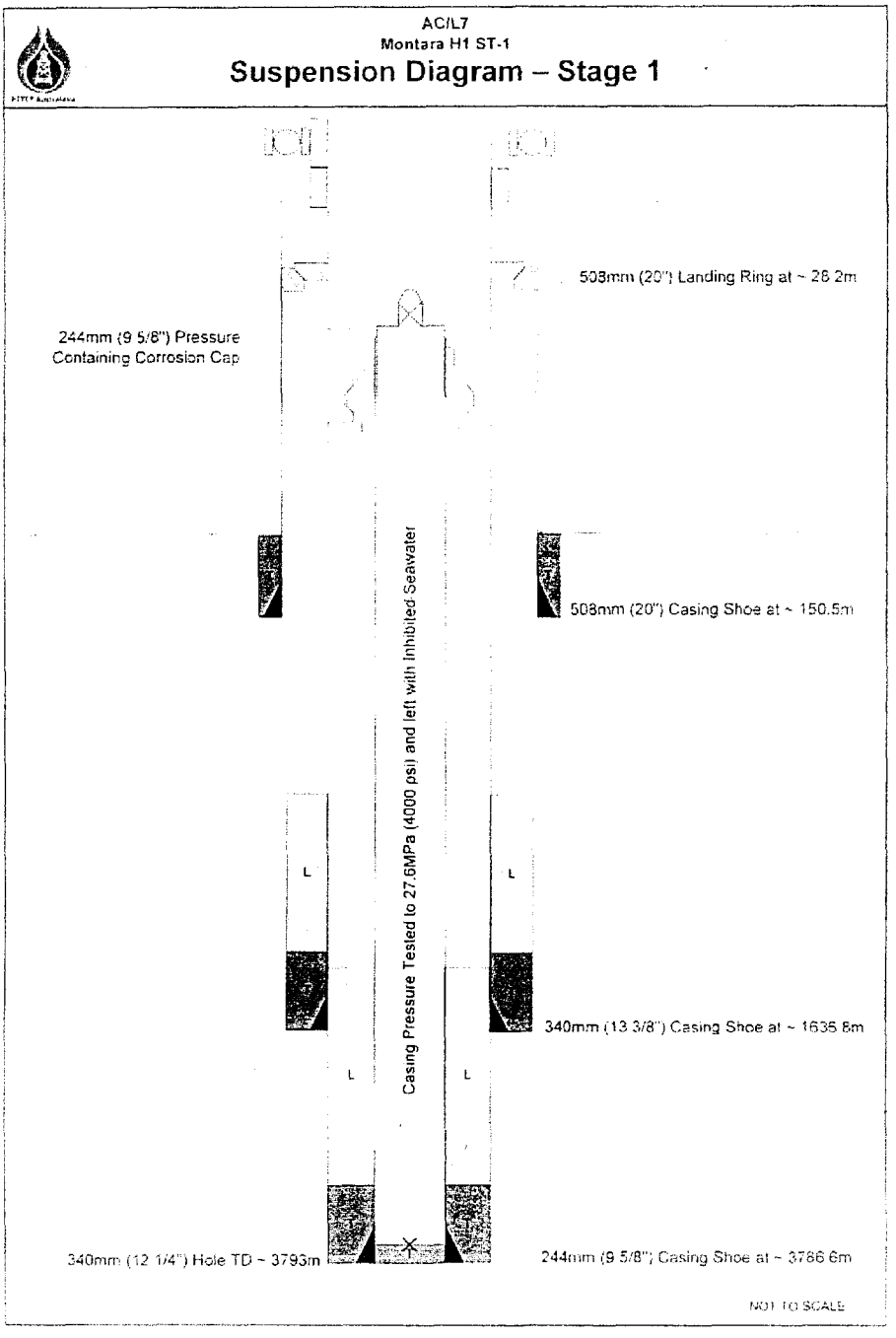

Figure 1: Montara-H1 ST1 Suspension Diagram (Stage 1), 6 March 2009

19. On 13 March 2009, PTTEP sought approval to undertake Stage 2 of the process suspending operations on the Montara-H1 ST1 well. That operation included, amongst other things, the setting of the 340 mm (13⅜") Pressure Containing Corrosion Cap and 508 mm (20") Corrosion Cap in accordance with the configuration in Figure 2 below.

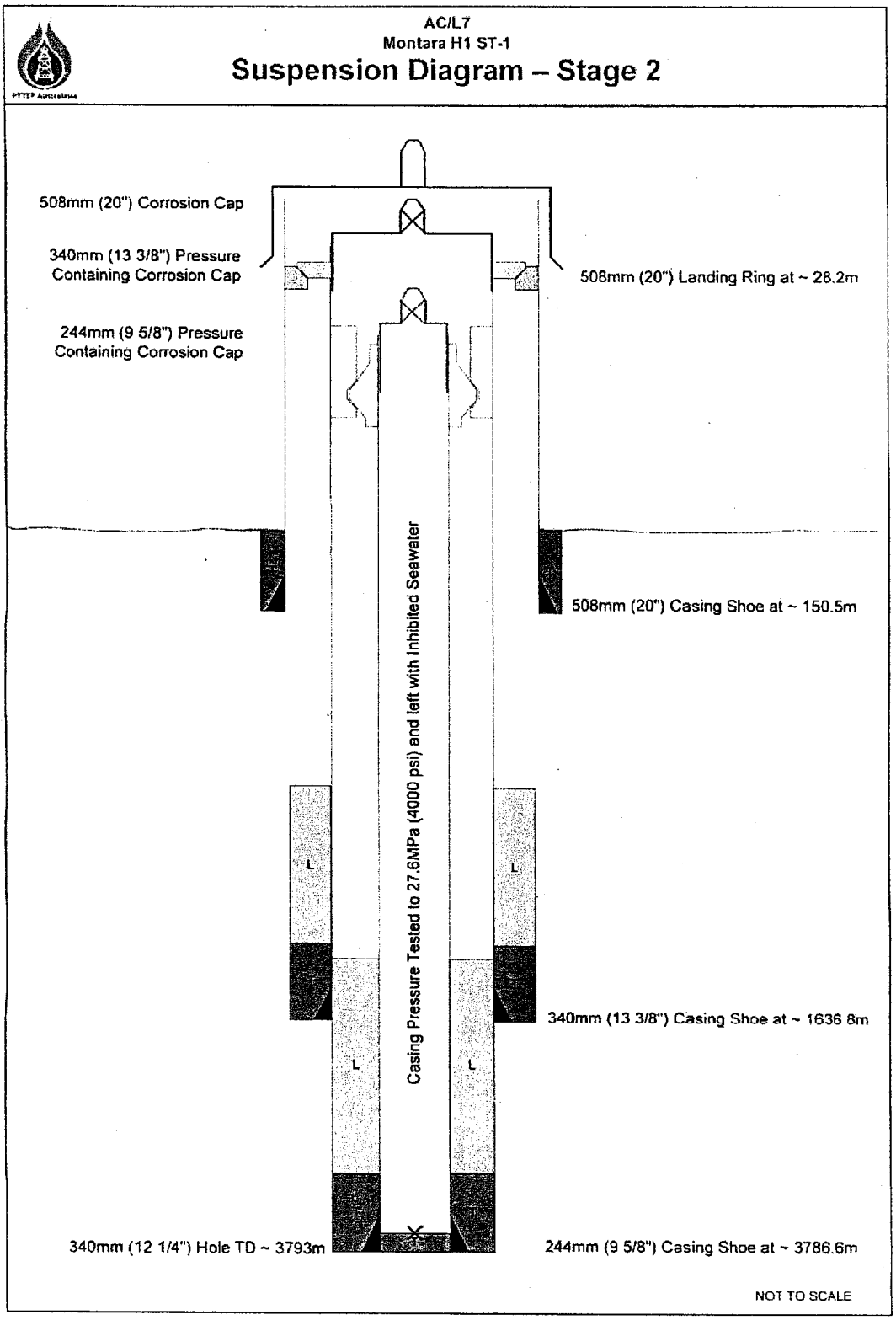

Figure 2 – Montar- H1 ST1 Suspension Diagram (Stage 2), 13 March 2009

20. On 7 July 2009, PTTEP made application pursuant to reg 17 of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004 for approval to undertake Phase 1B to drill and complete the Montara-H1 development well (Document No TM-CR-MON-B-150-00003, Rev:0, June 2009).

21. The application incorporated a Suspension Diagram of Montara-H1 ST1 (as built) which indicated that both the 340 mm (13⅜") and 244 mm (9⅝") Pressure Containing Corrosion Caps had been installed in accordance with the approved programs (see Figure 3 below).

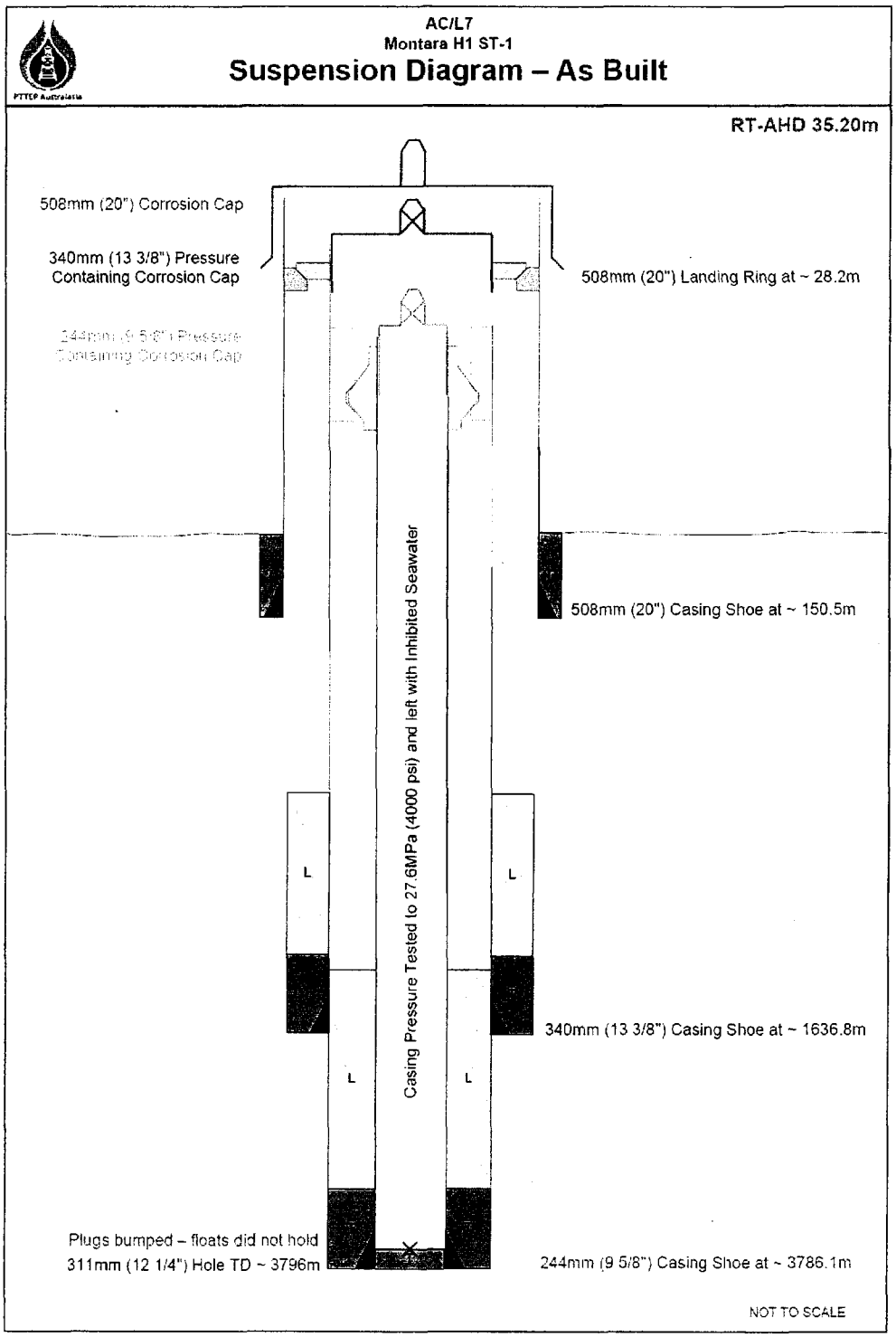

Figure 3 – Montara- H1 ST1 Suspension Diagram (As Built), 7 July 2009

22. Following the Uncontrolled Release, on 24 August 2009 the DRDPIFR made a request by e-mail to PTTEP seeking the following information:

    - a description of the nature of rig floor operations and the specific event (if any) that led to the loss of well integrity of the Montara-H1 ST1 well;
    - the current status of the Montara-H1 ST1 wellhead and wellbore;
    - the current suspension status of all other Montara wells; and
    - a brief account justifying why the drilling of a relief well is the preferred option in order to bring the well under control (in relation to other seriously considered options).

23. PTTEP responded by letter dated 26 August 2009 attaching the Suspension Diagram of Montara-H1 ST1 (As Built). That response provided in part:

> On 18 August 2009 the West Atlas rig was positioned at the Montara wellhead platform. The last rig operation involving the Montara H1 ST1 well occurred from 19 to 20th August 2009 and involved the removal of the trash cap and then the 244mm corrosion cap before running a wellhead brush tool to cleanup the threads on the 340mm and 244mm mud line suspension (at 38m below the rotary table). The 508mm conductor was then installed and rough cut. The rig then skidded over the Montara GI well, recovered the trash cap and tied-back the 508mm conductor. The rig was then ready to commence the same operation at the Montara H4 well when a hydrocarbon release from the Montara H1 ST1 well was observed at 0530 hours on 21 August 2009. The rig was shut down and all personnel safely abandoned the rig. The specific event that led to the loss of well integrity of the Montara H1 ST1 well is not yet known.

24. This response suggests that a departure from the approved Drilling and Completion Program (Doc No TM-CR-MON-B-150-00003) occurred during the re-establishment process. The approved program called for the removal of the 244 mm (9⅝") Pressure Containing Corrosion Cap after all other wells had completed the 340 mm (13⅜") tie-back (reconnection from wellhead to rig floor). The response indicates that on Montara-H1 ST1, the removal of the 244 mm (9⅝") Pressure Containing Corrosion Cap followed directly on the removal of the 508 mm (20") Trash Cap (Corrosion Cap).

25. In addition, the Suspension Diagram of Montara-H1 ST1 (As Built) attached to the response is different to the diagram provided for approval in the Stage 2 Suspension application submitted on 13 March 2009, and to the diagram provided for approval in the Phase 1B Drilling and Completion Operation application submitted on 7 July 2009. The programs as approved included the setting of the 244 mm (9⅝") Pressure Containing Corrosion Cap (Stage 1), followed by the setting of the 340 mm (13⅜") Pressure Containing Corrosion Cap and 508 mm (20") Corrosion Cap (Stage 2). The Suspension Diagram of Montara-H1 ST1 (As Built) attached to the response indicates that the 340 mm (13⅜") Pressure Containing Corrosion Cap was not included in the plugging configuration during the course of the suspension operations (see Figure 4).

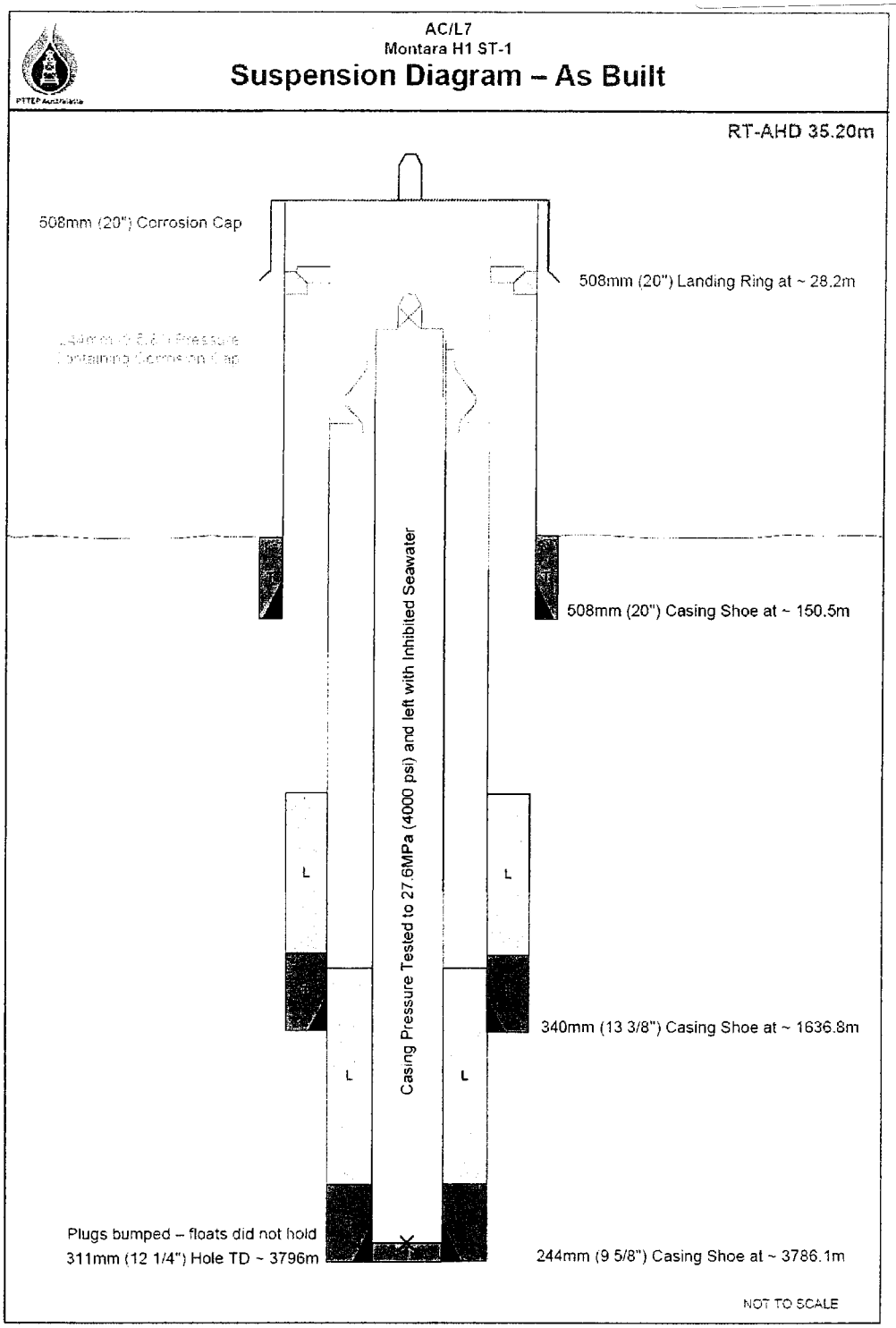

Figure 4 – Montara-H1 ST1 Suspension Diagram (As Built), 26 August 2009

26. The description of the operations undertaken on the wells prior to the incident and given in the PTTEP response also makes no mention of a 340 mm (13⅜") Pressure Containing Corrosion Cap.

Poor equipment design

27. The Territory has not identified any matter that would suggest poor design in the equipment employed by PTTEP.

Conclusions

28. Matters which became apparent during the well kill operation indicated that the leak was coming up through the well casing rather than the annulus. On the material presently to hand, it is not possible for the Territory to conclude that either the failure of the casing shoe float valve or the integrity of the concrete holding the well casing in place was a contributing factor to the Uncontrolled Release.

29. The Territory assumes on the basis of the PTTEP response dated 26 August 2009 that the removal of the 244 mm (9⅝") Pressure Containing Corrosion Cap followed directly on the removal of the 508 mm (20") Trash Cap (Corrosion Cap). On the material presently to hand, it is not possible for the Territory to conclude that the departure from the approved Drilling and Completion Program by which the removal of the 244 mm (9⅝") Pressure Containing Corrosion Cap followed directly on the removal of the 508 mm (20") Trash Cap (Corrosion Cap) was a contributing factor to the Uncontrolled Release.

30. The Territory assumes on the basis of the PTTEP response dated 26 August 2009 that the 340 mm (13⅜") Pressure Containing Corrosion Cap was not included in the plugging configuration during the course of the suspension operations. On the material presently to hand, it is not possible for the Territory to conclude that the failure to include the 340 mm (13⅜") Pressure Containing Corrosion Cap in the plugging configuration during the course of the suspension operations was a contributing factor to the Uncontrolled Release.

C Term of Reference 2

Review the adequacy and effectiveness of the regulatory regime applicable to operations at or in connection with the Montara oil field, including under the Offshore Petroleum and Greenhouse Gas Storage Act 2006, and including the adequacy and effectiveness of all safety, environment, operations and resource management plans, and other arrangements approved by a regulator and in force at relevant times.

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31. The general goals of regulation may be said to be the achievement of "transparency, accountability, efficiency, adaptability and coherence": see Australian Government 2007, *Best Practice Regulation Handbook*, Canberra, p3. Achieving these goals, in the offshore petroleum industry, enables the regulator to encourage desirable behaviour and to discourage undesirable behaviour, particularly behaviour which increases the risk of injury or damage to people or the environment.

32. In accordance with what is generally held to be current world best practice, the regulatory framework adopted in the Act enables operators to engage in petroleum production on the basis that they will adopt and implement procedures that satisfy safety and competence criteria, subject to monitoring by the regulator. The legislative regime "places the onus [to maintain safety to minimise the risk of a major accident event] on operators and provides them with flexibility on how best to manage hazards and minimise risk": see K Bills & D Agostini, "Offshore Petroleum Safety Regulation – Better practice and the effectiveness of the National Offshore Petroleum Safety Authority", Australian Government, June 2009, p xi.

33. It is an inherent feature of this regime that industry assumes the obligation to operate responsibly in consideration of the flexibility it is afforded. A regulatory regime of this nature is designed to enable industry to keep pace with international and domestic developments and offer a level playing field between competitors: see "The Impact of FSR on the Regulatory Culture of ASIC", Speech by the Deputy Chair of ASIC to the 7th Annual Conference of the Australian Compliance Institute, Sydney, 5 September 2003. It promotes good oil field practice whilst allowing operators to manage exploration and production activities in accordance with current technical and commercial practice. In the event that the obligation to operate responsibly is not satisfied, the industry faces the risk that Government will respond with a more prescriptive legislation.

34. The Territory's involvement in the regulation of offshore petroleum exploration and production is pursuant to the Joint Authority / Designated Authority arrangements laid down by the Act. In relation to the offshore area for the Territory of Ashmore and Cartier Islands, the Territory acts as the delegate of the Commonwealth Designated Authority and undertakes day to day administration in relation to the area. The legislative and administrative arrangements are outlined in the Northern Territory of Australia Background Paper 1.

35. It is the policy of the Territory to engage with operators and potential operators at all stages of the petroleum exploration and production process. To this end, the Territory is able to establish positive working relationships with industry. This occurs though direct contact with operators on a daily basis and a culture of providing workable solutions in line with good oil field practice to issues of regulatory compliance.

36. The relevant Territory agency has professional staff with an understanding of the practical approach required under this legislation. Appropriate qualifications and industry experience to undertake regulatory approvals and monitoring processes supported by effective internal structures are key to this.

37. Although the Territory works co-operatively with the industry, it acts on issues of compliance. A recent example saw the Territory administer the cancellation of a Retention Lease on behalf of the Commonwealth because the titleholder did not comply with its work program. This action was precipitated through the monitoring and assessment of compliance performed by the Territory, and its enforcement (in conjunction with the Commonwealth) of the regulatory requirements of the conditions of grant of a Retention Lease under the Commonwealth legislation.

38. As has already been noted, in line with contemporary regulatory practice the Territory does not conduct physical inspections of drilling and wellhead infrastructure during routine operations. The onus is on the operator to conduct its operations according to approved plans and work programs. Given the "round the clock" nature of work on oil rigs, onsite monitoring would place a significant additional burden on both operators and regulators alike. Moreover, the track record of titleholders and operators in Australian petroleum activities both onshore and offshore has not warranted the adoption of that level of monitoring. In recognition of this history of good practice, and public policy considerations which militate in favour of commercial operators assuming responsibility for the technical and operational aspects of enterprise, the requirement is for operators to submit well operations management plans and data management regimes to the regulator, which then reviews those plans for compliance with the regulatory regime. Once approved, the expectation and experience has been that operators conduct their programs in accordance with those approvals.

39. The Territory has rated highly for its regulatory performance in Fraser Institute reports over a number of years. In terms of offshore activity, the Territory is one of the larger jurisdictions, but has received few complaints about its regulatory performance.

40. It is unlikely that the present regulatory arrangement contributed to the occurrence of this incident. In fact, the present arrangement provides a dual layer of assessment in relation to approvals, which affords a greater level of well-qualified scrutiny than a system having a single body regulator. It is submitted that this arrangement has contributed to Australia's sound track record of only a few non-major incidents in the field of offshore petroleum. The Uncontrolled Release the subject of this inquiry is the first major incident in Australian waters, despite the fact that

1500 wells have been drilled in offshore waters since 1984: see statement to ABC Radio by Resources Minister Martin Ferguson reported on *Herald Sun* website on 2 November 2009.

41. In 2009, the Productivity Commission reported that "[t]he overall performance of Australia's regulatory regime in the upstream petroleum sector appears to compare favourably by international standards": see Productivity Commission 2009, *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector*, Research Report, Melbourne.

42. As at 21 August 2009, consistently with the requirements of the Act and the applicable regulations, the following plans were in effect in relation to the offshore petroleum operations conducted pursuant to Petroleum Production Licence AC/L7:

    a. Montara Field Final Field Development Plan – October 2006, submitted with the application for PL AC/L7 on 17 October 2006, and approved on 21 March 2007 (see separate bound folder);

    b. Installation & Commissioning Environment Plan, Rev: 1 - June 2009, submitted on 29 June 2009 and approved on 7 July 2009 (see folder "Operational – Part 1", folios 211-263);

    c. Direction as to Offshore Petroleum Exploration and Production by the Delegate of the Delegated Authority dated 22 March 2007 (see folder "Titles – Tenure History", folios 90-91), which included the Schedule and the Specific Requirements;

    d. Contingency Plan for Excess Gas Production, submitted on 4 March 2009 (see folder "Data Management", folio 69);

    e. approved drilling proposals and programs, namely:

        i. Well Proposal for Montara-H1, submitted on 7 November 2008 and approved on 19 November 2008;

        ii. Montara GI, H1 & H4 (Batch Drilled) Drilling Program, Rev: 2 – January 2009, submitted on 7 January 2009 (see folder "Operational – Part 1", folios 171-94);

        iii. Montara Phase 1B – Drilling and Completion Program, Rev: 0 – June 2009, submitted on 7 July 2009 and approved on 13 July 2009 (see folder "Operational – Part 2", folios 2-193);

    f. approved Well Operations Management Plan ("WOMP"), namely Montara H1 WOMP, submitted on 7 November 2008 and approved on 19 November 2008 (see folder "Operational – Part 1", folios 88-89);

    g. approved Data Management Plans ("DMPs"), namely:

        i. DMP – Reporting and Production – Montara Field, 16 February 2008, submitted on 25 March 2008 and approved on 1 July 2008 (see folder "Data Management", folios 8-16);

ii. DMP – Horizontal Development Well Montara H1, 16 July 2008, submitted on 11 November 2008 and approved on 14 November 2008 (see folder "Data Management", folios 31-37);

iii. DMP – Exploration, Appraisal and Development Drilling, 28 January 2009, submitted on 4 February 2009 and approved on 6 February 2009 (see folder "Data Management", folios 47-53);

h. other approved well activities, as follows:

i. approval to sidetrack Montara H1, given on 2 March 2009 (see folder "Operational – Part 1", folios 178-187);

ii. approval to suspend Montara H1, given on 9 March 2009 (see folder "Operational – Part 1", folios 189-194);

iii. approval to suspend Montara H4, and perform Stage 2 suspension on Montara GI and H1, given on 13 March 2009 (see folder "Operational – Part 1", folios 197-199).

i. Production & Exploration Drilling Environment Plan, Rev: 0 - October 2007 approved on 15 October 2007 (see separate document);

43. In addition, as at 21 August 2009, consistently with the requirements of the Act and the applicable regulations, the following were the most recent Daily Drilling Reports provided by the titleholder of Petroleum Production Licence AC/L7 to the Territory as the Designated Authority:

a. 17 August 2009 (see "Operational – Part 2", folios 197-198);

b. 18 August 2009 (see "Operational – Part 2", folios 200-201);

c. 19 August 2009 (see "Operational – Part 2", folios 203-204).

44. Without knowing what operations were in fact being undertaken on the wellhead platform immediately prior to the incident, or the cause of the Uncontrolled Release, it is not presently possible to draw any conclusions regarding the operations at the material time, or the operator's compliance with the approved programs and best oilfield practice.

45. It is possible to say that the Territory is satisfied that the plans and reports (detailed above) for operations undertaken under Petroleum Production Licence AC/L7 met the requirements of the Act, the regulations and the applicable guidelines and were consistent with good oilfield practice.

D Term of Reference 3

Assess the performance of relevant persons in carrying out their obligations under the regulatory regime.

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46. For the purposes of Term of Reference 3, "relevant persons" are persons who have engaged at any time in petroleum-related operations at the Montara wellhead platform that may have contributed to the cause(s) of the Uncontrolled Release, including but not limited to: the titleholder or a former titleholder of AC/L7 permit, a present or former owner or operator of the Montara wellhead platform, a present or former owner or operator of a drilling rig, a drilling contractor or a supplier or installer of plant or equipment.

47. Northern Territory Background Paper 2 includes a summary of the dealings between the grant of the Exploration Permit for Petroleum No AC/P7 in 1986 and the grant of a Production Licence for Petroleum over that area in late 2006.

Compliance with the regulatory regime under Production Licence for Petroleum AC/L7 prior to the Uncontrolled Release

48. On 18 October 2006, Coogee Resources (Ashmore Cartier) Pty Ltd ("Coogee Resources") made an application for a Production Licence for Petroleum in the offshore area of the Territory of Ashmore and Cartier Islands. On 20 March 2007, Coogee Resources was granted Production Licence for Petroleum AC/L7 over Block Nos 559, 630 and 631 in pursuance of the *Petroleum (Submerged Lands) Act 1967* (Cth). The instrument of grant provided that the licensee shall at all times comply with:

    - the provisions of the Act; and
    - all directions given to him under the Act and all regulations for the time being in force under the Act.

49. On 22 March 2007, the Director of Energy as delegate of the Designated Authority issued directions pursuant to s101(1) of the *Petroleum (Submerged Lands) Act 1967.* The direction required Coogee Resources to comply with the technical, operational and other stipulations contained in "Specific Requirements As to Offshore Petroleum Exploration and Production in Waters under Commonwealth Jurisdiction -- November 2005".

50. On 30 April 2008, Coogee Resources submitted the Montara Development Installation and Commissioning Environment Plan for AC/L7 and AC/L8. The environment plan was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 22 May 2008 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that the environment plan satisfied the requirements of the Petroleum (Submerged Lands) (Management of

Environment) Regulations 1999. The plan was accepted pursuant to reg 11(1) of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999 on 23 May 2008.

51. On 31 July 2008, Coogee Resources submitted a revision of the Montara Development Installation and Commissioning Environment Plan previously accepted for AC/L7 and AC/L8. The revision was assessed by the Senior Petroleum Operations Officer in the DRDPIFR. The assessment concluded that the change of vessel proposed in the submission would not require a revision of the previously accepted environment plan. On 6 August 2008, Coogee Resources was advised that pursuant to reg 17(1) of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999, the previously accepted environment plan did not require revision and remained current.

52. On 7 November 2008, Coogee Resources submitted an application for approval to drill Montara development wells GI, H1 and H4, and for approval of the accompanying WOMP. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 18 November 2008 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that:

- the WOMPs and Drilling Programs for the Montara GI, H1 and H4 wells and Drilling Programs satisfied the Act and applicable regulations;
- an Environment Plan, Emergency Response Plan and Oil Spill Contingency Plan had previously been approved prior to the commencement of the Montara Development drilling operations (which included these wells);
- a Certificate of Currency of Insurance and NOPSA Acceptance of the Safety Case had been received;
- a Data Management Plan had been approved; and
- all relevant stakeholders had been consulted.

53. On 19 November 2008, the WOMPs were accepted pursuant to reg 8(1)(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, and the Drilling Program (Document No TM-CR-B-150-00001, Rev: 0 dated September 2008) was approved pursuant to reg 17(1)(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004.

54. On 7 January 2009, Coogee Resources submitted a revised Drilling Program for the Montara GI, H1 and H4 wells. The Director of Energy as delegate of the Designated Authority determined that the revision did not affect the physical aspect of the wellbore so as to attract the application of reg 17(1) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, and that no further approval was necessary.

55. On 20 February 2009, PTTEP Australasia (Ashmore Cartier) Pty Ltd made application to have its name substituted for that of Coogee Resources in the Petroleum Register in respect of Production Licence AC/L7. That application was approved.

56. On 27 February 2009, PTTEP advised that due to poor reservoir quality it sought urgent approval to sidetrack the Montara-H1 well. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 27 February 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that the application and proposal satisfied the requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004. Approval was subsequently granted pursuant to reg 17(1)(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004.

57. On 6 March 2009, PTTEP submitted an application for the Stage 1 suspension of the Montara H1-ST1 well and advice of a change to the well plug from cement to a pressure containing cap. The Director of Energy as delegate of the Designated Authority determined that the change to the well plug did not affect the physical aspect of the wellbore so as to attract the application of reg 17(1) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, and that no further approval was necessary for that purpose. The application for the Stage 1 suspension was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 6 March 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that the application and proposal satisfied the requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004. Approval was subsequently granted pursuant to reg 17(1)(d) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004 for the suspension of the Montara-H1 ST1 development well in accordance with the PTTEP letter of 6 March 2009 and the Drilling Program previously approved on 21 November 2008.

58. On 12 March 2009, PTTEP submitted an application to suspend Montara-H4 and perform Stage 2 suspensions on the Montara-GI ST1 and Montara-H1 ST1 development wells. The application for the Stage 2 suspension was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 13 March 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that the application and proposal satisfied the requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004. Approval was subsequently granted pursuant to reg 17(1)(d) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004 for the suspension of the Montara-H1 ST1 development well in accordance with the PTTEP letter of 12 March 2009 and the Drilling Program previously approved on 21 November 2008.

59. On 8 April 2009, PTTEP wrote to the DRDPIFR seeking confirmation that the Production & Exploration Drilling Environment Plan for Montara wells

GI, H1, H2, H3 and H4 had been approved. The reason for this request for confirmation was that the DRDPIFR had made no express reference to the Environment Plan when approving the current Drilling Program (Document No TM-CR-B-150-00001, Rev: 0 dated September 2008). The Environment Plan was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 9 April 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that the Environment Plan satisfied the requirements of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999. Approval was subsequently granted pursuant to reg 11(1) of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999 for the Environment Plan (Montara Development, AC/L7 and AC/L8, Production & Exploration Drilling Environment Plan, Document Number: TM-CR-GEN-G-091-00001, Rev: 0, October 2007).

60. On 29 June 2009, PTTEP submitted a revision to its approved Installation & Commissioning Environment Plan in respect of AC/L7 and AC/L8. The revision to the Environment Plan was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 7 July 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded that the Environment Plan satisfied the requirements of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999. Approval was subsequently granted pursuant to reg 11(1) and 17 of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999 for the Environment Plan (Montara Development, AC/L7 and AC/L8, Installation and Commissioning Environment Plan, Document Number: TM-CR-GEN-G-091-00002, Rev: 1, June 2009).

61. On 7 July 2009, PTTEP submitted an application for approval to drill (reservoir sections) and complete Montara-GI, H1, H2, H3 and H4, AC/L7. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 13 July 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded:

- the application and program had been assessed and satisfied the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
- a revised Environment Plan for this project was accepted on 8 July 2009. The Oil Spill Contingency Plan and Emergency Response Plan had already been approved;
- the Data Management Plan had already been accepted for this project;
- the WOMP for the drilling and completion of these wells had already been approved;
- the Safety Case Revision for the *West Atlas* MODU had already been accepted by NOPSA; and

- PTTEP has provided evidence of adequate insurance.

62. Approval was subsequently granted:

    - in accordance with reg 17(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the application to drill the horizontal reservoir sections of the Montara-H1, H2, H3 and H4 development wells in accordance with program entitled "Montara Phase 1B, Drilling & Completion Program" (Document Number: TM-CR-MON-B-150-00003, Rev: 0, June 2009);

    - in accordance with reg 17 (c) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the application to complete the Montara-GI gas injector well and Montara-H1, H2, H3 and H4 development wells in accordance with program entitled "Montara Phase 1B, Drilling & Completion Program" (Document Number: TM-CR-MON-B-150-00003, Rev: 0, June 2009).

Compliance with the regulatory regime under Production Licence for Petroleum AC/L7 following the Uncontrolled Release

63. Following the incident, the determination was made to drill a relief well from the *West Triton* rig located 2 km from the Montara-H1 well in order to intercept and plug the leaking well (see discussion under Term of Reference 5). For that purpose, on 2 September 2009 PTTEP foreshadowed an application pursuant to regs 5 and 17 of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004 for approval to drill for the purpose of bringing the Montara-H1 well under control, and for acceptance of the WOMP for that operation. PTTEP also foreshadowed an application pursuant to reg 17 of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999 for acceptance of a revision to the Environment Plan to accommodate Well Water Deluge Operations. PTTEP enclosed proposed programs and plans for that purpose. The proposed programs and plans were circulated to RET, Geoscience Australia and the Victorian Department of Primary Industries for technical comment.

64. On 3 September 2009, the DRDPIFR received preliminary comments from Geoscience Australia in relation to the proposed drilling program, and from the Victorian Department of Primary Industries in relation to the proposed WOMP and revision to the Environment Plan. The comments from Geoscience Australia were directed largely to the technical particulars of the well kill operation. At that particular point many of those details had not been determined, and could not be until the drilling program progressed. The preliminary comments from the Victorian Department of Primary Industries fell into two broad categories. The first category dealt with the requirements of the regulatory regime. The second category dealt with certain matters of a technical nature, which dealt largely with matters of standard oil field practice.

65. On 3 September 2009, the DRDPIFR was advised by PTTEP that it would generate a revision to the drilling program once final well kill procedures had been modelled. That advice also addressed certain questions in

relation to the proposed drilling program. The first additional question related to the inclusion of kick drills in the program. PTTEP agreed to specify the kick drills in the program, and to incorporate those requirements into the next revision of the drilling program. The second additional question related to flow check duration. PTTEP agreed to incorporate minimum times for flow checks and for a long check after stopping the flow when the drilling program was edited in accordance with the recommendations from ALERT Well Control. The third additional question related to the site survey. PTTEP acknowledged that the survey site was the result of some compromise, but were confident that the data already in their possession, together with the new data from the ROV survey to be performed, would be sufficient to negate any concerns.

66. On 4 September 2009, the DRDPIFR received further comment from the Victorian Department of Primary Industries in relation to the drilling program proposed by PTTEP. On that same date, the DRDPIFR sought PTTEP's response to the preliminary comments from Geoscience Australia and the Victorian Department of Primary Industries. The comments from Geoscience Australia and the Victorian Department of Primary Industries were ultimately addressed during the course of the drilling program.

67. The Territory's main priority was to have in place such approvals as were necessary to allow the *West Triton* to start drilling the relief well as soon as it arrived on location. In accordance with that priority, the DRDPIFR advised Geoscience Australia and the Victorian Department of Primary Industries that the proposal was to provide initial approval to commence drilling the relief well up to the point of intersection, and in the interim period to consider any necessary revisions to the drilling program to address comments made in relation to the detail of the program.

68. On 8 September 2009, Geoscience Australia provided further comment in relation to the PTTEP drilling program. Those comments were directed primarily to uncertainties and concerns arising from the likely source of the leak, and recommended further discussion and analysis. At that point in time, neither the Territory nor PTTEP were in a position to draw any conclusions in relation to the source of the leak. Those comments were forwarded to PTTEP for appropriate response. PTTEP subsequently provided Revision 1 of the proposed Drilling Program for the purpose of bringing the Montara-H1 well under control.

69. On 9 September 2009, PTTEP submitted its formal application for approval to drill Montara-H1 ST1 RW1 (relief well). The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 10 September 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded:

- the WOMP and drilling program satisfied the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;

- the revised environment plans (addendums) satisfied the conditions and requirements of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999;

- the Oil Spill Contingency Plan and Emergency Response Plan had already been approved;

- the Data Management Plan had already been accepted for the project;

- PTTEP had provided evidence of adequate insurance; and

- the Safety Case Revision for the *West Triton* MODU had been accepted by NOPSA on 7 September 2009.

70. Approval was subsequently granted:

- in accordance with reg 17(1)(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, to drill the relief well Montara-H1 ST1 RW1 in accordance with drilling program entitled: "Montara H1 ST-1 RW-1 Drilling Program" (Document Number: TM-CR-GEN-R-150-00015, Rev: 1, September 2009);

- to conduct operations up to and including Step 62 (conditioning mud). Approval to conduct operations past this point was subject to the receipt and assessment of a final program revision;

- in accordance with reg 7(1) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the Well Operations Management Plan entitled "Montara H1 ST-1 RW-1 Well Operations Management Plan (WOMP)" (Document Number: TM-CR-MON-G-150-00009, Rev: 0, August 2009);

- in accordance with reg 11(1) and 17 of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999, for the addendum to the environment plan entitled "Montara Development, AC/L7 and AC/L8, Installation and Commissioning Environment Plan" (Document Number: TM-CR-GEN-G-091-00002, June 2009, Rev 1); and

- in accordance with reg 11(1) and 17 of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999, for the addendum to the environment plan entitled "Montara Development, AC/L7 and AC/L8, Production and Exploration Drilling Environment Plan" (Document Number: TM-CR-GEN-G-091-00001, Rev 0, October 2007).

71. PTTEP was advised that further approval would be required for any proposal to intercept Montara-H1 ST1, or to flow, suspend or abandon either Montara-H1 ST1 or the relief well.

72. On 18 September 2009, PTTEP submitted an application for approval of a revised programme to drill Montara-H1 ST1 RW1. The purpose of the

revision was to include the interception and the well kill in the program. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 21 September 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded:

- the drilling program (Revision 2) was in accordance with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
- the WOMP had already been approved in accordance with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
- the revised environment plans (addendums) had already been approved in accordance with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999;
- the Oil Spill Contingency Plan and Emergency Response Plan had already been approved;
- the Data Management Plan had already been accepted for the project;
- PTTEP had provided evidence of adequate insurance; and
- the Safety Case Revision for the *West Triton* MODU had been accepted by NOPSA on 7 September 2009.

73. Approval was subsequently granted in accordance with reg 17(1)(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the application to continue drilling the relief well Montara-H1 ST1 RW1 in accordance with drilling program entitled "Montara H1 ST-1 RW-1 Drilling Program" (Document Number: TM-CR-GEN-R-150-00015, Rev 2, September 2009). PTTEP was again advised that further approval would be required for any proposal to flow, suspend or abandon either well (Montara-H1 ST1 or Montara-H1 ST1 RW1).

74. On 2 October 2009, PTTEP submitted an application for approval to undertake wellhead platform clearing and plugging operations on Montara-H1 ST1. The purpose of the application was to allow the operator to run two surface plugs to seal the Montara-H1 ST1 well from above the wellhead platform, subject to NOPSA lifting the relevant prohibition notices. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 7 October 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded:

- the program complied with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;

- the WOMP had already been approved in accordance with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;

- the revised environment plans (addendums) had already been approved in accordance with the conditions and requirements of Petroleum (Submerged Lands) (Management of Environment) Regulations 1999;

- the Oil Spill Contingency Plan and Emergency Response Plan had already been approved;

- the Data Management Plan had already been accepted for the project;

- PTTEP had provided evidence of adequate insurance; and

- the Safety Case Revision for the *West Atlas* MODU and the operation had been accepted by NOPSA on 5 October 2009.

75. Approval was subsequently granted in accordance with reg 17(1)(e) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the application to undertake WHP Clearing & Plugging Operations on Montara-H1 ST1 in accordance with program entitled "Montara H1 ST1 Well Control Operations, WHP Clearing and Plugging Operations on H1 ST1" (Document Number: TM-CR-GEN-N-090-00006, Rev 0, September 2009). The approval was expressed to be subject to NOPSA lifting its Prohibition Notice and providing authorisation for PTTEP personnel and associated contractors to board the Montara Well Head Platform and *West Atlas* rig for the purpose of completing the relief program. PTTEP was again advised that further approval would be required for any proposal to flow, suspend or abandon either well (Montara-H1 ST1 or Montara-H1 ST1 RW1).

76. On 7 October 2009, PTTEP submitted a revised program to undertake wellhead platform clearing and plugging operations on Montara-H1 ST1. The Director of Energy as delegate of the Designated Authority determined that the proposed revision did not affect the physical aspect of the wellbore so as to attract the application of reg 17(1) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, and that no further approval was necessary for that purpose.

77. On 6 October 2009, PTTEP submitted an application for approval to sidetrack Montara-H1 ST1 RW1. The application was made following an unsuccessful pass at the target well. The purpose of the application was to seek approval to drill a different path in order to make a second pass at the target well. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 7 October 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded:

- the program complied with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
- the WOMP had already been approved in accordance with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
- the revised environment plans (addendums) had already been approved in accordance with the conditions and requirements of Petroleum (Submerged Lands) (Management of Environment) Regulations 1999;
- the Oil Spill Contingency Plan and Emergency Response Plan had already been approved;
- the Data Management Plan had already been accepted for the project;
- PTTEP had provided evidence of adequate insurance; and
- the Safety Case Revision for the *West Atlas* MODU and the proposed operation had been accepted by NOPSA on 5 October 2009.

78. Approval for the application to sidetrack was subsequently granted in accordance with reg 17(1)(a) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004. That approval was expressed to be subject to the receipt of a completed Wellbore Schematic that prescribed final depths.

79. On 14 October 2009, PTTEP submitted a further application for approval to sidetrack Montara-H1 ST1 RW1 ST1. The application was made following another unsuccessful pass at the target well. The purpose of the application was to seek approval to drill a different path in order to make a third pass at the target well. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 14 October 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment came to the same conclusions as for the previous application to sidetrack lodged on 6 October 2009, and approval for the application was subsequently granted.

80. On 17 October 2009, PTTEP submitted a further application for approval to sidetrack Montara-H1 ST1 RW1 ST2. The application was made following another unsuccessful pass at the target well. The purpose of the application was to seek approval to drill a different path in order to make a fourth pass at the target well. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment came to the same conclusions as for the previous application to sidetrack lodged on 6 October 2009, and approval for the application was subsequently granted.

81. On 23 October 2009, PTTEP made an urgent telephone application for approval to sidetrack Montara-H1 ST1 RW1 ST3. The application was made following another unsuccessful pass at the target well. The purpose of the application was to seek approval to drill a different path in order to make a fifth pass at the target well. The application was made on a Friday, and it was not possible in those circumstances to submit a written application and procure formal approval in time to allow drilling activity over the weekend. For this reason, preliminary approval was granted subject to the receipt of a formal application. PTTEP submitted a formal application on 28 October 2009. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 28 October 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment came to the same conclusions as for the previous application to sidetrack lodged on 6 October 2009, and approval for the application was subsequently granted.

82. The well kill operation was completed and the fire extinguished on 3 November 2009.

83. On 24 November 2009, PTTEP submitted an application for approval to suspend Montara-H1 ST1 and to plug and abandon Montara-H1 ST1 RW1 ST4. The purpose of this application was: to secure approval to plug and secure the Montara-H1 ST1 well pending any further recovery operations; and to terminate the Montara-H1 ST1 RW1 well as it had served its purpose. A preliminary assessment by the DRDPIFR identified that the height to which the cement plugs would extend should be increased. Changes were required to the program. On 23 November 2009, PTTEP submitted a revised application. The application was assessed by the Senior Petroleum Operations Officer in the DRDPIFR, who on 25 November 2009 recommended its approval by the Director of Energy as delegate of the Designated Authority. The assessment concluded:

    - the program complied with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
    - the WOMP had already been approved in accordance with the conditions and requirements of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004;
    - the revised environment plans (addendums) had already been approved in accordance with the conditions and requirements of Petroleum (Submerged Lands) (Management of Environment) Regulations 1999;
    - the Oil Spill Contingency Plan and Emergency Response Plan had already been approved;
    - the Data Management Plan had already been accepted for the project;
    - PTTEP had provided evidence of adequate insurance; and

- NOPSA had lifted its Prohibition Notices in respect of the *West Atlas* and Montara Wellhead Platform on 21 November 2009.

84. The matter was referred to RET for its endorsement of the application and proposed approval for the suspension and abandonment program. Approval was subsequently granted:

- in accordance with reg 17(1)(d) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the application to abandon the Montara-H1 ST1 RW1 (Stage 4) well in accordance with the final program (Document Number: TM-CR-GEN-R-150-00017, Rev 2);

- in accordance with reg 17(1)(d) of the Petroleum (Submerged Lands) (Management of Well Operations) Regulations 2004, for the application to suspend the Montara-H1 ST1 well in accordance with the final program (Document Number: TM-CR-GEN-R-150-00017, Rev 2).

Conclusions

85. The Act, regulations and guidelines require approval for: the proposal for work in relation to the area covered by the Production Licence; the original field development plan; environment plans; data management plans; all well operations; and any variations and suspensions to those plans and programs. In terms of the requirement to procure all necessary approvals and authorisations, and the requirement that the content of the plans and programs submitted for approval and authorisation satisfy the Act, regulations and guidelines, PTTEP have complied with their obligations under the regulatory regime in respect of operations conducted under Production Licence for Petroleum AC/L7. That compliance was demonstrated for operations both prior to and following the Uncontrolled Release.

86. The only potential failures to comply with the various approvals and authorisations granted in respect of operations conducted under Production Licence for Petroleum AC/L7 identified by the Territory are those detailed above in the context of Term of Reference 1. The Territory is not aware of any other failure on the part of PTTEP to comply with the drilling programs, WOMPS or other plans submitted as the basis for the various approvals and authorisations granted in respect of operations conducted under the Production Licence.

87. The Territory is not in possession of any information to suggest a failure to comply on the part of PTTEP with the technical, operational and other stipulations contained in "Specific Requirements As to Offshore Petroleum Exploration and Production in Waters under Commonwealth Jurisdiction -- November 2005".

E Term of Reference 4

Review the adequacy and effectiveness of monitoring and enforcement by regulators of relevant persons, under the regulatory regime.

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88. Again, for the purposes of Term of Reference 4 "relevant persons" are persons who have engaged at any time in petroleum-related operations at the Montara wellhead platform that may have contributed to the cause(s) of the Uncontrolled Release, including but not limited to: the titleholder or a former titleholder of AC/L7 permit, a present or former owner or operator of the Montara wellhead platform, a present or former owner or operator of a drilling rig, a drilling contractor or a supplier or installer of plant or equipment.

89. On 20 March 2007, Coogee Resources (Ashmore Cartier) Pty Ltd was granted Production Licence for Petroleum AC/L7 over Block Nos 559, 630 and 631 in pursuance of the *Petroleum (Submerged Lands) Act 1967.*

90. All operations undertaken pursuant to this licence require approval by the relevant regulatory body. The Act confers certain functions upon Joint Authorities and other functions upon Designated Authorities. The Director of Energy within the DRDPIFR (now DOR) is the delegate of the Designated Authority for the Territory of Ashmore and Cartier Islands offshore area. In this role, the Territory is responsible for the day to day administration of the licence and operations within it, subject to the qualification that occupational health and safety operations on offshore facilities is the responsibility of NOPSA.

91. The administration of operations under the licence includes activities such as approving drilling programs, WOMPs, environment and data management plans, and monitoring progress against work programs (see Northern Territory Background Paper 1). The administrative purpose is to ensure, so far as is practical, that the operator meets all of its responsibilities under the relevant legislation and complies with good oilfield practice.

92. Following the grant of the licence, Coogee Resources commenced drilling development wells within the Montara field in preparation for the recovery of hydrocarbons. Applications to undertake this and subsequent activities were assessed by the Territory, with approvals granted on the basis of meeting all legislative and guidelines requirements provided by the Designated Authority. This process has already been detailed above in the context of Term of Reference 3. It is axiomatic that the Territory enforces this legislative regime by assessing all applications and requests for authorisation and approving only those which are in compliance.

93. Operators are also required to apprise the Territory of any proposed changes to approved work programs, and to submit an appropriate application in circumstances where a proposed change requires further approval or authorisation under the terms of the legislation. As is apparent from the discussion in the context of Term of Reference 3, the Territory

assessed and approved a number of changes to the work programs for the operation of AC/L7. These changes were also approved on the basis that they met the requirements of the relevant legislation and guidelines, and good oilfield practice.

94. The onus is on the operator to conduct its operations in accordance with approved plans and work programs. The regime requires the submission and approval of data management plans. Those plans, including the data management plans submitted for the operation of AC/L7, require the submission of Daily Drilling Reports. These reports allow the Territory to monitor operations, at least at the level of detail required to be provided in the reports. The assessment of Daily Drilling Reports against approved work programs (drilling programs and WOMPs) allows the Territory to determine progress, performance and compliance.

95. Up to the point of the incident on 21 August 2009, the Territory had assessed all drilling programs and WOMPs as meeting the requirements of the legislation, guidelines and good oilfield practice. Daily Drilling Reports are submitted at the end of each day's operations on a 24 hour frequency. "Off line" well operations are not reported in the Daily Drilling Reports. The incident leading to the Uncontrolled Release occurred whilst the Montara-H1 ST1 well was "off line" and operations were being undertaken on the GI well. Nothing reported in accordance with the data management plans indicated any possibility of the Uncontrolled Release.

96. Following the incident, PTTEP sought the necessary approvals and authorisations for the well kill operations from the Director of Energy as the delegate of the Designated Authority. All approvals and authorisations provided by their Territory following the incident were made in consultation with the Designated Authority. The drilling and plugging operations were assessed and approved on the basis that the work plans and programs satisfied the legislative requirements and guidelines.

97. The approvals and authorisations granted by the Territory in the administration of the licence and operations under AC/L7 have been consistent with the legislation and guidelines, and in pursuance of its role as the delegate of the Designated Authority.

F Term of Reference 5

Assess the adequacy of the response to the Uncontrolled Release by the current title-holder of AC/L7, the owner and/or operator of the Montara Wellhead Platform and the owner and/or operator of the West Atlas drilling rig.

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98. PTTEP has reported that the Uncontrolled Release commenced at 0530 hrs (Western Standard Time)/0730 hrs (Eastern Standard Time) on 21 August 2009. Under the applicable Oil Spill Contingency Plan and Environment Plan any oil spill greater than 80 litres (~0.5 bbl) is a "reportable incident". Regulations 26 and 26A of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999 require the operator to notify a reportable incident to the appropriate regulators, being the DRDPIFR and NOPSA. This regime stipulates that notification must be given as soon as practicable, and in any case not later than 2 hours after the incident and may be oral or in writing.

99. On the morning of 21 August 2009, a representative of PTTEP rang a mobile phone number listed on the DRDPIFR website for the notification of incidents and left a message to the effect that there had been an incident on the Montara-H1 well. The Territory officer assigned to that mobile phone function was not responding to calls at the time due to a medical emergency. The message was not discovered until some days later. The DRDPIFR website provided a link to an alternative number for incident notification. The Territory has now reconfigured the relevant website to ensure that the incident reporting telephone numbers are listed as alternatives in the same page. Ideally, the PTTEP should have rung the alternative number and reported the matter directly to a Territory officer. As it transpired, the failure to do so did not have any material consequences.

100. At approximately 1145 hrs (CST) the DRDPIFR received an enquiry about an oil/gas leak at the Montara well. At approximately 1200 hrs (CST) the DRDPIFR rang PTTEP to enquire about the incident. At 1305 hrs (CST) the Chief Operating Officer for PTTEP rang the DRDPIFR and advised of the discharge. At approximately 1330 hrs (CST) the DRDPIFR contacted RET, which advised that it was aware of the incident. At approximately 1630 hrs (CST) the DRDPIFR received a Situation Report from AMSA advising that AMSA had initiated action to apply dispersant to the oil slick. At approximately 1800 hrs (CST) the DRDPIFR received advice that NOPSA had formed an investigation team, was conducting preliminary enquiries into the health and safety aspects of the incident, and would be liaising with the DRDPIFR and AMSA. At approximately 2000 hrs (CST) PTTEP requested AMSA to take control of the oil spill response and referred the matter to the Territory (as the delegate of the Designated Authority). The Territory immediately handed "Combat Control" over the response to AMSA. AMSA were prepared for this action from earlier communications with PTTEP.

101. On 22 August 2009, NOPSA issued prohibition notices for the *West Atlas* rig and the Montara wellhead platform, and AMSA formally confirmed that it had assumed the role of the Combat Agency in accordance with the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances.

102. By 23 August 2009, PTTEP had engaged ALERT Well Control, a leading international oil and gas well control engineering specialist, and advised that it had identified a suitable mobile offshore drilling rig in Singapore (the *West Triton*) which was being mobilised and was likely to leave Singapore by barge on 25 August. From departure it would take 20 days for the *West Triton* to be on site and ready to commence drilling activities. By that time, PTTEP had, in conjunction with its specialist advisors, devised a well kill plan by which the *West Triton* would drill a relief well to intersect the existing well and allow for the injection of heavy mud directly into the existing wellbore in order to stop the well flowing. It was estimated that it would take approximately 4 weeks to drill the relief well.

103. On 25 August 2009, PTTEP provided formal notification of a reportable incident pursuant to reg 26 of the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999.

104. Consideration was also given to alternative proposals for bringing the well under control.

105. On 25 August 2009, the operators met with NOPSA to discuss the feasibility of an attempt to control the well by direct human intervention at the Montara wellhead platform while flammable hydrocarbons continued to be released at the facility. NOPSA expressed concerns that this proposal might pose unacceptable risks to the persons involved, but would await more specific representations from the operators. That alternative was not pursued for occupational health and safety reasons.

106. In late August and early September 2009, consideration was given to bringing a rig from the Blacktip field for the purpose of drilling the relief well. It was determined that the rig was not of a suitable class or configuration for the operation proposed (not a jack up), and that in any event the cost of the alternative rig, together with the significant disruption to the Northern Territory gas supply from the Blacktip operation that would be entailed, did not warrant the deployment of the alternative rig, particularly in circumstances where the *West Triton* would be on-site only one or two days later than the alternative rig could have been deployed.

107. On 9 September 2009, PTTEP provided a WOMP and Drilling Program for the purpose of bringing the Montara-H1 well under control (earlier versions had been provided on 2 September 2009). The approval was sought in advance of the arrival of the *West Triton*, and sufficiently in advance to allow the commencement of drilling. Subsequent applications for variations were also provided in a timely fashion, in the sense that there was no delay to the drilling program by reason of any failure to procure the necessary approvals or authorisations.

108. The well kill operation took five attempts to successfully intersect the leaking well. This was not an unusual occurrence in these circumstances. The operation involved the drilling of the relief well to a depth of 2.6 km in order to intercept a piece of steel casing approximately 25 cm in diameter. Intercept operations of this nature frequently involve several passes, each taking up to 4 days to complete. PTTEP deployed the appropriate equipment in order to locate the target well, and was ultimately successful in making the interception.

109. On 1 November 2009, the well kill operation was underway when the Montara-H1 well ignited. The Territory is not in possession of any information which would identify the immediate cause of the ignition. It would appear, however, that the attempt to plug the leaking well by injecting drilling fluid into it was unsuccessful due to a "loss zone" at the bottom of the Montara-H1 well which prevented the drilling fluid from killing the well. The well kill was eventually completed and the fire extinguished on 3 November 2009.

110. The well kill operation in response to the Uncontrolled Release by PTTEP and Atlas Drilling was made with the benefit of expert technical advice, was conducted within expected and acceptable timeframes, and was ultimately successful.

G Term of Reference 6

Assess the adequacy of regulatory obligations applicable to the titleholder of AC/L7, the owner and/or operator of the Montara Wellhead Platform, and the owner and/or operator of the West Atlas drilling rig in relation to the response to the incident and make any recommendations necessary to improve the regulatory obligations that may be applicable to any future incidents.

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111. The Commonwealth Guidelines for the Preparation and Submission of an Environment Plan detail the provisions required in meeting obligations under the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999. The Environmental Plan is required to incorporate an Oil Spill Contingency Plan and Emergency Response Plan prescribing the response in the event of a spill.

112. At the time of the incident, PTTEP had in place an Oil Spill Contingency Plan (Ref D30-500153-FACCOM) and an Emergency Response Plan (Ref D30-502851-FACCOM) under its Installation and Commissioning Environment Plan, Rev: 1 - June 2009, submitted on 29 June 2009 and approved on 7 July 2009. Both plans were deployed following the Uncontrolled Release, in cooperation with AMSA.

113. Following the incident, PTTEP gave written confirmation that it would meet all costs associated with the clean-up operation. On 15 October 2009, PTTEP announced an agreement with the Federal Government for the implementation of an environmental monitoring program to cover long and short term potential impacts resulting from the leak at the Montara platform. PTTEP also met all costs associated with the well kill operation.

114. Subject to any matters that might arise in the submissions made by other interested parties and during the course of a public hearing, the Territory does not seek to make any submission in relation to this Term of Reference beyond the foregoing observations.

H Term of Reference 7

Assess and report on the environmental impacts following the Uncontrolled Release using available data and evidence including the outcomes from monitoring activities already underway, review any proposed environmental monitoring plans, and make recommendations on whether any further measures are warranted to protect the environment from the consequences of the Uncontrolled Release.

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115. Section 6 of the *Ashmore and Cartier Islands Acceptance Act 1933* (Cth) (as amended in 1985) provides that the law of the Northern Territory as in force from time to time, insofar as applicable, is in force in the Ashmore and Cartier Islands Territory. All statutes in force in the Northern Territory will have force in the Ashmore and Cartier Islands with the exception of those laws specifically repealed by the *Application of Laws Ordinance 1989* (Cth). Those Territory laws apply as Commonwealth laws. Section 9 of the *Ashmore and Cartier Islands Acceptance Act 1933* provides that the Governor-General may also make Ordinances for the peace, order and good government of the Territory of Ashmore and Cartier Islands.

116. Section 80 of the Act provides that the laws in force in the Territory of Ashmore and Cartier Islands will have application in the "offshore area" for that Territory in relation to acts, omissions, matters, circumstances and things touching, concerning, arising out of or connected with, *inter alia*, the exploration for and exploitation of petroleum in the sea-bed or subsoil.

117. Section 8 of the Act defines the offshore area of the Territory of Ashmore and Cartier Islands to be so much of the "scheduled area" for that Territory as consists of land and water that is: (a) within the outer limits of the continental shelf; and (b) not within the Joint Petroleum Development Area. Section 7 and Schedule 1 to the Act provide geographic coordinates for the scheduled area for the Territory of Ashmore and Cartier Islands.

118. Territory laws do not apply with force as laws of the Northern Territory in either the Territory of Ashmore and Cartier Islands or its offshore area. The responsible Commonwealth Minister has not made arrangements with Territory Ministers for the exercise of powers or the performance of functions within the Ashmore and Cartier Islands offshore area in relation to environmental monitoring or amelioration in consequence of the Uncontrolled Release.

119. As has already been noted, following the Uncontrolled Release AMSA assumed the role of Combat Agency in accordance with the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances, and managed the response to the environmental impact of the incident.

120. The Commonwealth Department of the Environment, Water, Heritage and the Arts has sought some comment from Northern Territory Fisheries in relation to PTTEP's draft environmental monitoring plan following the

Uncontrolled Release. The Territory noted an increased possibility of impacts on Territory waters and, in particular, the offshore snapper fishery. The Territory has recommended that, in addition to sampling of catch for the effects of tainting, the monitoring program should also make provision for:

- water quality sampling (for toxicity) in the vicinity of the Uncontrolled Release and at various distances from the oil slick;
- the collection and examination of any dead fish; and
- sampling for planktonic eggs and larvae at specified distances from the oil slick.

121. The Territory also recommended that the draft monitoring program be extended to include catch from Northern Territory fisheries in the event that the oil slick reached Territory waters.

122. PTTEP has also agreed to fund a long term environmental impact study into the fauna and flora around the oil spill region.

I Term of Reference 8

Consider and comment on the offshore petroleum industry's response to the Uncontrolled Release.

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123. The Territory does not seek to make any submissions in relation to this Term of Reference.

J Term of Reference 9

Consider and comment on the provision and accessibility of relevant information regarding the Uncontrolled Release to affected stakeholders and the public.

Information from the owner/operator

124. PTTEP provided information about the Uncontrolled Release to DRDPIFR as described under Terms of Reference 1 and 5 above. PTTEP has also provided information to DRDPIFR and RET as part of the process of applying for approvals to drill the relief well, etc. That information, supplemented as requested, was sufficient to permit the required assessments.

125. PTTEP remained in constant contact with AMSA and NOPSA during the well kill operation.

126. Further, PTTEP provided information about the Uncontrolled Release (and the events which followed) on its website (www.au.pttep.com/news_mediareleases_step3.asp). This information was accessible by regulators, the petroleum industry and the general public. This information now comprises 96 Information Release Statements, plus other media statements and materials, which were uploaded daily between 21 August 2009 and 23 November 2009.

127. The first media release, Incident Information #1, made on 21 August 2009, gave general information that a crude oil and gas leak incident had occurred at 0530 hrs that day in the Montara development in the Timor Sea, approximately 690 km west of Darwin, Northern Territory and 250km north west of Truscott, Western Australia, that the *West Atlas* drilling rig had been evacuated, and that the emergency management procedures had been activated and authorities notified.

128. Later on 21 August 2009, Incident Information #3 advised that a gas and crude oil condensate leak was continuing onboard the *West Atlas* drilling rig, that the situation was being assessed to progress planning to determine how the leak could best be stopped, that the Australian Marine Oil Spill Centre was mobilising aircraft and dispersant to be on-site the next day, that the size of the spill was unknown, that approximately 40 barrels of oil were discharged in the initial incident, that an unknown amount of condensate had been discharged at pressure in the gas stream, and that the discharge was likely to be carried south-westerly away from the Australian mainland by prevailing winds and currents.

129. Incident Information #4, also on 21 August 2009, repeated much of Incident Information #3, but gave greater detail in relation to the evacuation of personnel and personnel remaining in the vicinity.

130. Incident Information #5, released at 0700 hrs on 22 August 2009, stated that the situation was unchanged overnight. At 1500 hrs that day, Incident

Information #6 stated that the amount of leaking oil was not increasing and the flow of condensate appeared to be diminishing, with the flow of gas unchanged, that there was no hydrogen sulphide being released, that AMSA's preliminary scientific assessment was that the oil was breaking up or evaporating at about the same rate it was still leaking, that the visible spill covered 8 nautical miles by 30 metres wide, that the fire risk meant personnel could not reboard the platform to bring the leak under control, that international experts had been engaged to bring it under control, and that those experts were expected to recommend a course of action by the following day or Monday.

131. At 1500 hrs on 23 August 2009, Incident Information #7 stated that PTTEP had determined a preferred course of action in conjunction with its technical advisors, including a team from leading international oil and gas well control engineering specialists Alert Well Control. The proposed course was to drill a relief well nearby the existing well to intersect the existing well and stop its flow. This course was said to have the highest probability of success and the lowest risk profile. It was stated that a suitable mobile offshore drilling rig, the *West Triton*, which was also owned and operated by Seadrill (the contracted operator for the Montara development), was located in Singapore. It would take 20 days for the *West Triton* to be on site and ready to drill from a location 2 km from the *West Atlas*. It would then drill a relief well intended to intersect the existing well, allowing for the injection of heavy mud directly into the existing well bore with the aim of stopping the well from flowing. It was estimated that it would take approximately 4 weeks to drill the relief well. PTTEP was also said to have sourced specialised deluge equipment in Singapore, expected to arrive at the *West Atlas* in 5 days, to spray water on the platform and rig to assist with gas dispersion and minimise the risk of ignition. The slick from the spill was said to be localised and visibly reducing in size due to dispersant application, and confirmation was given that the costs for the AMSA oil dispersal operations would be met by PTTEP. The Information included a simple diagram of the proposed course involving the relief well.

132. Incident Information #8 issued at 1100 hrs on 24 August 2009 responded to reports that PTTEP was continuing pipe laying activity in the Montara development, and stated there would be no further exploration operations at the site until it was safe to do so and all construction activities had ceased on 21 August 2009 and remained shut down. At 1500 hrs on the same date, Incident Information #9 stated that work had commenced to prepare the *West Triton* for towing and it was expected to leave Singapore the following day. The flow rate from the leak was said to remain unchanged. PTTEP was said to be continuing to evaluate whether there was a safe alternative to stem the flow earlier than the current option.

133. On 25 August 2009, at 1420 hrs, Incident Information #10 stated that the *West Triton* was expected to depart late that day or the following morning and was expected to take 17 days to be on site, that the spill continued to be breaking up and patchy, that the technical team had confirmed a position for the *West Triton* and had finalised and mapped the direction for the intercept well, that PTTEP was exploring other potential rigs in the area and other options to stop the leak, whilst progressing current plans,

that it might take up to a week to fly the deluge equipment to the *West Atlas* from Singapore, and that Seadrill had sent an investigation team to PTTEP in Perth to review the incident in an effort to help determine its root cause. At 1715 hrs on the same date, Incident Information #11 stated that PTTEP was grateful for the offers of assistance from colleagues in the oil and gas industry, that offers of additional oil rig assets were being evaluated in terms of availability, suitability and requirements, and that PTTEP had secured vessels and aircraft to bring in fire prevention equipment and set up the *West Triton* to commence drilling the relief well, although other alternatives to control the well were also being investigated.

134. On 25 August 2009, an audio file (Audio Release #1) of a 13 minute press conference given by PTTEP on 22 August 2009 was posted to the website.

135. At 1600 hrs on 26 August 2009, Incident Information #12 confirmed that the *West Triton* would depart later that day, that it would take 16 days to be on site, that alternatives were continuing to be investigated, and that PTTEP was continuing with efforts to source aircraft to fly equipment to the Montara well head platform.

136. At 1600 hrs on 27 August 2009, Incident Information #13 advised that the *West Triton* had departed Singapore at 1345 hrs that day, that alternatives to control the well flow were continuing to be investigated, that a Boeing 747 had been sourced to fly deluge equipment from Singapore to Darwin, which was then expected to take 4 days to get to the well head platform, and that the slick appeared in a similar pattern as previously, continuing away from the mainland and away from Ashmore Reef and Cartier Island. This information release included a 2 page "Backgrounder", giving information about the Montara development project, the oil fields, the *West Atlas* and PTTEP. Photographs of the *West Triton* under tow were included.

137. At 1400 hrs on 28 August 2009, Incident Information #14 advised that the *West Triton* was now expected to arrive at the drilling site earlier than previously expected, that alternatives were still being investigated, and that the Boeing 747 with the deluge equipment was expected to leave Singapore the following day.

138. At 1330 hrs on 29 August 2009, Incident Information #15 responded to reports that PTTEP did not know the size of the oil spill, stating that the company was focused on stopping the flow which comprised mainly gas and water with some oil and was unable to comment on speculative aspects of the issue.

139. At 1650 hrs on the same date, PTTEP issued Media Response #1, which answered a question as to the extent of the spill by attaching a media release from AMSA, refuted Senator Siewert's allegation of 500,000 litres of oil per day, and stated that *West Triton* was expected to arrive at the Montara oil field on 8 September 2009.

140. At 1130 hrs on 30 August 2009, Incident Information #16 advised the expected date of arrival of the *West Triton*, that PTTEP was working on

the operational, safety and environmental plans required to drill the relief well, that a jack-up drilling rig was the most appropriate type of rig to drill the relief well which is why *West Triton* was the preferred option, as confirmed by Geoscience Australia's petroleum engineers, and that the deluge equipment was due to arrive in Darwin the following day.

141. Incident Information #17, released at 1245 hrs on 31 August 2009, repeated earlier information and added that the first vessel conveying the deluge equipment was expected to arrive at the Montara well head platform on 3 September 2009. At 1725 hrs on the same date, Incident Information #18 advised that the Boeing 747 aircraft carrying the deluge equipment was now due to arrive in Darwin the following morning, with the consequence that, subject to a safety evaluation, the vessels carrying that equipment were expected to arrive at the Montara well head platform on 4 September.

142. Between 1 and 5 September 2009, Incident Information ## 19 to 24 gave information about the progress of the *West Triton* rig being towed from Singapore to the Montara field and the progress of the deluge equipment being flown and shipped from Singapore to the Montara well head platform. On 5 September 2009, both vessels had arrived at the platform. These statements also referred, intermittently, to the activities being undertaken by AMSA in response to the spill.

143. On 6 September 2009, Incident Information #25 advised that the previous day one of the vessels towing the *West Triton* broke a tow line and had a generator failure reducing its capacity for towing, and that PTTEP had dispatched a relief vessel from Darwin which would reach the *West Triton* on 8 September. The *West Triton* was now expected to reach the Montara platform by 10 September 2009.

144. Between 7 and 10 September 2009, Incident Information ## 26 to 30 reported on the progress of the *West Triton* rig to the Montara field. On 11 September 2009, at 1005 hrs, Incident Information #31 advised that the *West Triton* rig had reached the Montara oil field, that its legs were pinned into position, and that the drilling of the relief well was expected to commence within 72 hours. On the same date, Incident Information #32 attached a photograph of the *West Triton* in position 2 km from the *West Atlas* rig.

145. On 12 September 2009, Audio Release ## 2, 3 and 4 were posted on the website. These files comprise a recording (in 3 files) of a press conference held by PTTEP and Alert Well Control on 12 September. Some of the alternatives for stopping the leak were discussed.

146. On the same date, at 1230 hrs, Incident Information #33 announced that the *West Triton* would start drilling the relief well the following day, which was expected to take about 3 ½ weeks to intersect with the original well at a depth of 2.6km within the sub-sea formation, thereby allowing for the injection of heavy mud directly into the well bore to stop the leak. Once the leak flow was stopped, crews would reboard the Montara platform and further secure the well through the placement of plugs within the well which was expected to take a further week. Drilling a relief well with the

West Triton was said to be the quickest and safest way to control the leak. It was also stated that visual assessments at the scene showed that the rate of flow of oil was reducing such that AMSA had scaled back its dispersal spraying program due to the lack of sufficiently large areas of oil to spray, and that AMSA's assessment showed the main area of containment was approximately 25 nautical miles (46.3km) by 70 nautical miles (129.6km) and heading north east. Information was given about Alert Well Control, and the manner in which the interception by the relief well would be achieved.

147. Also on 12 September 2009, Incident Information #33b gave information about the appointment by PTTEP of John Wardrop, a leading Australian environmental scientist, to manage the implementation of immediate and long term programs to monitor environmental impacts resulting from the leak.

148. Between 13 and 4 September 2009, Incident Information ## 34 to 55 reported on the progress of the *West Triton* drilling of the relief well, which commenced on 14 September. Information was given as to the steps taken, eg the size and depth of the hole at various stages and the size of pipes involved, and an explanation of how heavy mud would be used in the "well kill" operation. Information was also given from time to time as to AMSA's progress in relation to the slick. Some photographs of the rigs were also attached.

149. On 5 October 2009, Incident Information #56 reported that the drilling of the relief well to the depth of 2.6km was complete, with the hole now approximately 5m above the leaking well bore, that a first approach would be attempted the following day, which would be a complex operation to intercept a piece of steel casing about 25cm in diameter, 2.6km below the sea bed, that the intercept operation might involve several passes, with each pass narrowing the zone of uncertainty, that each pass sequence would take up to 4 days to complete, that for safety reasons this phase of the operation must be undertaken in daylight, that if the first pass missed an electromagnetic tool would be run down the well to help locate the target well, and that this technology had been successfully used in similar operations around the world and there had never been a situation where it had not been successful.

150. On 6 October 2009, Incident Information #57 reported that intercept on the first pass was not achieved, and that a second pass sequence would attempt an intersection on 9 or 10 October.

151. Between 7 and 31 October 2009, Incident Information ## 58 to 82 reported on the progress of the intercept phase. Information was given as to the unsuccessful intercept attempts, any delays in drilling, the cause of those delays, and the nature of the equipment being used in the operation. On 12 October 2009, a fact sheet was posted giving information about heavy mud and the drilling of the relief well.

152. On 15 October 2009, PTTEP announced an agreement with the Federal Government for the implementation of an environmental monitoring program to cover long and short term potential impacts resulting from the

leak at the Montara platform. An information sheet was posted on the website on this date. On the same date, Audio Release ## 5, 6 and 7 were posted, containing a recording (in 3 files) of a statement by John Wardrop.

153. On 21 October 2009, PTTEP maintained its initial estimates based on visual observations that 300-400 barrels of oil per day was leaking from the Montara well head platform.

154. On 28 October 2009, Audio Release ## 8-12 were posted, containing a recording (in 5 files) of a statement by Mike Allcorn of Alert Well Control. The progress of the incercept phase was discussed.

155. On 29 October 2009, PTTEP announced its inspection with Federal Government representatives, pursuant to the environmental monitoring program, of key sites, with no visual evidence of oil found during shoreline and ground surveys. On the same date Audio Release #13 was posted, containing a recording of a statement by John Wardrop.

156. On 1 November 2009, at 1155 hrs, Incident Information #83 reported that the *West Atlas* rig and the Montara well head platform were on fire, that all personnel were safe, that non-essential personnel had been evacuated from *West Triton*, and that at 0930 hrs that day the leaking well had been intercepted and operations had commenced to complete the "well kill" by pumping heavy mud into the leaking well, during which time a fire broke out on the H1 well. At 1600 hrs on the same date, Incident Information #84 reported that there was a fire at the Montara well head platform burning around the cantilever portion of the *West Atlas* rig which is located directly above the well head platform, that a fire fighting vessel had sprayed water onto the fire but had now moved away, that seawater was being pumped down the relief well from the *West Triton* rig in an effort to bring the fire under control, and that a specialist fire fighting team headed by Mike Allcorn of Alert Well Control was heading for the operation. Later that day, at 2345 hrs, Incident Information #85 reported that there was no change. Photos of the *West Atlas* rig and the Montara well head platform were also released.

157. On 2 November 2009 at 1415 hrs, Incident Information #86 reported that 4000 barrels of heavy density mud were being mixed to pour down the relief well and that this was the best and safest way to stop the fire and kill the well. On the same date, Audio Release #14 was posted, containing a recording of a statement to similar effect by PTTEP. A photograph of the fire was also released.

158. On 3 November 2009 at 1630 hrs, Incident Information #87 announced that the leaking well had been killed and the main fire at the Montara well head platform was extinguished, although there may have been some material on the topside of the rig continuing to burn. Photographs were attached. On the same date at 1715 hrs, Incident Information #88 stated that a safety case revision would now be presented to NOPSA to reboard the well head platform to assess the damage and plan for the next phases, which had been rendered more difficult because the cantilever portion of

the rig had buckled during the fire and was resting on the well head platform.

159. On 4 November 2009 at 1245 hrs, Incident Information #89 stated that the situation remained stable, that the team from Alert Well Control was preparing to reboard the *West Atlas* rig and well head platform, which was expected to occur by next week. On 5 November 2009, Incident Information #91 stated that PTTEP had conducted a close-in helicopter flight around the Montara platform and *West Atlas* rig as part of a safety assessment for the reboarding operation. It was announced on 6 and 9 November 2009 in Incident Information ## 92 and 93 that the safety assessment was continuing.

160. On 13 November 2009, Incident Information #95 stated that planning was continuing to determine the best and safest way to plug the H1 well and that PTTEP was continuing to seek NOPSA's approval to reboard the Montara well head platform.

161. On 23 November 2009, Incident Information #96 reported the reboarding of the well head platform and rig after NOPSA's acceptance of the safety case revisions by Seadrill and PTTEP, that the well head platform and H1 well were said to remain stable, that all options to secure the H1 well would require reboarding and working on the well head platform for extensive periods, and that plugging operations would be undertaken after assessment for safety and operational planning.

162. The website also contains a "frequently asked questions" page, which includes information as to the future plans for the Montara well head platform and the field.

Information from agencies involved in the cleanup operation

163. AMSA provided information about the Uncontrolled Release (and the events which followed) on its website (www.amsa.gov.au/About_AMSA/Media_Releases/Current_Media_Releases/). This information was accessible by PTTEP, the petroleum industry and the public. This information now comprises 17 media statements which were uploaded regularly between 22 August 2009 and 3 December 2009.

164. On 22 August 2009, AMSA announced that it was coordinating response arrangements to the oil leak from *West Atlas*, that pursuant to the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances, PTTEP had handed over the oil leak response to AMSA, via the relevant Territory agency, that PTTEP retained responsibility for the incident and ongoing measures to stop the leak, that AMSA had stressed the urgency of doing so, that a dispersant capable aircraft was due to arrive in Darwin with the intention that it would fly over the slick and drop dispersants that afternoon, that an aerial dispersant contractor, AMR, had been activated and had deployed 2 aircraft to the closest aerodrome as contingencies, that AMSA personnel had been deployed to Truscott, Darwin and Perth, that 50 tonnes of dispersant stocks had been deployed ready for opertions tomorrow, and that AMSA

had sought assistance from Emergency Management Australia for transport and logistic support.

165. On 23 August 2009, AMSA announced that the slick remained localised in the vicinity of the rig, that an aircraft was flying over and applying dispersant to the slick that morning, which enhanced the natural dispersion process, that there was a 2 nautical mile exclusion zone around the rig for operational aircraft as a safety measure, that within 15 minutes of notification of the incident AMSA was able to mobilise equipment and personnel, that AMSA was in close consultation with environmental specialists, and that PTTEP continued to cooperate with AMSA.

166. On 24 August 2009, AMSA announced that the oil slick had responded positively to the use of dispersants, that the slick remained in the vicinity of the rig, that PTTEP had indicated it would be weeks before the leak would be stopped, that AMSA was well prepared for a protracted clean-up operation, that the priority for AMSA was to get oil off the water as quickly as possible to mitigate risk to the environment, and that operations and planning would continue on a day by day basis.

167. On 25 August 2009, AMSA announced that the slick remained in the vicinity of the rig, that dispersant would continue to be applied, and that AMSA had been in consultation with experts in the United Kingdom who endorsed AMSA's response to the incident.

168. On 29 August 2009, AMSA reported that the slick covered a rectangular area of approximately 15 nautical miles north of the rig and 60 nautical miles east, with only 25% of the area consisting of streaks of oil and patches of sheen, and that the nearest point to the Australian coast was over 80 nautical miles. This release referred to the training and experience of AMSA aerial observers of oil on water and to the difficulties of accurately determining the extent of oil on water, and stated that the spraying of dispersants enhances breaking up of oil which then forms a sheen on the water, which sheen eventually breaks up with the natural movement of the water, sunlight and evaporation.

169. On 30 August 2009, AMSA reported that the slick was now within a rectangular shaped area of about 25 x 70 nautical miles, that the coverage of oil had lessened due to targeted aerial spraying of dispersant, that the slick was still within the vicinity of the rig, that the slick had not moved towards the coast overnight, that Western Australian authorities had put contingency plans in place, and that the rig tender *Lady Gerda* was now operating in the vicinity of the rig to spray dispersants on targeted oil patches and conduct regular on site sampling and testing.

170. On 3 September 2009, AMSA announced that *Lady Gerda* would be spraying dispersant on the oil, and that two vessels had arrived at the scene that day to undertake containment and recovery operations using boom and skimming equipment to prevent the oil moving into sensitive areas such as Ashmore Reef.

171. On 4 September 2009, AMSA reported that the major part of the slick remained in the vicinity of the platform with closest oil to shore some 170

km away, that oil observers also saw coral spawn/algal bloom about 100 km from shore, and that the *Lady Gerda* and 2 other vessels continued their operations near the platform.

172. On 10 September 2009, AMSA repeated the dimensions of the main area of containment/recovery, stating that dispersant spraying was being performed in a targeted manner due to a reduction in oil due to warmer weather conditions enhancing the natural weathering process, that a quantity of oil had been removed from the surface by boom and skimming equipment, and that AMSA had contingency plans in place to deal with any change in weather conditions.

173. On 15 September 2009, AMSA reported that a change in wind direction had seen a shift of light, patchy sheen closer to Cartier Islet, that although the sheen was not considered harmful in contact with the shoreline it could be of concern to birdlife, that oil when spilled at sea will normally break up and be dissipated into the marine environment over time, with the length of time dependent on various factors, that due to unusually calm weather AMSA's priority remained to disperse as much fresh oil as possible, that the amount of oil in the vicinity of the platform had substantially decreased over recent days so that it was difficult to find patches of fresh oil large enough to apply dispersant to or to collect with boom and skimming equipment, and that isolated stringy patches of an unconfirmed substance had been sighted 20 km from Troughten Island so a vessel was enroute to take samples to confirm its nature.

174. On 16 September 2009, AMSA confirmed that those stringy patches were algae, and that there was still a decreased amount of fresh oil on the water.

175. On 6 October 2009, AMSA reported that the clean-up effort continued, that light patchy sheen had been seen about 60km from the platform, and more within 160 km of the Western Australian coast and 120 km of the Indonesian coast, with no sightings of thicker oil closer to shorelines, that the sheen posed no threat to shorelines but could be of concern to birdlife, that officials from the Indonesian Department of Transport had met with AMSA's CEO and accompanied him on one of the daily observation flights, that AMSA would continue to keep Indonesia informed of developments, that daily observation flights were continuing and 4 vessels remained in the vicinity of the rig performing dispersant and containment and recovery activities, and that these activities would continue until the leak had been stopped and AMSA was satisfied that clean-up and monitoring was no longer necessary.

176. On 21 October 2009, AMSA reported that ongoing calm conditions were allowing teams to undertake containment and recovering operations in the vicinity of the well head platform, that 277,000 litres of oil had been removed from the environment, that such success was unusual considering the distance of operations offshore, that the oil remained in the vicinity of the rig, with oil approximately 201 km from the Western Australian coast and 257 km from the Indonesian coast and currently posing no threat to environmentally sensitive reef areas, and that PTTEP

had given written confirmation that it would meet all costs associated with the clean-up and had met all costs invoiced to it to date.

177. On 26 October 2009, AMSA gave a synopsis of its clean-up operations in relation to the leak and stated that the efforts to mitigate the risk to the marine environment by keeping the majority of the oil contained to within the vicinity of the platform had been successful to date.

178. On 4 November 2009, AMSA stated it would continue its clean-up operations despite the successful "kill" of the leak, and while dispersant operations would cease with the cessation of fresh oil coming from the well head, containment and recovery operations would continue as necessary, and that isolated patches of oil remained a significant distance from the coast and from marine parks.

179. On 17 November 2009, AMSA announced that its clean-up activity was slowing due to the reduced amount of oil observed in the area, that daily observation flights were continuing, but patches of oil large enough to be dealt with by containment and recovery operations were rapidly decreasing, the latest aerial observations showed isolated patches of weathered oil 69 km from the Australian coast, 283 km from the Indonesian coast and 91 km from marine parks, that highly weathered oil seen in the vicinity of Holothuria Banks appeared to have dispersed, and that personnel would remain on standby until PTTEP offered assurances that there was no longer any risk of oil leakage from the Montara well head platform.

180. On 3 December 2009, AMSA announced that no oil or sheen had been seen up to 28 November when observation flights were ceased, and consequent on advice from PTTEP, the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances has been deactivated and demobilisation of clean-up assets commenced. The responsibility for the incident had been handed back to the Designated Authority and PTTEP.

181. NOPSA provided information about the Uncontrolled Release (and subsequent events) via its website (www.nopsa.gov.au). On 21 August 2009, it published a media statement that it had formed an investigation team and was conducting preliminary inquiries into an uncontrolled release of hydrocarbons from a well head platform in the Montara field in the Timor Sea about 690 km west of Darwin, that the associated *West Atlas* drilling rig had been evacuated safely, that the uncontrolled oil and gas flow was continuing, and that NOPSA continued to monitor the situation.

182. On 23 August 2009, NOPSA published a media statement that it had issued prohibition notices to PTTEP and Atlas Drilling (S) PTE Ltd, the operator of the *West Atlas* rig, which prevented personnel being returned to the platform or the rig unless risks to their safety had been appropriately addressed, in order to begin a process to safeguard the health and safety of people they may send to the facility to stop the leak. The notices required the operators to provide NOPSA with evidence that all risks had been comprehensively assessed and that control measures were in place

to reduce the risks as low as reasonably practicable before personnel could return. The statement said that when the operator had re-established control, NOPSA would commence a full investigation into the incident.

183. In NOPSA's September 2009 newsletter, it was stated that NOPSA's investigation into the safety related aspects of the Uncontrolled Release was continuing, with inspectors conducting interviews, taking witness statements, and analysing reports and documentation, with a view to determining whether any breach of Schedule 3 of the Act had occurred. It was also stated that NOPSA had issued notices which required the operators of the relief well activities to demonstrate that they had at least one effective well control barrier in place in the well from which the release was occurring.

184. In NOPSA's October 2009 newsletter, reference was made to the continuing investigation into the Montara incident. In NOPSA's November 2009 newsletter, it was stated that well control specialists had now reboarded the Montara facilities in preparation for well plugging activities after NOPSA inspectors were satisfied that the operators had taken adequate action to remove threats to health and safety, that a key element of the revised safety case submissions was a process of ongoing risk assessment and staged decision-making against all potential hazards, and that further recovery operations may require further safety case revisions before that work could take place. It was also stated that NOPSA's investigation into compliance with health and safety laws was in its final stages.

Information from the Territory

185. The Territory provided all information coming into its possession following the incident to the relevant Commonwealth agencies. In particular, all proposals for bringing the leak under control, and all requests by PTTEP for approvals and authorisations for that purpose, were provided to RET and Geoscience Australia for joint assessment.

186. On 1 October 2009, Territory officers attended at the Indonesian Consulate in Darwin and briefed officials from the Indonesian Directorate of Sea Communications.

187. On 9 November 2009, the Territory received a request from the Environmental Defender's Office for copies of the approved environmental plan and related documents, and the WOMP, for the Montara-H1 well. That request was dealt with under the terms of the *Information Act* (NT). In addition, the request was referred to RET as the "owner" of the relevant documents.

188. The Territory did not actively make public announcements following the incident or during the "well kill" operation. AMSA assumed overall coordination for media and talking points relevant to the oil spill response operation. The responsible Commonwealth Minister, as the Designated Authority, was the other appropriate channel for the dissemination of public comment.

Conclusions

189. From the time of the incident, there was an extensive flow of information from PTTEP, AMSA and NOPSA to the general public in relation to the clean-up and well kill operations. This information has been accessible, timely and adequate for the purposes of the petroleum industry and the public.

190. From the time of the incident, there was an open flow of information between PTTEP, DRDPIFR, RET, AMSA and other relevant agencies in relation to the clean-up and well kill operations. In particular, PTTEP provided the Territory with all requisite information for the approvals and authorisations necessary in the conduct of the well kill operation and, in turn, the Territory provided PTTEP with the relevant approvals and authorisations in a timely fashion.

K Term of Reference 10

Make recommendations to the Minister for Resources and Energy, and through the Minister for Resources and Energy, other relevant Commonwealth Ministers, regulators and industry, as appropriate, on any measures that might help to prevent similar incidents occurring in the future and any measures that might mitigate the safety, environmental, and resource impacts arising from such an incident. Measures may include improvements to industry practices or applicable regulatory regimes and their administration.

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191. There are two matters that might be proposed in relation to the regulatory change, viz on-site monitoring and an overarching statutory body.

Onsite Monitoring

192. It would be possible to place government inspectors on rigs for the purpose of supervising operations and scrutinising adherence to approved programs. The current regulatory regime allows for the appointment and placement of petroleum project inspectors for that purpose. As stated, however, that measure has not been adopted as part of contemporary regulatory practice for routine operations. The adoption of that measure would increase project and regulation costs, placing an additional burden on the operators and regulators.

193. To this point, there is no basis upon which it might be suggested that on-site monitoring would have prevented the occurrence of the incident in question, or that the permanent placement of on-site government inspectors would reduce the risk of a similar occurrence in the future.

Overarching Statutory Body

194. It would be possible to establish an overarching statutory body with responsibility for coordinating the response to incidents such as the one under consideration. The experience following the incident on 21 August 2009 does not disclose any reason or need to do so. Both AMSA and NOPSA responded promptly to the incident. Each body has a discrete area of expertise, with little or no overlap. There was effective communication and cooperation between those bodies so far as was necessary. The well kill operation was approved and supervised by the Designated Authority, drawing on the expertise of both Commonwealth and Territory agencies. No difficulties arose in the delineation of responsibilities. The bifurcation of authority allows for best advantage to be taken of the Territory's proximity to and knowledge of the relevant operation and rapport with the operator, and of the Commonwealth's technical expertise.

195. There is no basis on which it might be suggested that the presence of an overarching statutory body would have enhanced the response.

L Term of Reference 11

Consider, assess and make recommendations in relation to any other matter the Commission of Inquiry considers relevant to or arising from the Uncontrolled Release and the prevention of similar events occurring in the future

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196. Subject to any matters that might arise in the submissions made by other interested parties and during the course of a public hearing, the Territory does not seek to make any submissions in relation to this Term of Reference.
