

REPORT

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REVIEW OF PTTEP AUSTRALASIA'S RESPONSE TO THE MONTARA BLOWOUT

For the Department of Energy, Resources and Tourism

Noetic Solutions Pty Limited

ABN 87 098 132 024

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CONTENTS

EXECUTIVE SUMMARY.....	IV
1 INTRODUCTION.....	1
1.1 Background	1
1.2 Aim of this Report	2
1.3 Review Scope	2
2 METHODOLOGY.....	4
2.1 Stage 1: Start Up and Scoping	4
2.2 Stage 2: Review of Documentation	4
2.3 Stage 3: Direct Engagement	4
2.3.1 Engagement with personnel	4
2.3.2 Review of documentation	4
2.4 Stage 4: Analysis	5
2.5 Stage 5: Finalisation and Presentation of Report	5
3 TECHNICAL REVIEW	6
3.1 Overview of Findings	6
3.2 Detailed Findings	6
3.2.1 The original Montara Action Plan	7
3.2.2 Amended <i>Montara Action Plan</i> (Revision 12)	8
3.2.3 Amended <i>Montara Action Plans</i>	9
3.2.4 Additional Documents supplied by PTTEP AA	10
4 GOVERNANCE REVIEW	14
4.1 Definition of Governance	14
4.2 Montara Commission of Inquiry Summary of findings regarding PTTEP AA	15
4.3 Findings	16
4.3.1 Assessment of Montara Action Plan	16
4.3.2 Governance Structures and Processes, and Relationships	18
4.3.3 Internal Environment	27
4.3.4 Implementing sustainable change	29
4.3.5 PTTEP AA's Future Plans	31
4.4 Analysis of Findings	33
5 LESSONS FOR INDUSTRY	34
5.1 MAE education for leaders and managers	35
5.2 Performance monitoring and auditing	35
5.3 Providing incident information quickly	36
5.4 Increase the reporting of high potential or significant incidents	36
5.5 Review the training available for personnel making judgments on the safety of well operations	36
5.6 Mergers and Acquisitions	36
5.6.1 Due Diligence	36
5.6.2 Integration of Acquisitions	37
5.7 Integration of Health Safety and Environment	38
5.8 Governance and Oversight	38
5.8.1 Advisory Boards	38
6 CONCLUSION	39
ANNEX A: LIST OF ACRONYMS AND ABBREVIATIONS.....	40
ANNEX B: INTERVIEWED PERSONNEL	41
ANNEX C: DOCUMENTS REVIEWED	42

ANNEX D: CORPORATE PLANNING FRAMEWORK47

ANNEX E: PERSONNEL PARTICIPATING IN *MONTARA ACTION PLAN* STEERING COMMITTEE MEETINGS.....48

ENCLOSURE 1: TERMS OF REFERENCE – TECHNICAL REVIEW.....49

ENCLOSURE 2: TERMS OF REFERENCE – GOVERNANCE REVIEW.....51

ENCLOSURE 3: INITIAL REPORT AND KEY ISSUES SUMMARY53

ENCLOSURE 4: AMENDED MONTARA ACTION PLAN (DRAFT B - 2 NOVEMBER 2010).....61

ENCLOSURE 5: *MONTARA ACTION PLAN* (LIST OF ACTIONS) REV 14, 29/10/201)68

EXECUTIVE SUMMARY

In August 2009 the Blowout¹ at the Montara wellhead platform (WHP) became Australia's third largest oil spill. At the time of the Blowout, the Thailand-based PTT Exploration and Production Company Limited (PTTEP)'s Australian subsidiary, PTTEP Australasia Ashmore-Cartier Pty Ltd (PTTEP AA) was the licence holder for the Montara oil field. PTTEP had recently acquired Coogee Resources Limited (CRL) to establish this Australian subsidiary.

Following receipt of a report from the Montara Commission of Inquiry (MCI), the Minister for Resources and Energy, (the Minister) directed the Department of Resources, Energy and Tourism (DRET) to commission an independent review of the *Montara Action Plan*, which PTTEP AA had provided to the Minister in response to the MCI draft Report. DRET contracted Noetic Solutions Pty Limited (Noetic) to undertake a review of PTTEP AA's governance arrangements (the Governance Review) and a review of PTTEP AA's *Montara Action Plan* (the Technical Review).

The intent of the reviews was to provide the Australian Government with sufficient assurance that the *Montara Action Plan* will address the lessons from the MCI and that PTTEP AA's identified operational measures meet industry good practice requirements.

This Report details the outcomes of the independent reviews. It provides background to the Montara Blowout and the MCI, and the methodology used to undertake the reviews. It provides the findings from Noetic's engagement with PTTEP AA, their response to interim findings and Noetic's analysis. Finally, Noetic identifies a number of options and recommendations for DRET to consider.

In conducting the reviews, Noetic examined key documentation including the MCI Report, transcripts from the MCI's hearings and PTTEP AA's *Montara Action Plan*. Noetic also engaged directly with personnel from both PTTEP AA and its parent company PTTEP.

This Report contains a number of findings about PTTEP AA's initial *Montara Action Plan* (4 June 2010) and PTTEP AA's governance framework. Noetic found that in the *Montara Action Plan* (4 June 2010), PTTEP AA had identified the actions necessary to address the technical issues that caused the Montara Blowout. However, in its original Action Plan, PTTEP AA had not identified the actions needed to address the systemic organisational and governance issues that provided the environment for the Montara Blowout to occur. The shortfalls in PTTEP AA's Action Plan were raised with the company during the course of the review. PTTEP AA was subsequently able to identify a number of initiatives either underway or planned, which address the Action Plan's shortfalls and some of the company's systemic or organisational issues.

PTTEP AA has since developed a more comprehensive Montara Action Plan. This demonstrates PTTEP AA's willingness to engage and a genuine desire to build confidence in its ability to meet industry good practice requirements. The willingness to engage and the initiatives now included in PTTEP AA's updated *Montara Action Plan* provide some confidence that PTTEP AA is taking, and will continue to take, the steps necessary to improve its operations and governance to ensure it operates safely in the future. PTTEP's intent that improvements in PTTEP AA will also provide a new benchmark for standard practice across PTTEP is also encouraging.

However, at this (early) stage of PTTEP AA's change process, Noetic has only been able to examine the company's intent and comprehensiveness of its plans for change. To this end, Noetic is satisfied that PTTEP AA has a plan that **effectively responds to the issues raised in the MCI** and importantly the plan sets the company on the path to

¹ An uncontrolled loss of hydrocarbons in the form of oil or gas.

achieving industry standards for both good oilfield practice and good governance. However, the success of PTTEP AA's program for change **will depend entirely on the quality of execution"**

Until its change initiatives are completed and fully implemented, questions remain as to whether PTTEP AA's actions will be effective in meeting industry standards for good governance and good oilfield practice. The most important governance activity is the clarification of the governance arrangements between PTTEP and its subsidiary PTTEP AA (and related Australian entities²). This action is central to the effective long-term governance of PTTEP AA and its safe operation.

Therefore, if the Australian Government decides to allow PTTEP AA to continue to operate, ongoing oversight is recommended to ensure that PTTEP AA successfully implements its planned change initiatives and addresses its shortcomings effectively. This follow up, if conducted over a period of 18 months, should provide sufficient assurance to the Australian Government that PTTEP AA has taken all reasonable steps to meet good industry practice requirements.

In this report, Noetic has also identified lessons, which the Australian petroleum exploration and production industry should consider. Those lessons address issues such as enhancing the effective execution of mergers and acquisitions; and safety benefits arising from strong corporate governance.

² Noetic was informed by PTTEP that all actions identified would be applied to all Australian entities.

1 INTRODUCTION

1.1 Background

On 21 August 2009 there was a release of oil and gas (a Blowout) from the Montara Wellhead Platform (WHP), located off the north-west coast of Australia. The Blowout became Australia's third largest oil spill in history after the *Kirki* oil tanker and *Princess Anne Marie* oil tanker³. At the time of the Blowout, the Thailand-based PTT Exploration and Production Company Limited (PTTEP)'s Australian subsidiary, PTTEP Australasia Ashmore-Cartier Pty Ltd (PTTEP AA) was the licence holder for the Montara oil field. PTTEP had recently acquired Coogee Resources Limited (CRL) to establish this Australian subsidiary.

Following the Blowout at Montara, the Australian Government established the Montara Commission of Inquiry (MCI)⁴. The MCI invited submissions, held public hearings and released parts of its draft report for comment. The Government received the Final MCI Report on 18 June 2010⁵ and released the Final Report and its draft response to the public on 24 November 2010⁶.

On 4 June 2010, Mr Anon Sirisaengtaksin, President and Chief Executive Officer of PTTEP, wrote to the Minister for Resources and Energy, the Hon Martin Ferguson AM MP (the Minister), outlining PTTEP and PTTEP AA's response to the Montara Blowout, the draft MCI Report and plans to address the issues discussed in the MCI's public hearings. Mr Sirisaengtaksin's letter included the *Montara Action Plan*, and outlined how PTTEP AA proposed to transform their offshore petroleum operations and management to bring PTTEP AA in line with industry practice and government requirements.

Following the receipt of this letter, the Minister announced he had directed the Department of Resources, Energy and Tourism (DRET) to commission an independent review of PTTEP AA's *Montara Action Plan*⁷. The independent review was to inform the Minister on how the *Montara Action Plan* and PTTEP AA measures up to industry standards.

DRET commissioned two reviews to satisfy the Minister's requirements. The intent of both independent reviews was to determine if the Australian Government could be assured that PTTEP AA is addressing the lessons from the MCI and will implement operational measures and governance arrangements that meet good practice within the petroleum exploration and production industry.

The first review was to focus on the technical adequacy of PTTEP AA's *Montara Action Plan* (the Technical Review). The second review focused on the adequacy of PTTEP AA's governance arrangements (the Governance Review). The terms of reference (issued by DRET) for the Technical Review are provided at **Enclosure 1**. The terms of reference (issued by DRET) for the Governance Review are provided at **Enclosure 2**. DRET contracted Noetic Solutions Pty Limited (Noetic) to undertake both independent reviews simultaneously.

³ Commonwealth of Australia, 2010. *Report of the Montara Commission of Inquiry*. Borthwick, D. AO PSM.

⁴ Hon Martin Ferguson, AM MP. 5 November 2009. Media Release: *Minister Announces Details of Montara Commission of Inquiry*.

⁵ Hon Martin Ferguson, AM MP. 18 June 2010. Media Release: *Montara Commission of Inquiry Report Received*.

⁶ Hon Martin Ferguson, AM MP. 24 November 2010. Media Release: *Final Report of the Montara Commission of Inquiry Released*.

⁷ Hon Martin Ferguson, AM MP. 11 August 2010. *Address to the APPEA Oil and Gas Safety Conference*.

1.2 Aim of this Report

This Report describes the outcomes of both the Technical Review and the Governance Review. In meeting this aim, the Report documents the:

- + background on the circumstances leading to the independent reviews;
- + scope of the independent reviews, including what is in scope and what is out of scope;
- + methodology applied to undertaking the independent reviews, including the evaluation methodology, the documentation reviewed and the personnel interviewed;
- + findings from the independent reviews;
- + options available for addressing those findings;
- + recommended actions for both PTTEP AA and the Australian Government in response to the independent reviews; and
- + lessons for the petroleum exploration and production industry.

1.3 Review Scope

In combination, the scope of both independent reviews **included**:

- + a review of the technical adequacy of PTTEP AA's *Montara Action Plan* (4 June 2010) including:
 - review of the adequacy of the *Montara Action Plan* (4 June 2010) to address the issues identified by the MCI;
 - review the relationship between the contents of the *Montara Action Plan* (4 June 2010) and industry best practice⁸;
 - identify gaps between the MCI's Report and the *Montara Action Plan* (4 June 2010);
 - identify ways in which the Australian Government can ensure the *Montara Action Plan* (4 June 2010) is implemented, and;
 - recommend any broader actions that will support growth and training in the offshore petroleum industry;
- + review of PTTEP AA's governance arrangements including:
 - corporate structure and organisational chains of authority;
 - operations policies and management processes;
 - procedures (including for implementing change and continuous improvement); and
 - systems and processes for implementation of review activities;
- + a review of PTTEP AA's *Montara Action Plan* (4 June 2010), including:
 - implementation of the *Montara Action Plan*,
 - operating standards,
 - training methods,
 - policy framework,
 - governance framework, and
 - documents describing individual roles and responsibilities of key PTTEP AA personnel and managers;
- + review of written evidence of governance arrangements including strategic, policy and procedure documents;
- + direct engagement (via face to face interview) with PTTEP and PTTEP AA's personnel; and
- + liaison between the Technical Review and the Governance Review.

⁸ See the note in the *Initial Report and Summary of Key Findings* regarding 'best practice', provided at **Enclosure 3**.

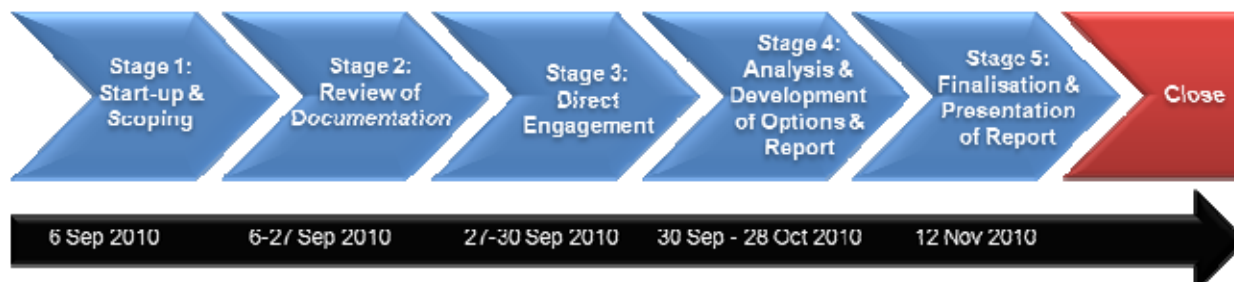
The scope of both independent reviews **excluded**:

- + consideration of issues with legal implications associated with the Montara incident and the outcomes of the Governance Review;
- + a review of the Commonwealth, State or Territory regulatory environments (including marine safety, offshore petroleum safety, environmental protection, etc);
- + a review of PTTEP activities outside of Australia, except where they had direct relevance to the governance of PTTEP AA; and
- + development of implementation plans for the recommendations or options provided by this Governance Review.

2 METHODOLOGY

Noetic applied a project management methodology to undertake the independent reviews. This provided for the phases of both the Governance Review and the Technical review to be undertaken both simultaneously, so that they would inform each other. The phases of the independent reviews are illustrated below in **Figure 1**. Each of the project phases is also outlined in the sections below.

Figure 1. Illustration of the phases of the independent reviews.



2.1 Stage 1: Start Up and Scoping

The independent reviews commenced with a meeting involving DRET's project team (including Project Sponsor and Project Manager) and Noetic's Review Team (Mr Peter Murphy, Mr Damien Victorsen, Ms Lex Drennan and Mr Peter Wilkinson). During the meeting, the project's scope, key roles and responsibilities, assumptions, risks deliverables and timelines were confirmed. Noetic also sought to identify and source relevant documentation for subsequent review and the full range of stakeholders and personnel for direct engagement.

2.2 Stage 2: Review of Documentation

Noetic identified a number of preliminary documents for review prior to our direct engagement with PTTEP AA, those documents included:

- + Report on MCI,
- + transcripts of hearings held for the MCI, and
- + PTTEP AA's letter to DRET of 4 June 2010 and the attached *Montara Action Plan*.

2.3 Stage 3: Direct Engagement

2.3.1 Engagement with personnel

Noetic engaged directly with PTTEP AA and PTTEP personnel and relevant contractors through semi-structured face to face interviews in two sessions. The first engagement session occurred between 27 and 30 September 2010 and the second engagement session occurred on 29 October 2010. The personnel engaged through both sessions are listed at **Annex B**.

2.3.2 Review of documentation

During and following this engagement, Noetic sought to identify further documentation that would provide evidence of PTTEP AA's governance arrangements and operations. A full list of documents reviewed is at **Annex C**.

2.4 Stage 4: Analysis

This Report contains the outcomes of the analysis of findings and development of options following the review of documentation and engagement with PTTEP AA. As part of its first session of direct engagement with PTTEP AA, Noetic identified a number of headline findings. Summaries of these headline findings were provided verbally to PTTEP AA throughout the engagement process and are reflected in section 4.3.

Following initial engagement with PTTEP AA on 27 to 30 September 2010, Noetic re-engaged with PTTEP AA in Perth on 29 October 2010 providing them with an opportunity to respond to the headline findings. Their response has been incorporated into the findings of this Report.

Finally, section 5 identifies lessons for the Australian petroleum exploration and production from PTTEP AA's experience of the Montara Blowout and the findings of this Report.

2.5 Stage 5: Finalisation and Presentation of Report

Noetic presented the draft Report to the DRET Executive on 26 November 2010. As part of the finalisation process DRET will provide PTTEP and PTTEP AA the draft Report for comment.

3 TECHNICAL REVIEW

3.1 Overview of Findings

Noetic found PTTEP and PTTEP AA personnel to be cooperative, open and receptive to Noetic's enquiries, and accepting of the gaps identified. Noetic's impression was that PTTEP AA engaged suitably experienced personnel, both employees and contractors. We were informed that the PTTEP AA Safety, Security, Health and Environment (SSHE) team was to be further strengthened.

PTTEP AA pointed out that their *Montara Action Plan* (4 June 2010) was produced in response to what they believed were the important issues likely to be raised in the Final MCI Report. These tended to be the more immediate causes of the Montara Blowout. Whilst the MCI Report, (in the context of this Technical Review) does refer to cultural or organisational failings on the part of PTTEP AA, these are not explicitly defined in safety management terms in the MCI Report itself. The original *Montara Action Plan* (4 June 2010) did not target a number of the organisational improvements needed. However, the revised *Montara Action Plan* (29 October 2010) does.

Some of these organisational issues would probably have been addressed as a result of the planned integration of PTTEP AA into PTTEP. In particular, the planned SSHE integration plan was halted (now restarted) as a result of the pressures resulting from managing the Montara Blowout and subsequent MCI activities. PTTEP and PTTEP AA have in place (or plan to put in place) systems and processes, which represent good practice if effectively implemented, and which will make them comparable with other companies operating internationally in the upstream oil and gas industry. It will take a number of years to fully implement all the actions and receive the full benefits of the planned changes. However, it should be noted that as relatively few of the items in the *Montara Action Plan, Revision 14* (29 October 2010) had been completed⁹, this Report is based principally on what we have been told PTTEP and PTTEP AA **intended to do**. This Report makes a number of recommendations on how DRET can monitor the implementation the *Montara Action Plan(s)* as it evolves and on the lessons for the industry resulting from this incident.

3.2 Detailed Findings

This section of the Report presents the detailed findings on the gaps in the *Montara Action Plan* (4 June 2010) (first reported in Noetic's *Initial Report and Key Issues Summary* – see **Enclosure 3**); the response to these gaps by PTTEP and PTTEP AA (cross-referenced to the *Montara Action Plan*, 4 June 2010); and our analysis of the various documents supplied by PTTEP and PTTEP AA, including:

1. the original *Montara Action Plan* (4 June 2010);
2. amended *Montara Action Plan, Revision 12* (30 September 2010);
3. amended *Montara Action Plan, Revision 14* (29 October 2010); and
4. additional documents supplied by PTTEP AA.

⁹ At 29 October 2010 eight of a total of 35 actions were complete, 20 were in progress, seven were to be done and 10 were behind target. Source: *Montara Action Plan*, Rev 14.

3.2.1 The original Montara Action Plan

The original *Montara Action Plan* (4 June 2010) refers to the document submitted to DRET as an attachment to PTTEP AA's letter of 4 June 2010. This is the *Action Plan* we characterised in our initial review as 'necessary and important, but insufficient'.

The *Montara Action Plan* (4 June 2010) identified a wide range of important improvements to PTTEP AA's standards, documents, competence arrangements and associated matters. Some organisational actions were also identified such as 'Demobilise...contracted drilling personnel...' (Item 7.1) and a review of the PTTEP AA organisation (Item 7.2).

Noetic identified seven areas that were not clearly addressed in the *Montara Action Plan* (4 June 2010), which from our reading of the MCI Report and the evidence are important in preventing major incidents such as blowouts. They are all topics commonly regarded as good practice in safety management terms.

The key deficiencies in the original *Montara Action Plan* (4 June 2010) were:

1. Leadership behaviours (in relation to the most senior PTTEP AA personnel) were not mentioned.
2. No changes to company policies and objectives were discussed, nor was there any mention of the development of suitable lagging and leading measures or key performance indicators (KPIs) to help PTTEP AA monitor progress with the improvements outlined in the *Montara Action Plan(s)*.
3. The actions directed at improving the competency arrangements did not explicitly mention the training of personnel (from the most senior to those on the front line) in major accident event (MAE) causation and the techniques of preventing MAEs above and not just risk assessment.
4. There was no mention of how the workforce would be actively involved in helping to shape and implement the planned changes.
5. Whilst the *Montara Action Plan* (4 June 2010) referred to changes to the contracts entered into with third parties (Items 3.1 and 3.2), there was no discussion of the wider issue of improving communications within PTTEP AA and between PTTEP AA and contractors. The proposed methods to achieve effective teamwork between the various companies were also not examined.
6. It was unclear what performance monitoring arrangements would be put in place. In addition, the distinction between 'performance monitoring' (as carried out by line personnel such as managers and supervisors) and 'auditing' (as carried out by people with some independence of the organisation) was not discussed. Related to the concept of performance monitoring, the *Montara Action Plan* (4 June 2010) did not outline any proposed plans to carry out safety climate reviews or cultural surveys to monitor the implementation of the changes being contemplated.
7. The MCI Report found that communications with regulatory organisations were not always complete or accurate. There was no mention in the *Montara Action Plan* (4 June 2010) of how this would be addressed.

The original *Montara Action Plan* (4 June 2010) was the subject of an *Initial Report and Key Issues Summary* (provided at **Enclosure 3**). Further details of these key issues and the approach to identifying them are in Appendix 1 and 2.

3.2.2 Amended *Montara Action Plan* (Revision 12)

The amended *Montara Action Plan* (*Montara Action Plan*, Revision 12) was provided to Noetic during its first visit to Perth on the 28–30 September. The key difference from the original *Montara Action Plan* (4 June 2010) was that it had been updated in relation to progress against the identified actions.

The original plan contained 35 actions. In addition, a further 75 actions were listed in Appendix 1 to this version under the heading of the ‘AA Drilling Management System’. These additional 75 actions were identified as a result of a report PTTEP AA commissioned from the AGR Group, an international upstream company with subsea expertise (‘*AGR Report – Montara Well Incident, Report on Actions to Prevent Reoccurrence*, Rev 1, 16/2/10).

During Noetic’s visit to Perth on 28–30 September, PTTEP AA provided the following information in relation to version 12 of the *Montara Action Plan*:

Table 1. Status of Actions in Rev 12 of the *Montara Action Plan*

Number of Actions	35
Completed	8
In Progress	20 (10 behind target)
To be done	7

The original *Montara Action Plan* (4 June 2010) was prepared in response to the immediate technical issues identified during the MCI hearings and in draft MCI Report chapters provided to PTTEP AA. The original *Montara Action Plan* was also a consolidation of pre-existing actions including those that arose from the *PTTEP Internal Investigation Report* and other internal reviews. The amended *Montara Action Plan*, Revision 12 was also prepared on this basis before the publication of the MCI Report and before Noetic had the opportunity to present our view of its deficiencies, (see Noetic’s *Initial Report and Key Issues Summary* at **Enclosure 3**). Consequently, it was not surprising that this version of the *Montara Action Plan* did not address the broader organisational issues. However, during the discussion we became aware of a number of actions underway within the company, which did address some of these organisational issues, but had not been recorded in the *Montara Action Plan*. Because of this, it was difficult to determine if in aggregate the various actions satisfied the findings from the MCI, the underlying organisational issues and reasonable expectations of good practice.

As a result of this, and in the light of the deficiencies Noetic identified during the initial desktop review, Noetic provided the following advice to PTTEP AA, both in Perth during the initial visit 28–30 September and again separately to Mr Andrew Jacob in Canberra on 30 October 2010:

- + review and update the *Montara Action Plan*, Revision 12 in the light of the seven safety management deficiencies identified in Noetic’s Initial Report;
- + identify in the *Montara Action Plan(s)* those items which must be completed before drilling is started on Montara, in other words the ‘critical actions’; and
- + prepare a document (or documents) in narrative form to explain the purpose and scope of the *Montara Action Plan(s)* and the governance arrangements for its implementation and how they fitted into the broader strategy for PTTEP AA in Australia.

Additional advice was given in relation to the Governance Review at Chapter 4 of this Report.

Noetic's advice was accepted by PTTEP AA and our commentary on their response appears in the following sections of our Report:

- + Amended *Montara Action Plan* (Revision 14); and
- + Additional Documents supplied by PTTEP AA.

3.2.3 Amended *Montara Action Plans*

During Noetic's second visit to PTTEP AA in Perth on 28 October, an amended version of the *Montara Action Plan*, (Revision 14) was tabled and provided to Noetic. This version included new action items to address the safety management deficiencies identified in Noetic's Initial Report and classifies (and marks in red) those action items, which they deem critical to complete prior to drilling on Montara. In addition, documents were tabled that place the *Montara Action Plan* in the broader organisational context – see Section 3.2.4.1 below. Following Noetic's visit on 28 October, Noetic was made aware of a further revised version of the *Montara Action Plan* (Rev 15, 2 November 2010) and during the Review process was provided with an opportunity to cite it. Noetic was not provided with a copy of the *Montara Action Plan, Rev 15* (2 November 2010) at the time this report was written and therefore has not been able to fully consider it in the course of this Review. However, Noetic understands relatively minor changes were made between Revision 14 and Revision 15. Table 2 below provides a comparison of the changes, between Revision 12 and 14 of the *Montara Action Plans*.

Table 2. A comparison of *Montara Action Plan* Rev 12 and Rev 14

	Revision 12	Revision 14
Number of Actions	35	58
Completed	8	8
In Progress	20 (10 behind target)	23 (+ 20 new actions without an entry in the status column)
To be done	7	27

In summary, the *Montara Action Plan*, Rev 14 (29 October 2010) retains all the original items and has an additional 20 items. These additional items largely appear to address the seven 'key issues' identified in our *Initial Report and Summary of Key Issues* (at **Enclosure 3**). The table below provides cross references between the *Montara Action Plan* (Revision 14) and the seven safety management issues described in the Initial Report.

Table 3. The seven safety management issues identified in the 'Initial Report' cross-referenced with Montara Action Plan (Rev 14).

#	Deficiency (from the Initial Report)	Montara Action Plan (Rev 14) reference	Comments
1.	Leadership Behaviours	Action 36	Corporate Lessons learned – item 1 'Demonstrate Top Management SSHE leadership and commitment'.
2.	Policies and Objectives and Lagging/leading KPIs	No one <i>Montara Action Plan</i> Reference but see Action 49 and the integration of PTTEP AA into the PTTEP SSHE Management System	This comment was made based on reviewing the original <i>Montara Action Plan</i> (4 June 2010). Following discussions, it is now apparent that numerous Policies etc are being implemented in PTTEP AA (e.g. the SSHE Management Standard Revision 1 dated October 2008, which at section 6.1 refers to the need for assets to develop appropriate lead and lag KPIs).
3.	MAE Causation	Actions 52 and 53.	'Critical Actions' (<i>Critical Actions are those identified as necessary to complete prior to starting drilling at Montara</i>)
4.	Workforce Involvement	Action 48	
5.	Communications	Action 57	A 'Critical Action'
6.	Performance Monitoring. Safety Climate or Culture	Actions 42 and 43 Action 50	
7.	Communications with Regulators	Action 15 and 54	This was described as an intent to engage with regulators 'over and above what was required by legislation'. (Andy Jacob 28 October 2010). Action 15 was in the original Action Plan.

3.2.4 Additional Documents supplied by PTTEP AA

Noetic was provided with a wide range of documents by PTTEP (listed in **Annex C**). Noetic focussed its attention on the most important and relevant of these, including:

- + documents that sought to explain the purpose and scope of the *Montara Action Plan* and the governance arrangements for its implementation and how they fitted into the broader strategy for PTTEP AA in Australia;
- + documents that described the PTTEP SSHE system; and
- + Well Engineering Standards (D41-502433-FACCOM).

3.2.4.1 DOCUMENTS WHICH EXPLAIN THE PURPOSE, SCOPE AND CONTEXT OF THE MONTARA ACTION PLAN

During Noetic's visit in September to Perth, we noted that the *Montara Action Plan* lacked a narrative to explain where the work listed in the Plan 'sat' in relation to the broader organisational goals of PTTEP and PTTEP AA. During our visit to Perth on 28 October, we were provided with some additional documentation:

- + PTTEP AA Australia Strategy and Execution Plan, Draft A, dated 28 October 2010; and
- + PTTEP *Montara Action Plan*, Draft A dated 5 October 2010 ('Narrative document').

These documents are discussed in more detail in Chapter 4 of this Report (Governance Review). However, they are relevant to the Technical Review because taken together they articulate a link between the corporate (PTTEP) mission to the PTTEP AA strategy and the *Montara Action Plan(s)*.

The *PTTEP AA Australia Strategy and Execution Plan* describes the PTTEP mission as being to:

'...reliably and safely deliver competitively priced oil and gas with responsibility to society and the environment, adhering to good corporate governance and financial discipline'.

The *Montara Action Plan* narrative document amongst other things describes how the *Montara Action Plan* implementation will be overseen by the *Montara Action Plan* Steering Committee (MAPSC). The MAPSC membership includes the Bangkok-based Dr Somporn, Executive Vice President, International Assets Group as Chair as well as an advisor to the Chief Executive Officer of PTTEP. **Annex E** provides a full list of MAPSC members. The *Montara Action Plan* narrative document also lists the critical actions (in the *Montara Action Plan*, Rev 14) that must be completed prior to drilling at Montara. Noetic concludes from this document that the *Montara Action Plan* is being overseen by an appropriately senior level of management within PTTEP.

3.2.4.2 DOCUMENTS WHICH DESCRIBE THE SSHE SYSTEM

The SSHE Management System is relevant because PTTEP are expecting that many of the improvements required in PTTEP AA will be addressed through the implementation of the PTTEP Corporate SSHE Management System by the Australian subsidiary. (See *Montara Action Plan*, Rev 14 action item 49).

Noetic's approach to the SSHE Management System was to review the overall 'architecture' of the system and compare it with what is regarded as international good practice and then to sample a number of the important elements including:

- + *SSHE Management System* (Revision 1 October 2008);
- + *Performance Management Standard* (SSHE MS.S.12);
- + *Asset Integrity Management Standard* (SSHE MS.S.08, Revision 0, issued April 2009); and
- + *Asset Routine Reporting* (SSHE, MS.P.12-01, Revision 0, issued May 2009).

SSHE Management System (Revision 1 October 2008)

Noetic's review of the SSHE system shows that this is 'built' on well-known management principles including the International Association of Oil and Gas Producers (OGP) *Guideline for the Application of Health, Safety and Environmental Management Systems* (Report No 6, 36/210). Noetic concludes that the overall 'architecture' of the system is appropriate.

In addition, the *SSHE Management System* document makes clear the distinction between line management 'monitoring' and independent 'auditing'. As we commented in Noetic's *Initial Report and Key Issues Summary* (at **Enclosure 3**), this is not a semantic distinction. The MCI Report repeatedly finds non-compliances with PTTEP AA processes and procedures and that managers did not know of these non-compliances, which suggested weaknesses in the monitoring procedures within PTTEP AA.

Performance Management (SSHE MS.S.12 Performance Management Standard).

In Noetic's *Initial Report and Key Issues Summary* to RET, we stated:

'It is not clear what performance monitoring arrangements are to be put in place. In addition it is not clear that the important difference between 'performance monitoring' activities as carried out by line personnel such as managers and supervisors compared with auditing by people with some independence of the organisation is recognised'.

PTTEP AA's *Performance Management Standard* articulates the basic principles and practices of monitoring in general terms and refers to identifying '...procedures and practices...that are most critical to risk[s] control...[and the need to]...set priorities for and limit the scope of SSHE performance monitoring and measurement to focus on manageable number of indicators'. This is appropriate. However, the *Asset Integrity Management Standard SSHE MS.S.08*, in a section on 'Monitoring' refers to 'Audits/Management Review' as a type of 'Monitoring'. This suggests a lack of clarity around these concepts.

When Noetic raised this issue in a meeting with PTTEP in late September 2010, they acknowledged this ambiguity and the importance of distinguishing 'monitoring' from 'audit'. *Montara Action Plan, Revision 14* explicitly addressed this issue. In addition, the 'new' action items 42 and 43 (added after Noetic's meetings with PTTEP AA), are classified as 'critical actions'. Furthermore, in discussions with Andrew Jacob and David John, they acknowledged the value and importance of giving proper emphasis to line management monitoring.

Asset Integrity (SSHE, MS.P.12-01, Revision 0, issued Date May 2009).

PTTEP's *Asset Integrity Standard*, in common with the other PTTEP corporate level documents, is a high level document intended to be implemented by PTTEP AA's local management. Asset integrity, as the document explains on page 1 is, '...very much concerned with the identification, elimination or risk control of major accidents'. This document refers to major accidents as MAEs. In other words, asset integrity is specifically aimed at preventing incidents such as the Montara Blowout. It is a positive that PTTEP recognise the importance of asset integrity.

A more detailed reading of the document suggests that the high level goals of an asset integrity program are appropriately described and the scope of the *Asset Integrity Standard* is described as applying '...over the whole lifecycle of all PTTEP facilities...in Thailand or internationally..' (page 1). We presume this cover drilling activities. This supposition was supported by the list of 'Critical Elements', which were identified in Appendix 1 to the *Montara Action Plan(s)* and includes blowout preventers (BOPs), well pressure control equipment and derricks and sub-structures. However, other aspects of the document give the feel that the Standard is more orientated to the lifecycle of production facilities as opposed to drilling. For example 'drilling' does not appear as a stage in an assets lifecycle in Appendix 2. Equally, Table 1 'Six Phases of the AIM Lifecycle (page 15) does not refer to drilling.

As a result, Noetic concluded that it is not clear that this Standard applies to drilling activities. Mr Andrew Jacob in our meeting on 13 October 2010 in Canberra concurred with this conclusion. When this was raised with the *Montara Action Plan* coordinator (Mr David John), he said (in an email dated 13 October), that:

'There is no overall AI [Asset Integrity] system [in PTTEP AA] but some relevant documents exist – corrosion management standard and a risk based maintenance management'. It's one of the issues we would have raised in the BKK – AA SSHE MS Integration work that was interrupted by the blowout. We'll restart that in the near future'.

Asset Routine Reporting

Noetic commented to Mr David John that PTTEP's *Asset Integrity Standard* did not adequately define what was required to be reported. He responded that this was because it was (as previously mentioned) a high level document for implementation by local management. However, there is apparently no Asset Integrity Procedure equivalent to PTTEP's *Asset Routine Reporting Procedure*. The Asset Routine Reporting Procedure specifies in considerable detail what is to be reported and at what intervals. By contrast, PTTEP's *Asset Integrity Standard* only requires KPIs to be established at an asset level and reported on monthly. This is only a 'recommendation' in the Standard. This means that traditional personal safety related data is closely specified but reporting on major accident safety appears not to be so closely specified. If data on asset integrity is not clearly specified and reported, it is difficult to see how effective governance can be established over this important element of the SSHE. David John agreed that the *Asset Integrity Standard* needs improving and needs a supporting detailed procedure.

3.2.4.3 WELL ENGINEERING STANDARDS (D41-502433-FACCOM)

This document was provided to Noetic during our visit to Perth on 28 October 2010. It is a draft document and is not formally endorsed. Although it is a draft, it was reviewed because it is a significant document in relation to the immediate causes of the Montara blowout as it sets out a proposed company policy on well barriers. The document sets out the intended policy in Section 5.3.2.1:

'All planned well operations will normally be executed under the protection of two independent barriers.... Should one barrier be lost then the focus of operations will divert to regaining the two-barrier status...'

It would appear that this is an appropriate standard, which should address the MCI recommendations on a minimum of two barriers. It should also be noted that at the time of our visit just two of the five critical actions identified in the *Montara Action Plan*, Rev 14 (29 October 2010) related to the Drilling Management System had been complete.

4 GOVERNANCE REVIEW

4.1 Definition of Governance

For the purposes of the Governance Review, it was important to identify what 'governance' means and how 'good' governance practices is identified. Noetic's approach (based on our experience and extensive research) is outlined below and is applied through this report.

Governance

The term 'governance' can take on a variety of meanings depending on the context in which it is applied. For the purposes of this Governance Review, Noetic examined the rules, relationships, systems and processes that determine how decisions are made and acted upon. Governance also incorporates the systems and processes an organisation uses to ensure that actions are in accordance with decisions and that decisions are in accordance with agreed rules. In this sense, governance is how an organisation maintains control over its decisions and actions.

Good Governance Principles

Whether an organisation's governance is 'good' can be determined by examining whether the governance arrangements reflect a set of 'effective governance principles that can be broadly categorised as follows:

- + **Predictability.** This is the degree of certainty that a process (such as a decision making process) will achieve an expected outcome. Predictability is increased by clearly defined rules and consistent application of rules or a process. If applied, this principle also achieves well defined rights and duties of staff, as well as mechanisms for enforcing rules and settling disputes.
- + **Transparency.** This element addresses the level of availability of information to stakeholders that may clarify of rules, decisions and outcomes. Transparent processes and decisions are ones that can be cross-examined by an outsider or auditor. Transparency also implies the lines of accountability and responsibilities are observable.
- + **Accountability.** This principle refers to the degree with which those with authority for decision-making are answerable to stakeholders or those from whom they derive their authority. This requires criteria by which to gauge performance of managers and oversight mechanisms to determine if expectations are being met.
- + **Participation.** This encompasses the ability¹⁰ of stakeholders and staff to influence activities. Participation can occur via engagement with stakeholders and staff that may be able to influence the decision making processes, the decisions or the execution of actions.

Each of these principles underpin the structure and function of all governance activities within an organisation.

Good Governance Practices

With the above principles of good governance in mind, an organisation will exhibit a number of good governance practices. These practices will be evident in the behaviour of personnel, the structure and functions of systems and the culture of a workforce. Some practices of good governance can include:

- + foundations for management and oversight are solid;
- + governance structures and bodies add value and are accountable to stakeholders;

¹⁰ Shailer, G. 2004. 'An Introduction to Corporate Governance in Australia'. Pearson Education Australia, Canberra, ACT.

- + decisions are made in accordance with established processes, ethically and responsibly;
- + the decision making process is understood and can be interrogated;
- + integrity in financial reporting is safeguarded;
- + disclosure of information is timely and balanced;
- + shareholders' rights are respected and their views are heard;
- + risks are recognised and managed appropriately;
- + remuneration is provided fairly and responsibly;
- + resources are assigned according to priority;
- + documentation clearly records the governance arrangements, decision making process and outcomes, lines of accountability, responsibilities and timelines; and
- + the organisation's mission, vision, goals and strategies are clearly articulated, understood within the organisation, and influence everything the organisation does.

4.2 Montara Commission of Inquiry Summary of findings regarding PTTEP AA

The MCI Report is 391 pages in length, containing 100 findings and 105 recommendations across six areas of focus. The MCI Report is heavily focussed on technical matters and only one sub-chapter¹¹ within the MCI Report deals with matters directly relevant to PTTEP AA's governance. This sub-section contains only two findings (finding 46 and 47) that are directly relevant to PTTEP AA's governance. These two findings are noted in Table 3.

Table 3. Findings from the MCI Report that directly relate to PTTEP AA's governance.

#	Finding
46	PTTEP AA's internal governance structures post-acquisition were somewhat deficient: first, there was less committee oversight of important decisions, which is likely to have reduced the level of quality assurance; secondly, there was an attenuation in the lines of accountability when decision-making was located offshore in Bangkok.
47	Had more rigorous internal governance structures been in place it is possible that risks associate with the operations at Montara may have been identified and addressed.

The MCI Report also contains a number of other findings that are relevant to PTTEP AA's governance, and they provide an indication of the adequacy of PTTEP AA's governance arrangements. One example is finding number 45, which points to deficiencies in PTTEP AA's competency management systems. This finding is indicative of broader failures in PTTEP AA's ability to identify and manage systemic issues. There are a range of others that reflect on management oversight, processes and procedures.

¹¹ 'Shortfalls in governance structures within PTTEP AA' (p.145)

4.3 Findings

This section presents an **overall assessment**, which discusses the sufficiency of PTTEP AA's *Montara Action Plan* (4 June 2010) and PTTEP AA's ability to articulate plans to address the systemic issues identified in the MIC Report. The remainder of this section discusses our findings within four themes, which are:

- + **Governance Structures and Process,**
- + **Internal Processes,**
- + **Implementation of Change,** and
- + **Plans for the future.**

Some of the findings discussed in this section also relate to technical issues. These technical issues are discussed in this section as far as they relate to PTTEP AA's governance. Detailed discussion on the technical issues is in Chapter 3 of this Report.

4.3.1 Assessment of Montara Action Plan

Noetic examined whether PTTEP AA's *Montara Action Plan* (4 June 2010) was adequate to address the findings contained in the MCI Report or whether it demonstrated PTTEP AA is or was demonstrating good governance practices. Our findings are presented in this sub-section.

4.3.1.1 ADEQUACY

An organisation that has fully embraced and embedded the principles of good governance has established transparent auditing, monitoring and reporting systems that allow it to identify and recognise the systemic issues that led to a major incident (such as a Blowout). Such an organisation would also establish fully transparent lines of accountability that assign responsible personnel to appropriate actions.

PTTEP AA's *Montara Action Plan* (4 June 2010) did not sufficiently demonstrate the company had fully embraced and embedded the principles of good governance in this way. The *Montara Action Plan* (4 June 2010) did not sufficiently address the full range of issues that are necessary to provide a high level of assurance that PTTEP AA is practicing good governance.

Through its initial engagement with PTTEP AA Noetic was advised that the *Montara Action Plan* (4 June 2010) was never intended to address these systemic issues. It was during this process that PTTEP AA recognised that the *Montara Action Plan* also needed to address the systemic and organisational issues that contributed to the Montara Blowout.

Building from this engagement PTTEP AA amended the original *Montara Action Plan* (4 June 2010) and produced an over-arching document that provides a strategic and historical context in relation to the actions following the Montara Blowout (the *Montara Action Plan* 'narrative document', *Draft B*, 2 November 2010) (refer **Enclosure 4**¹²). This document included, as an attachment the *Montara Action Plan, Rev 14* (29 October 2010), – provided at **Enclosure 5**. The *Montara Action Plan, Rev 14* (29 October 2010) contains a comprehensive list of actions that, if implemented effectively, should address many of technical and organisational issues identified in the MCI Report. The amendments made by PTTEP AA to the *Montara Action Plan* provide a greater level of assurance that the company is making good progress and seeking to both meet and set good practice standards for the industry.

¹² The 'narrative document' *Montara Action Plan, Draft B* (2 November 2010) was provided to Noetic by PTTEP AA via email following our visit to Perth on 29 October 2010.

Chapter 3 of this Report explains in detail our finding that the *Montara Action Plan* (4 June 2010) contained the actions necessary to address the 'base' technical issues that lead directly to the Montara Blowout. Chapter 3 explains how the *Montara Action Plan* (4 June 2010) addressed issues such as well barrier integrity and drilling management identified in the MCI Report. However, the *Montara Action Plan* (4 June 2010) was insufficient in that it did not contain all the actions necessary to address the broader systemic and governance related issues that led to the Montara Blowout. In essence, it contained a series of technical point solutions. Systemic issues include organisational communication problems that meant technical issues were not recorded or reported.

Finding

The scope of PTTEP AA's *Montara Action Plan* improved significantly during the course of the Governance Review. It now covers technical, governance and systemic/organisational issues and, if implemented effectively, should ensure PTTEP AA has addresses the findings and recommendations of the MCI.

4.3.1.2 SYSTEMIC MATTERS

PTTEP AA's original *Montara Action Plan* (4 June 2010) was prepared for the purpose of addressing the technical failings identified by the Commission of Inquiry relating to the cause of the blow-out and in particular the drilling component. The Action Plan as such did not contain initiatives that would fully address the systemic and organisation-wide issues, However, PTTEP AA personnel were able to identify a number of initiatives, which were intended to address these issues to Noetic.

Noetic also identified a number of initiatives underway or planned, which would address some of PTTEP AA's systemic issues. These initiatives can be divided into the three categories – Montara response initiatives, PTTEP –CRL integration initiatives, and PTTEP AA change initiatives.

The majority of systemic/organisational issues within PTTEP AA were intended to be addressed in the *PTTEP – CRL Implementation Plan*¹³. Many of the initiatives in this plan were suspended following the Montara Blowout due to resources being dedicated to responding to the Montara Blowout and the MCI. However, work on the *PTTEP – CRL Implementation Plan* has resumed, as evidenced by the update Action Plan.

Although plans to address some systemic issues identified by PTTEP AA personnel, PTTEP AA had not identified the relevance of these plans in respect of the MCI findings prior to engaging with Noetic.

During Noetic's second round of engagement with PTTEP AA, there was clear evidence that PTTEP AA had recognised the importance of addressing systemic and governance issues. This was evident in the *PTTEP Montara Action Plan* (Draft A, dated 5 October 2010), which included the *Montara Action Plan, Rev 14* (dated 29 October 2010). The *PTTEP Montara Action Plan* (Draft A, dated 5 October 2010) articulated the historical and strategic context for the list of actions contained within the *Montara Action Plan, Rev 14* (dated 29 October 2010), which also includes most of the actions necessary to address systemic issues within PTTEP AA.

¹³ McKinsey & Co. for PTTEP, 2008. *PTTEP – CRL Integration Plan*.

Finding

The progress PTTEP AA had made between the two rounds of engagement with Noetic demonstrates PTTEP AA's recognition, and articulation, of the need to address effectively the systemic and governance issues. PTTEP AA *Montara Action Plan, Rev 14* (dated 29 October 2010) outlines actions that, through effective implementation will address systemic issues identified.

4.3.2 Governance Structures and Processes, and Relationships

This sub-section discusses Noetic's findings that relate to PTTEP AA's governance structures and processes. It also addresses the adequacy of performance monitoring, leadership behaviours, and PTTEP AA's relationships with government.

4.3.2.1 PTTEP AA'S STRATEGIC PLANNING

A mature corporate planning framework demonstrates explicit links between the strategic, operational and tactical levels of planning in an organisation. Mature corporate planning is essential for good governance as it reflects transparency and accountability; it also advances predictability and participation of the workforce in certain areas within an organisation (in particular, safety and health). A detailed description of the elements of an effective corporate planning framework is provided at **Annex D**.

The maturity of an organisation's corporate planning framework has direct relevance to the **effectiveness of its governance** as it provides the mechanism by, which an organisation's mission, vision, goals and strategies are articulated and shared throughout the organisation.

An illustration of this framework is provided below in **Figure 2**. A pyramid diagram is used to illustrate that the bottom level (sub-tasks) contains many specific items, whereas the top level contains only one very broad statement. Links between each level should be explicitly described in planning and policy documentation. Explicit descriptions of the linkages provide clarity and context to personnel at all levels an organisation (executives, managers, employees and contractors) as well as external observers.

During Noetic's initial round of engagement with PTTEP AA, gaps were identified within PTTEP AA's corporate planning framework that was consistent with the integration of CRL, into PTTEP not fully completed.

Figure 2. Summary illustration of the corporate planning framework.



Table 4 below provides an analysis of PTTEP AA's observed corporate planning activities against the framework depicted above.

Table 4. Analysis of PTTEP AA's corporate planning framework.

Corporate Planning Level	Element	Observations of PTTEP AA
Strategic	Vision	<ul style="list-style-type: none"> + Defined for PTTEP and was published only on the PTTEP website. + A vision unique to PTTEP AA was not clearly identified. + A vision for PTTEP AA (potentially explaining how it contributes to PTTEP's vision) was yet to be identified.
	Mission	<ul style="list-style-type: none"> + Defined for PTTEP and was published only on the PTTEP website. + A mission unique to PTTEP AA was yet to be identified. + A mission for PTTEP AA (potentially explaining how it contributes to PTTEP's mission) was yet to be identified.
	Values	<ul style="list-style-type: none"> + Defined for PTTEP and was published only on the PTTEP website. + A statement that PTTEP AA adopts PTTEP's values or describing values unique to PTTEP AA was yet to be clearly identified.
	Objectives or Goals	<ul style="list-style-type: none"> + Objectives/goals to achieve growth in Australia were identified in the PTTEP AA '5 Year Growth Plan'. However, the link between the objective/goal of growth in Australia and PTTEP's vision, mission and values was not explicit. + There was no description of how PTTEP's vision, mission or values will be implemented in PTTEP AA. + Health, safety and environment (HSE)-related objectives/goals were yet to be identified.
Operational	Strategies	<ul style="list-style-type: none"> + Strategies and their links to objectives/ goals were not explicit or not identified. + No single source of guidance or summary of all initiatives underway at the tactical level could be identified. + Reporting lines and oversight bodies were not clearly documented for programs of work.
Tactical	Initiatives or programs of work	<ul style="list-style-type: none"> + Initiatives were evident in PTTEP AA's <i>Montara Action Plan</i> (4 June 2010) but there was no clear articulation of how they relate to the corporate vision, mission, values or objectives/goals. + Other initiatives (such as the Integration Program) were identified but documentation examined did not clearly identify explicit links between those initiatives and the operational or strategic level. + While initiatives were suitably assigned to responsible personnel with due dates, critical dependencies were not clearly identified.
	Individual tasks	<ul style="list-style-type: none"> + Of the individual tasks identified in the documentation provided, tasks were suitably assigned to individuals and due dates were applied. However, critical dependencies were not clearly identified. + There was no clear linkage between tasks and the relevant strategy or objective/ goal.

	Sub-tasks	+ Of the individual sub-tasks identified in the documentation provided, tasks were suitably assigned to individuals and due dates were applied. However, critical dependencies were not clearly identified.
		+ There was no apparent clear linkage between sub-tasks and the relevant strategy or objective/ goal.

This analysis highlights that the linkages between each level of planning and implementation in PTTEP AA were lacking. This can result in:

- + executives and managers not understanding the full range of activities underway or planned;
- + implementation teams and individual employees not fully understanding the rationale for their work activities;
- + health and safety not being seen as valued by owners and management;
- + initiatives or programs of work occurring that do not contribute to the overall vision, mission and values of an organisation (i.e. unfocussed or unnecessary effort);
- + outside observers or stakeholders not understanding why certain activities are being planned or undertaken;
- + initiatives or programs of work that are in conflict with each other; and
- + failure to identify the appropriate strategies and initiatives/ programs of work necessary to achieve the whole of the overall vision, mission and/or all objectives/goals.

During initial engagement with PTTEP AA, some of these issues were observed. For example, PTTEP's mission, as documented on its website¹⁴, stated that the company aimed to meet its responsibilities to society and the environment. This implied the company's intentions to operate safely and therefore the need for its Security, Safety, Health and Environment (SSHE)-related strategies. However, the *PTTEP Outlook and Strategic Plan for 2010-2014* did not contain adequate mention of SSHE issues. All other documentation initially provided by PTTEP AA, including the *PTTEP AA 2010 and 5-year Work Plan* also did not contain explicit SSHE strategies to explain the links between PTTEP's mission and the implementation of PTTEP AA's SSHE policies and procedures. This indicates that there may be a lack of awareness of SSHE issues at the operational level (refer **Figure 2**) of the organisation. Such a lack of awareness may have acted to limit the ability of PTTEP AA to effectively align and manage the range of SSHE activities with other operational aspects of the business.

Following its engagement with Noetic, PTTEP AA has more clearly articulated its intention to establish 'a robust framework to manage for results through clear strategy, defined paths, operations excellence and clear accountability and measures'. PTTEP AA through the *Australian Strategy and Execution Plan* has identified that its vision, mission and business objectives need to be linked explicitly to its systems, organisation, process and behaviour. The document also aims to provide a single integrated view of key initiatives and their linkages.

The development of this document represents an enhancement in PTTEP AA's corporate planning framework. However, Noetic did express concern that SSHE-specific goals and strategies should be better identified in this document. PTTEP AA acknowledged this gap and satisfactorily addressed this matter in the following iteration of the *Australian Strategy and Execution Plan*.

¹⁴ About PTTEP (<http://www.pttep.com/en/aboutPttepVisionAndMission.aspx>) last accessed 13 October 2010.

Finding

The *Australian Strategy and Execution Plan* satisfactorily addresses the concerns identified in relation to PTTEP AA's corporate planning framework and its linkage with PTTEP more generally.

4.3.2.2 PTTEP AA'S CORPORATE GOVERNANCE STRUCTURES

As part of the Review, Noetic focussed on two essential elements of governance structures that were identified by the MCI Report. These include corporate governance structures (in general) and health and safety governance structures. For an organisation to demonstrate that it is practicing good governance and able to operate safely, it must have in place appropriate and effective corporate and safety governance structures. This includes clarity of responsibility, that effective oversight is exercised from the Board through to the most junior manager, defined reporting processes and systems, and a feedback mechanism to ensure that all of this works as intended.

Corporate Governance

Prior to PTTEP acquiring CRL, corporate oversight structures were in place (such as the CRL Board's Risk Committee)¹⁵. These structures dissolved when PTTEP AA was established and corporate oversight responsibilities were transferred to existing PTTEP committees (such as the PTTEP Board's Audit Committee and the Risk Management Committee¹⁶). The *PTTEP HQ – PTTEP AA Working Relations* document set out the relationship between PTTEP and PTTEP AA. This document did not provide clarity of responsibilities, there was no direct oversight of PTTEP AA's operations (including safety) and the guiding principle was one of autonomy.

Since the Montara Blowout, PTTEP has recognised that its decision to allow PTTEP AA to operate with a high degree of autonomy was a flawed approach and has taken a more active role in PTTEP AA's governance. This is evident in increased oversight from PTTEP's Executive Vice President of International Assets Division (Mr Somporn Vongvuthipornchai) and increased reporting expectations. PTTEP's efforts to amend its approach to the governance of PTTEP AA are also evident in its amendments of the draft *PTTEP HQ – PTTEP AA Working Relations* document, which seek to increase corporate oversight of PTTEP AA. However, the amendments do not outline a set of governance arrangements that would conform to good practice nor is the document endorsed by the CEO of either the PTTEP AA or PTTEP or being acted upon by PTTEP AA personnel.

While these preliminary steps taken to improve PTTEP AA's governance are commendable, PTTEP AA acknowledged that the *PTTEP HQ – PTTEP AA Working Relations* document should be finalised and endorsed as a priority to allow the governance relationships between PTTEP and PTTEP AA to be formalised. PTTEP AA subsequently advised that the governance arrangements between PTTEP AA and PTTEP would be finalised and in place by January 2011.

In establishing its governance arrangements, Noetic suggested that PTTEP AA consider establishing a *Safety, Health and Environment Advisory Board*. While having no direct governance role it would support both PTTEP and PTTEP AA's formal framework by providing outside advice on matters of interest. The establishment of such an Advisory Board will support PTTEP AA's commitment to implementing and conforming to leading governance and technical practice.

PTTEP established a structure to oversee the implementation of the Action Plan, the *Montara Action Plan Steering Committee* (MAPSC). The primary role of the MAPSC is to oversee and coordinate actions arising from the Montara Blowout. The MAPSC has appropriate representation from both PTTEP and PTTEP AA senior personnel, and processes to support its role. Notably in reviewing the Official Minutes, Noetic found that the MAPSC has discussed and managed broader issues relating to PTTEP AA's corporate functions and operations, a clear indication of PTTEP's

¹⁵ This report makes no comment on the effectiveness of these structures apart from that they were in place and conformed to appropriate governance models.

¹⁶ As identified in PTTEP Organisation Structure (1 April 2010) available from http://www.pttep.com/en/aboutPttep_Overview_2.aspx

commitment to actively monitoring the activities of PTTEP AA and is an important component of establishing comprehensive and enduring governance arrangements.

Finding

PTTEP AA has identified a clear strategy for establishing more robust and company appropriate governance arrangements (and accompanying documentation) by January 2011

Health and Safety Governance

Robust HSE structures are a key element of an effective safety management system. Effective HSE structures allow for HSE issues to be escalated from site-specific SSHE committees to PTTEP's corporate level SSHE Committee and for the relevant Board committee to oversight this operation. This will ensure that senior managers are provided with the information they need to decide whether to intervene on site based issues, or support and assign resources to address company-wide SSHE issues. The governance arrangements should ensure the communication paths between SSHE committees are open and effective. This will include ensuring feedback is provided on the progress of actions required to address issues.

The SSHE committee structure should allow site-specific SSHE committees to focus on workplace hazards and the control measures used to reduce risks. It should also allow corporate level SSHE committees to focus more on the highest risks across the business or business unit and the effectiveness of the processes put in place to reduce the likelihood of a major accident event (MAE).

PTTEP AA did not have the appropriate SSHE governance structures in place at the time of the Montara Blowout. It did have site-based SSHE committees, which discussed SSHE issues at an operational level¹⁷, with the information discussed in these committees being communicated back to Perth head office via line management. However, there was no Perth-based SSHE coordination committee to ensure there was direct reporting of PTTEP AA-wide SSHE issues to PTTEP's Bangkok-based corporate SSHE Committee. This was not consistent with good HSE governance arrangements, with high-level risks across the Australian arm of the business not being fully identified and/or managed as effectively as they should have been. .

Since the Montara Blowout, PTTEP AA has established a Perth-based SSHE¹⁸ Committee to ensure SSHE issues are communicated from sites to PTTEP AA and then to the PTTEP SSHE Committee in Bangkok¹⁹. This is an important initial step that will allow PTTEP AA to conform to good SSHE governance arrangements. PTTEP AA recognises that sustained effort is required to ensure the PTTEP AA SSHE Committee remains active, meaningful and relevant.

Finding

Planned actions and efforts already undertaken to improve SSHE governance arrangements within PTTEP AA are consistent with industry practice. PTTEP AA recognises that sustained effort in implementation is required to ensure the PTTEP AA SSHE Committee remains active, meaningful and relevant.

¹⁷ *Minutes of Monthly SSHE Review Meeting* (1 April to 26 July 2010). No records prior to 1 April 2010 were provided.

¹⁸ PTTEP AA SSHE Committee Charter

¹⁹ *Montara Action Plan, Rev 14* (29 October 2010). *PTTEP AA SSHE Committee Charter* (October 2010).

4.3.2.3 LAGGING AND LEADING INDICATORS

Effective practice within the industry is for companies to have a balanced portfolio of leading and lagging performance indicators rather than rely purely on the traditional lagging indicators (such as lost time injuries or first aid cases). A wide variety of leading indicators are utilised in the oil and gas, and mining industries in order to gain greater insight into the performance of company systems and their implementation. Such indicators include:

- + hazards reported,
- + performance against HSE plans,
- + high potential incident frequency,
- + safety perception surveys,
- + incident actions closed out within time, and
- + management safety visit effectiveness.

PTTEP's *SSHE Plan Management Standard* identifies example key performance indicators (KPIs) and annual targets for the corporate SSHE Plan including lagging and leading measures. A sample of example KPIs provided are summarised below in Table 5.

Table 5. Sample of example KPIs provided in PTTEP's *SSHE Plan Management Standard*.

Lagging Indicator	Leading Indicator
Lost time injury frequency	Revision of SSHE management standard
Total Recordable incident rate	SSHE Plan standard
Restricted work day case	Revisions of SSHE training and competence
Medical treatment case	Revision of loss prevention and risk management standard
Hydrocarbon releases/ spill	Revision of asset integrity management
Flare/ emissions	Revision of performance management and behavioural based safety standards and revision of incident management standard
Fire	Revision of audit and review standard
Major production loss or property damage	Closeout of corrective actions from audits, reviews and inspections and incident investigations
High potential incidents	Management visits (quality of visits)
Vehicle/ transport incidents	Revision of guidelines for minimum SSHE management standard for international assets.

The list above and the full list of example KPIs provide in the *SSHE Plan Management Standard* represent an appropriate and comprehensive list of both leading and lagging indicators.

Noetic was advised that PTTEP AA was in the process of contracting expert advisors to undertake a *Management System Development and Implementation* project, which was intended to develop and deliver Management System and Communication including 'design of management team score cards and performance monitoring mechanism'²⁰. This project also sought to:

²⁰ Email from David John received 2 November 2010, subject: 'RE: project addressing lead/lag indicators'.

- + define KPIs at the management level and address all relevant risks and performance metrics, and
- + align KPIs with roles, accountabilities and job descriptions.

The *Management System Development and Implementation* project was not yet finalised in scope and confirmed. The effective implementation of the *Management System Development and Implementation* project will likely ensure that the *SSHE Plan Management Standard* is fully incorporated within PTTEP AA.

Finding

The *Management System Development and Implementation* project should ensure that the adequate implementation of the intent of the *SSHE Plan Management Standard* within PTTEP AA, with PTTEP AA establishing and implementing appropriate leading and lagging performance indicators.

4.3.2.4 PERFORMANCE MONITORING

Auditing and performance monitoring are key activities within an organisation by ensuring that responsible personnel are accountable for their decisions and actions. If administered effectively, auditing and performance monitoring provide a level of assurance that decisions are in accordance with guidance and priorities, and that decisions are and have been acted upon appropriately. Effective performance monitoring and auditing is essential to good governance.

For the purposes of this report, '**performance monitoring**' refers to the regular activities (both formal and informal) undertaken by managers to determine if process, people and technology are behaving or functioning as expected. It is an ongoing activity that should be conducted on a regular basis by managers at all levels of an organisation. Performance monitoring checks that 'what should be happening, is happening' in accordance with documented policies and procedures. Executives should be involved in performance monitoring to ensure that critical activities are conducted thoroughly and that all relevant information is captured.

Auditing is a discrete activity of evaluation that may occur at set points – it is a separate activity to performance monitoring (although the two are often as confused as the same thing). Audits should occur with a degree of independence, ideally conducted by someone outside the direct operating line. Auditing is retrospective, more passive and is useful for learning lessons from past events. Audits check 'what should have happened, did happen' in accordance with documented policies and procedures.

In the case of PTTEP AA, Noetic identified a number of 'audit' type activities, which were designed to evaluate the past performance of the organisation and identify lessons to learn. Examples from the *Montara Action Plan* (4 June 2010) included an 'independent review of the Well Construction Management Framework (WCMF) and Well Control Standard (WCS)²¹ and 'Develop and conduct plan of corporate technical and SSHE Management system audits'²². Another example included the *Montara Audit Program*²³, which identifies the need for a Drilling Start-up Audit and a drilling and SSHE Compliance Audit.

PTTEP's *Performance Management Standard*²⁴ provided the corporate policy describing how performance monitoring should be directed and implemented across PTTEP's assets (including PTTEP AA). It provided guidance on leadership, pro-active monitoring (to prevent incidents) and reactive monitoring (which occurs following incidents). However, the standard was focussed heavily on the collection and documentation of monitoring of data. It provided relatively less emphasis on the need for face to face 'active monitoring' to ensure both personal safety and process

²¹ *Montara Action Plan*, Rev 12 Draft, 21/9/2010, item 2.1.

²² *Montara Action Plan*, Rev 12 Draft, 21/9/2010, item 8.2.

²³ *Montara Audit Program*, Rev 1 9/9/2010.

²⁴ PTTEP, 2009. *Safety, Security, Health and Environment (SSHE) Performance Management Standard (SHEE MS.S.12)*.

safety. PTTEP's *Behavior-Based Safety (BBS) Standard*²⁵ indicated the need for face to face 'active monitoring' via an observation and feedback process. However, the BBS Standard makes no mention of how senior executives will be involved in actively monitoring.

Despite these three standards providing guidance to auditing, monitoring and behaviour based safety; there was inadequate mention in the documentation of the need for both senior and middle levels of management to be actively engaged in active monitoring at an operational level. This represented a gap in PTTEP AA's implementation of a culture of transparency and openness in respect to monitoring of its safety processes, including process safety and asset integrity.

PTTEP AA has recognised these shortfalls and has identified actions within its *Montara Action Plan, Rev 14* (29 October 2010) as part of the *Supplementary Actions*. Relevant actions identified include defining auditing and monitoring philosophy, and establishing PTTEP AA-wide audit plans and monitoring programs. These are important improvements to PTTEP AA's original *Montara Action Plan* (4 June 2010) and, through effective implementation, should address issues surrounding auditing and performance monitoring within the company. PTTEP AA should consider incorporating additional actions in relation to ensure that senior executives within PTTEP and PTTEP AA clearly understand the distinction between auditing and performance monitoring.

Finding

The actions identified in the *Montara Action Plan, Rev 14* (29 October 2010), *Supplementary Actions* in relation to integrating within the organisation an audit and monitoring philosophy and the establishment of effective audit plans and monitoring programs, reflect good practice governance arrangements.

4.3.2.5 LEADERSHIP BEHAVIOURS

Appropriate and visible leadership behaviours reflect that an organisation has embraced transparency and participation as principles of its governance. In these organisations, leaders are seen to both demonstrate and actively promulgate behaviours that achieve the organisation's vision, missions, objectives and strategies.

The MCI report identified that there was an absence of '*...robust supervision and compliance monitoring within PTTEP AA*'. This lack of active monitoring by management is evident in both the transcripts of the MCI and the MCI Report.

PTTEP AA's original *Montara Action Plan* (4 June 2010) did not contain any actions that directly sought to address leadership behaviours within the company. However, PTTEP AA is undertaking development of its competency assurance framework for drilling and engineering businesses. This project is being undertaken by expert advisors and covers the following areas:

- + development of a competency management system (CMS) design summary;
- + capability planning;
- + evaluation of competency management system;
- + development of tools and competency action planning; and
- + evaluation of recruitment.

This project may also address some of the issues associated with the competency of PTTEP AA's senior managers by identifying appropriate competencies and competency standards. However, the project may not fully address all aspects of leadership behaviour that support good governance. There is also no stated intention for the project to lead

²⁵ PTTEP, 2009. *Safety, Security, Health and Environment (SHEE) Behavior-Based Safety (SSHE MS.S.13)*. Revision 0.

to substantial strengthening of PTTEP AA's leadership to ensure they promulgate and promote the appropriate management, operational and safety behaviours.

Finding

While PTTEP AA's CMS project has the potential to improve the behaviour and strength of PTTEP AA's leadership, the success of the project in achieving this objective can only be determined by review of its implementation. Effective promulgation and promotion of the appropriate management, operational and safety behaviours throughout PTTEP AA will be a key factor in the success of the CMS project.

4.3.2.6 MANAGEMENT OF RELATIONSHIPS WITH GOVERNMENT ORGANISATIONS

The health of an organisation's relationships with external bodies is reflective of how effectively the organisation has embraced transparency into its ethos. Transparency is evident in a willingness to engage and provide the appropriate information in a timely manner to those who request it. This is especially true for a regulated organisation's relationship with its government regulators.

Inadequacies in PTTEP AA's relationship with government organisations were noted in the MCI Report. If these relationships are inadequate, it could impact on the ability of PTTEP AA to understand and comply with all relevant legislation and regulations or achieve practical solutions that satisfy the regulators should issues arise. However, during engagement with Noetic, PTTEP AA personnel did not appear to be aware of the MCI's concerns about their relationships with government bodies. PTTEP AA also provided anecdotal evidence they had positive experiences and formed good relationships when engaging with both state and federal government agencies. Noetic's experience with PTTEP AA personnel was also positive, which supports their claims.

However, Noetic's engagement was limited to PTTEP AA's personnel based in Perth and did not include field-based operational personnel who were engaged with government representatives during the MCI. These operational personnel had been demobilised following the MCI and were unavailable to Noetic. There was also no evidence presented that would allow Noetic to determine if PTTEP AA's operational personnel shared the same receptive and cooperative working ethic with Perth-based management. Similarly, there was no evidence of any effort by PTTEP AA to ensure effective working relationships with government at the operational level. This leaves open the possibility that relationships between the operational level of PTTEP AA and government organisations may be lacking. However, it must be recognised that effective relationships can only be built by active engagement from both parties. Therefore, both PTTEP AA and its regulators must engage actively to address any relationship issues.

Noetic advised PTTEP AA that it should act to address the possibility by ensuring appropriate strategies are identified and initiatives are in place to ensure they engage actively with its regulators. PTTEP AA has responded by identifying the need to 'engage with regulators above the legal requirement' in its amended *Montara Action Plan, Rev 14* (29 October 2010)²⁶. This initiative should ensure good working relationships between PTTEP and its regulators.

Finding

PTTEP AA's response to improving relationships with government regulators is appropriate.

4.3.3 Internal Environment

This sub-section of this Report deals with aspects internal to PTTEP AA and how they reflect the company's ability to apply the principles of good governance. Specifically, this sub-section examines whether PTTEP AA's governance

²⁶ Item 54 of the *Montara Action Plan, Rev 14* (29 October 2010).

practices have resulted in adequate workforce participation, whether PTTEP AA has taken adequate steps to monitor its workforce culture, and whether internal communications will be effective.

4.3.3.1 WORKFORCE PARTICIPATION

Participation is a key principle of good governance that, if embedded effectively in an organisation, will ensure that all parts of an organisation are actively pursuing the organisations vision, mission, goals and strategies. Effective participation is essential to ensure management decisions are implemented effectively and is a hallmark of good industry practice in all resource industries. This is especially true for the implementation of health and safety policies and procedures, where management and the workforce hold joint responsibilities for ensuring the health and safety of a workplace.

Active workforce participation in change processes, as well as active monitoring regimes, is a key feature advocated in safety and risk-related literature²⁷ and is an important part of the Safety Case regime. Effective workforce participation will be especially crucial for PTTEP AA during its planned rapid expansion leading up to the re-commencement of drilling operations in April 2011²⁸. PTTEP AA will need to ensure its workforce is actively engaged in implementing its ambitious plans for growth as well as implementing its quality and safety control procedures.

Despite the importance of workforce participation to the success of the change planned for PTTEP AA, Noetic notes that the strategies identified by PTTEP AA that aim to target effective workforce participation could be further enhanced. Noetic advised PTTEP AA of this, and highlighted that improved workforce participation as a corporate strategy would ensure a smoother change management transition in procedures and plans being followed and implemented.

Finding

The strategies identified by PTTEP AA that aim to target effective workforce participation could be enhanced further.

4.3.3.2 SAFETY CLIMATE AND CULTURE

In addition to ensuring effective participation among its workforce, an organisation must ensure transparency by effectively monitoring the culture and climate of its workforce and workplace. It is especially important for an organisation to monitor its safety culture to determine if its workforce is actively engaged in safety practices.

Safety climate and culture are characteristics of an organisation that can affect its ability to achieve its safety standards²⁹. They can provide indicators of workforce attitudes and potentially the inter- and intra-team communications issues mentioned in the next section. PTTEP had recognised the value of actively monitoring its safety climate and culture via surveys in its *Behavior-Based Safety Standard*³⁰ where had identified the need for 'periodic SHEE climate/ culture surveys'. However, the *Montara Action Plan* (4 June) did not identify the need for a safety climate or culture survey in response to the MCI. This may have occurred because the application of the *Behavior-Based Safety Standard* to PTTEP AA had been slowed or suspended, along with other integration initiatives, while PTTEP AA responded to the Montara Blowout and the MCI. Since then, PTTEP AA has recognised the specific need for a safety climate survey (item 50) in the *Montara Action Plan, Rev 14* (2 November 2010).

²⁷ See 'Safety, Culture and Risk: The organizational causes of disasters' by Andrew Hopkins.

²⁸ As indicated in discussion, presentations provided by PTTEP AA personnel and the 'PTTEP AA 2010 and 5-Year Work Plan'.

²⁹ Hopkins, A, 2005. *Safety Culture and Risk: The Organisational Causes of Disasters*. p.3

³⁰ PTTEP, 2009. *Safety, Security, Health and Environment (SHEE) Behaviour-Based Safety (SSHE MS.S.13)*. Revision 0.

Finding

The actions identified in the *Montara Action Plan, Supplementary Actions, Rev 14, 29 October 2010*, identify the need for SSHE improvements including the need to undertake a Safety Climate Survey (item 50). This provides evidence that the *Behaviour-Based Safety Standard* is being applied across PTTEP AA as part of the CRL - PTTEP **integration** program.

4.3.3.3 INTER AND INTRA-TEAM COMMUNICATION

Effective communications within an organisation demonstrate that it has embraced and embedded both transparency and participation as principles of good governance in an organisation. Effective communications lead to the flow of essential information to and from individuals and within and between work teams. It also reflects an organisation's commitment to reducing information 'silos' and protective behaviours that hinder the achievement of common goals.

The MCI Report identifies problems caused by poor communications between teams and individuals as a key factor that led to technical issues not being reported both on-rig and on-shore. One PTTEP AA staff member, who indicated PTTEP AA had inherited an 'aggressive' culture from CRL, validated the MCI Report's findings. His testimony was that this 'aggressive' culture had discouraged individuals from questioning decision making and reporting potential problems. This had resulted in a culture where communication within and between teams was hindered. Despite this admission from its personnel, the original *Montara Action Plan* (4 June 2010) did not identify initiatives specifically aimed at addressing this cultural issue.

In recognition of this gap, PTTEP AA has identified 'communication and teamwork' as a key element that will need to be considered by the MAPSC in determining whether PTTEP AA should re-commence its drilling program in April 2011. PTTEP AA also identified the need to conduct a review of 'communications processes' in its *Montara Action Plan, Rev 14* (29 November 2010) (item 36). These initiatives, should allow PTTEP AA to improve communications within and between teams within the company.

Finding

The actions identified in the *Montara Action Plan, Supplementary Actions, Rev 14, 29 October 2010*, through effective implementation, should improve communications within and between teams within the company.

4.3.4 Implementing sustainable change

This sub-section of this Report deals with PTTEP AA's ability to implement long term, sustainable change across the organisation. In this sub-section, we examine whether PTTEP AA has developed the appropriate guidance for change, whether the lines of reporting for change are clear, and whether coordination of change is adequate and comprehensively managed.

4.3.4.1 A SINGLE SOURCE OF GUIDANCE FOR CHANGE

A key aspect of good governance is the existence of clearly identified, integrated and authoritative guidance from an organisation's executive decision makers. This guidance may include a strategic statement, policy documents or plans that guide both actions and subordinate deliberations.

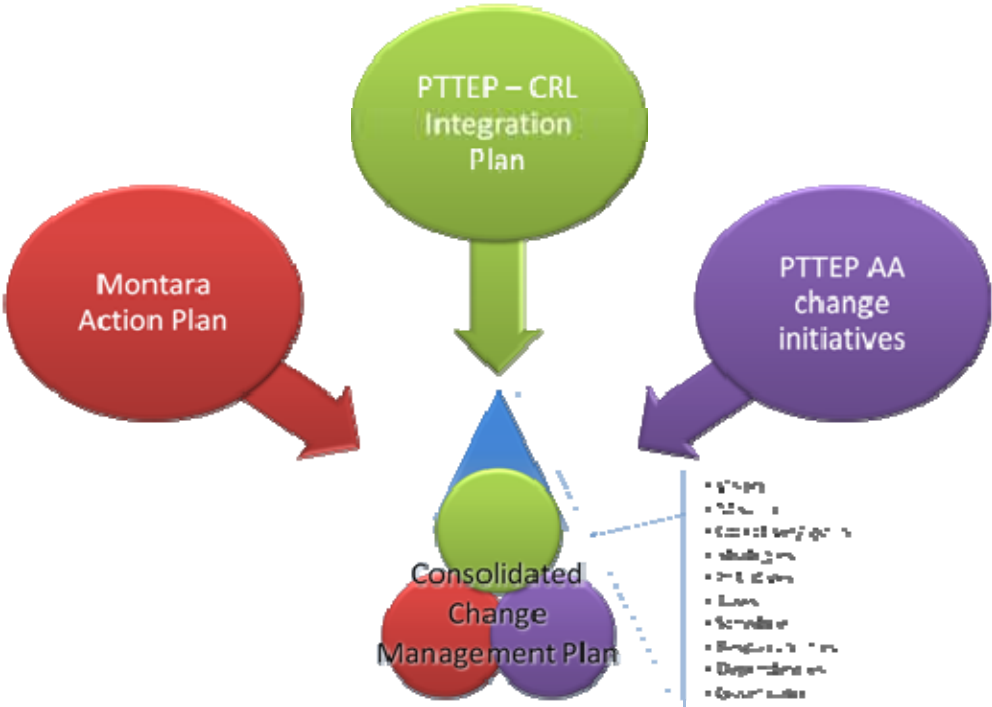
During Noetic's first engagement, PTTEP AA provided a number of documents that described all the change initiatives underway. These documents identified a number of change initiatives that were either planned or underway within one of the following three categories:

- + **Montara response initiatives:** initiatives planned or underway in response to the Montara Blowout (as documented in the *Montara Action Plan* (4 June 2010)).

- + **PTTEP – CRL Integration initiatives:** actions planned or underway under the auspice of the PTTEP – CRL Integration program (as documented in the PTTEP – CRL Integration Plan and other documents).
- + **PTTEP AA change initiatives:** actions planned or underway under the direction of PTTEP AA (such as the development of the Competency Management System).

With the exception of the Montara response initiatives, a number of documents were provided within each category. This meant there was no single document that collated all the initiatives planned or underway. PTTEP AA recognised that the absence of such a consolidated change planning or management document was not good practice. Noetic provided PTTEP AA with an illustration of the concept of how the various initiative and plans underway in PTTEP and PTTEP AA could be brought together into a consolidated change management plan (CCMP) (refer **Figure 3**)

Figure 3. Conceptual illustration of the elements of a consolidated change management plan.



Based on its discussions with Noetic, PTTEP AA strengthened its *Australia Strategy and Execution Plan*, which drew links between each level of planning and activity within the company. The *Australia Strategy and Execution Plan* identifies the vision, mission and headline goals and strategies for the company. This provides confidence that PTTEP AA will continue to enhance its ability to integrate its activities.

Finding

The *Australia Strategy and Execution Plan* provides confidence that PTTEP AA will continue to enhance its ability to integrate its activities.

4.3.4.2 CHANGE MANAGEMENT

Comprehensive and effectively coordinated management of change is observed in organisations that have good governance processes in place. This is because necessary parts of the organisation are involved in planning and implementation, roles are clearly defined and all aspects of change are identified. Importantly the vision, strategies and required actions for change are typically articulated in an overarching document.

PTTEP AA had indicated it was undertaking a substantial program of change and growth. These plans for growth are explored in the next section but can be summarised as substantial. This growth will occur at a time when the company is undertaking a significant integration program as well as directing resources to recover from the Montara Blowout, and respond to the outcomes of the MCI.

Given the scale and complexity of the exploration and production growth plans, combined with the organisational change occurring in PTTEP AA, it will be important for the company to develop and implement a comprehensive change management plan. PTTEP AA's change management plan should examine all elements of the organisation that will require change, including its people, processes and technology. Such a plan should be strongly overseen by individuals or governance bodies with real powers to make decisions and real accountabilities to stakeholders.

PTTEP AA was aware that without a comprehensive change plan, identifying all the change initiatives underway or planned, it would make it difficult for both PTTEP and PTTEP AA's management to gain and maintain a full appreciation of the effort and resources required to achieve the company's ambitions. In addressing change management, PTTEP AA developed the *Montara Action Plan, Draft B* (2 November 2010), which provides the context for the full suite of change initiatives underway across PTTEP AA, while the attached *Montara Action Plan, Rev 14* (29 October 2010) provides a comprehensive list of change actions. These documents, when combined with the *Australia Strategy and Execution Plan*, adequately identify the full spectrum of changes required to personnel, systems and technology. They contain information relevant to all parts of PTTEP AA's business.

Finding

The *Montara Action Plan, Draft B* (2 November 2010); the *Montara Action Plan, Rev 14* (29 October 2010) combined with the *Australia Strategy and Execution Plan* are comprehensive and adequately identify the full spectrum of changes required and contain information that is relevant to all parts of PTTEP AA's business.

4.3.5 PTTEP AA's Future Plans

This final sub-section of Noetic's findings relates specifically to PTTEP AA's plans for growth over the next 5 years. This section discusses the implications for these growth plans on PTTEP AA's ability to operate safely in Australia.

4.3.5.1 PTTEP AA'S GROWTH PLANS

An organisation that demonstrates good governance has the structures and processes in place that ensure management fully understands the scope and scale of future plans under consideration. This will mean that growth plans should consider implications for the organisation's people, systems/ business processes and technology/ hardware.

PTTEP AA has a significant growth program in Australia over the next five years that includes:

- + finalisation of the re-commissioning of Montara oil field operations;
- + enhancement and modernisation of current permits;
- + safely and economically decommissioning of Challis and Jabiru oil fields;
- + enhance PTTEP AA's ability to explore, develop and sanction projects; and
- + aligning Australia's growth strategy to ensure it is better able to achieve PTTEP's 2020 production targets.

The 'PTTEP AA 2010 and 5-year Work Plan'³¹ provides substantial detail on how these production and commercial targets will be reached. Additional documentation details drilling schedules, (hydrocarbon) resource strategies and risk assessments.

PTTEP AA's growth plans within Australia represent additional challenges that are generated by the need to incorporate large numbers of personnel into a changing organisation. These challenges, while potentially posing a risk to PTTEP AA's ability to meet its five-year work plan can be managed through comprehensive and mature governance arrangements.

Finding

PTTEP AA has demonstrated it is committed to long-term operation within Australia. The growth plans that PTTEP AA has identified for the next five years can be successfully realised through the successful implementation of the *Montara Action Plan, Rev 14* (29 October 2010) and the *Australia Strategy and Execution Plan* Action Plan and other integration plans that have been noted in this report.

³¹ Memorandum #154527 from PTTEP AA CEO on 9 September 2010.

4.4 Analysis of Findings

The Governance Review has found that PTTEP AA has identified the point solutions necessary to address the technical issues that led to the Montara Blowout. These point solutions, which address problems with well barrier integrity and drilling management systems, are identified in PTTEP AA's *Montara Action Plan* (4 June 2010). The *Montara Action Plan* (4 June 2010) also identified point solutions that address problems in PTTEP AA's contracts and document management, industry liaison, organisation and personnel, training and competence and environmental management standards and corporate oversight/ lessons learned. However, these point solutions did not identify how they contributed to PTTEP AA's broader vision, mission, objectives and strategies. The *Montara Action Plan* (4 June 2010) did not recognise the importance of ensuring the governance relationship between PTTEP and PTTEP AA was explicitly clear.

During its engagement with Noetic, PTTEP AA was able to identify a series of change initiatives that will address some of the organisational issues highlighted in the MCI Report. These initiatives were described in the *PTTEP – CRL Integration Plan*, and in other improvement plans underway within PTTEP AA. However, the linkage between these change initiatives and how they contributed to PTTEP AA's overall vision was unclear. In addition there was no single document that had been prepared that linked together all of these change initiatives (including the initiatives within the *Montara Action Plan* (4 June 2010)).

Subsequent to its formal engagement with Noetic, and PTTEP AA has developed plans to address these deficiencies. In this regard, Noetic can advise that PTTEP AA has amended its *Montara Action Plan* and recognised the importance and priority in clarifying its corporate governance and planning frameworks. PTTEP AA has also consolidated its plans into a single change management document, which tie together all change initiatives, and their strategic context.

These changes provide Noetic with confidence that PTTEP AA has a comprehensive plan to achieve a governance framework consistent with good industry practice. However, plans are only valuable if implemented successfully. All of PTTEP AA's planned improvements will take time to implement. The **quality of the implementation** will determine the effectiveness of the measures.

Consequently, Noetic believes that there remains a need for the Australian Government to monitor implementation of these improvements before it can be fully assured that PTTEP AA will operate safely and responsibly in the future.

5 LESSONS FOR INDUSTRY

In addition to the specific findings and recommendations made regarding PTTEP AA, Noetic has identified a series of lessons arising from the Montara incident that potentially have relevance to the oil and gas industry. The lessons address themes within the acquisition and integration of production assets; and governance and oversight.

The literature on MAEs suggests that although each MAE is different in relation to the detail of their causation, they exhibit similar characteristics. Dr Tony Barrell, formerly Chief Executive Officer of the UK Health and Safety Executive's Offshore Safety Division, who led the development of the regulatory response to the 1988 Piper Alpha disaster, has observed:

*'...there is an awful sameness about these incidents...they are nearly always characterised by lack of forethought and lack of analysis and nearly always the problem comes down to poor management, it is not just due to one particular person not following a procedure or doing something wrong..'*³²

Noetic believes that the Montara incident shares underlying (and organisational) causes similar to other MAEs. Consequently, we believe that there are few, if any, completely new lessons except perhaps at the detailed level. Given the large number of detailed findings and recommendations in the MCI Report, we have consciously chosen to focus on a smaller number of high level points (or '...overarching actions and activities..'). We also recognise that the recommendations from the various official inquiries underway in the United States of America into the Macondo Blowout in the Gulf of Mexico will most likely have an important influence on offshore petroleum safety globally and not just Australia.

We believe there are seven main recommendations that arise from this review's findings and conclusions:

- + Ensure **MAE education** is available for **leaders and managers** in the offshore petroleum industry (including MAE prevention and management techniques).
- + Provide guidance to leaders and managers on effective '**performance monitoring**' versus **auditing** strategies and techniques.
- + **Provide incident information quickly** to the industry and its workforce as soon as is practicable after an incident has occurred on what has happened.
- + **Increase the reporting and communication of high potential or significant incidents** and near misses so that the lessons learnt can be applied by others before major incidents occur.
- + **Review the training courses available for personnel making judgments on the safety of well operations** to ascertain whether they provide sufficient theoretical and practical knowledge to ensure safe operations.
- + Ensure **mergers and acquisitions** are undertaken thoroughly with adequate **due diligence** processes and **integration of acquisitions**.
- + Ensure the **integration health, safety and environment** into corporate-level planning.

³² 'Spiral to Disaster', BBC Television.

- + Improving **governance and oversight** in the industry by highlighting the benefits of **advisory boards**.

These recommendations will now be expanded upon in order.

5.1 MAE education for leaders and managers

The offshore oil and gas industry has made impressive improvements in 'personal' safety. However, the techniques for managing 'personal' safety, such as behavioural safety techniques and the typical metrics used, such as lagging measures of injury rates, are not relevant to MAEs.

These two distinct types of 'safety' require preventive strategies with differing emphases. MAE prevention requires an explicit focus on the management systems, leadership behaviours and culture of the organisation. This is because prevention depends on much more than the acts or omission of one person and requires significant managerial and leadership attention to focus on MAE prevention. It also presupposes that the senior leaders of the organisation are familiar with the distinction between personal safety and major accident events and the techniques for the prevention of MAEs.

Action

DRET should work with industry and the Australian Petroleum Production and Exploration Association (APPEA) to develop programs to ensure greater understanding of MAE include causes, prevention and management.

5.2 Performance monitoring and auditing

This Report identified that there was an apparent lack of understanding between active performance monitoring and auditing within PTTEP AA. This lack of clarity in the organisation's policies may stem from a lack of understanding among senior executive personnel.

In Noetic's experience the term 'audit' is often used to mean 'monitoring,' in the petroleum exploration and production industry. This is an inaccurate use of the term in the context of health, safety and environment management systems. Auditing is generally defined as a checking process by people who are (to a greater or lesser extent) *independent* of the facility, location or process being checked. 'Monitoring' or 'Performance Monitoring' is the process of *line* personnel routinely checking that their subordinates are effectively implementing the specified policies, procedures and risk controls. This is not an academic distinction.

If this lack of clarity is common within the petroleum exploration and production industry, it may be leading to an inadequate emphasis on active (and therefore effective) performance monitoring. The widespread understanding of the importance of active monitoring at all levels of an organisation would appear to be critical to minimising the likelihood of MAE.

'Monitoring' or 'Performance monitoring' is a feature of all credible management systems not just in connection with health, safety and environment management systems and is a feature of the safety management models set out in the IADC HSE Guidelines, the Chevron Operational Excellence Management System, and by regulators. It is therefore recommended that DRET work with industry and APPEA to ensure that the strategies and techniques of performance monitoring are well understood.

Action

DRET should work with APPEA and other industry bodies to ensure senior executives in the industry clearly understand the distinction between auditing and performance monitoring.

5.3 Providing incident information quickly

Until the release of the MCI Report on 24 November 2010, there was no authoritative source of information on the Montara Blowout for almost 12 months (apart from the transcripts of evidence). This period seems too long to allow for the industry promptly identify lessons and develop a response. While legal liability may be cited by regulators and companies as a reason for not publishing material earlier, efforts need to be made to ensure information is made available in a more timely manner.

Action

DRET should work with the industry to identify mechanism to publish factual reports as soon as possible after an incident to assist others engaged in similar activities or using similar equipment to avoid an incident.

5.4 Increase the reporting of high potential or significant incidents

There is a need to ensure that significant incidents related to MAEs, such as the failure of critical controls or barriers, are reported and shared with others. There is anecdotal evidence to suggest that there is only patchy reporting of high potential incidents, and that this may be linked to legal liability concerns.

Action

DRET should work with industry and APPEA to develop mechanisms to share information on high potential incidents.

5.5 Review the training available for personnel making judgments on the safety of well operations

Many personnel working in drilling 'come up through the ranks'. There are advantages in this but this practical experience needs to be supplemented by training typically in 'well control'. Given the MCI Report and the evidence given at the MCI, the adequacy of the existing training should be reviewed and modified as required.

Action

DRET work with industry and APPEA to enhance the training available to personnel involved in well operations.

5.6 Mergers and Acquisitions

5.6.1 Due Diligence

PTTEP AA identified that it had undertaken a due diligence investigation of CRL prior to acquisition. However, interviews with key personnel and transcripts from the MCI indicate that the implementation of SSHE arrangements on the Montara WHP were not adequate when the Blowout occurred. It would appear that PTTEP was unaware of the

relatively poor state of SSHE on the Montara WHP when it was acquired. This raises important questions regarding the comprehensiveness of PTTEP's due diligence process, in particular the need to include SSHE as part of this process.

There are valuable lessons that industry can draw from PTTEP's experience in acquiring CRL to ensure similar issues are not encountered in the future by others in the industry. The due diligence process undertaken by companies should include all elements of the target's HSE including HSE policies and procedures, HSE performance, safety culture and related issues.

Due diligence of HSE -type policies and procedures should consider, at a minimum, the completeness and efficacy of safety practices at an operational level. Acquiring companies might consider independent verification that operational risks have been adequately identified, and that controls are being effectively implemented, maintained and monitored. Any issues highlighted in the company being acquired should be given suitable weight in decision making alongside financial considerations.

Action

DRET should consider working with the Australian Petroleum Production and Exploration Association (APPEA) to promote and educate industry on matters relating to good practice in undertaking due diligence around safety, health and environment.

5.6.2 Integration of Acquisitions

PTTEP AA provided a summary of its *PTTEP – CRL Implementation Plan*, which highlighted the following focus areas:

- + strategy: integrate Australia into PTTEP country strategies;
- + deal closing: ensure on-time/early closure;
- + human resources: screen core people and retain pivotal positions;
- + project management: ensure Montara project delivery;
- + finance and accounting: monitor and approve key financial decisions; and
- + communication: shape all key stakeholders views toward collaboration.³³

In establishing the integration team charters, PTTEP set the objective to 'ensure nothing is forgotten'. However, it is apparent from the summary of focus areas described above, that specific consideration was not given to HSE as part of the *PTTEP – CRL Implementation Plan*.

In the discontinuous management environment that can follow a merger or acquisition, there is an increased risk of safety incidents and major accident events occurring due to uncertainty of management and reporting requirements. Particularly where pre-existing management arrangements are being replaced or integrated, there is increased chance of incidents or major accidents occurring during the transition phase. The integration of HSE arrangements should be explicitly planned for as part of the take-over/ merger process.

An integration/change management plan should be developed that deals with both the structural and human elements of systems integration, ensuring that the emphasis on safety, active monitoring and good governance is not obscured during the transition phase.

³³ *PTTEP – CRL Implementation Plan*

Action

DRET should consider working with APPEA to promote and educate industry on matters relating to good practice in dealing with asset integration to ensure asset integrity following acquisition.

5.7 Integration of Health Safety and Environment

This Report and the MCI Report highlights a number of inadequacies within PTTEP AA that indicate SSHE-related concerns were not adequately considered in everyday operations and management considerations. It is likely this occurred because SSHE-related issues were not integrated into the corporate planning and strategies. This omission in corporate level strategic planning may also occur in other small- to mid-tier companies in the industry.

DRET could work with APPEA to determine if HSE issues are adequately integrated into corporate-level strategic planning in other small- to mid-tier companies. If the problem is common, DRET and APPEA could identify initiatives to ensure small- to mid-tier companies are considering HSE issues at all levels of their organisations.

Action

DRET should work with APPEA to improve the ability of mid to small tier companies to incorporate HSE issues into corporate planning frameworks.

5.8 Governance and Oversight

5.8.1 Advisory Boards

This Report highlights that PTTEP did not understand fully the culture within CRL when it was acquired. It also highlights that PTTEP did not establish sufficient governance arrangements to ensure PTTEP AA was operating in accordance with good oil field practice in Australia. These two failures may be, in part, a result of PTTEP's inadequate appreciation of the operating environment within Australia. This situation may not be unique to PTTEP and could have applied to any other international petroleum exploration and production company looking to establish a presence in Australia.

In these situations, it is important for foreign-owned or multi-national companies to ensure they understand the local regulatory environment, labour market, community and workplace culture and other local factors that may influence local operation. This 'local knowledge' could be acquired by the multi-national by establishing an advisory board. The advisory board would provide both the parent company and local senior management with opportunity to seek external advice on safety related issues that take into account local conditions.

Action

DRET should work with APPEA to provide advice to industry on the use of advisory boards to enhance safety, health and environmental outcomes.

6 CONCLUSION

The conduct of the Technical Review and the Governance Review, involved an extensive review of documentation provided by PTTEP AA, including its *Montara Action Plan*. The reviews also included engagement with both PTTEP and PTTEP AA personnel in Perth. Throughout the review process, PTTEP AA demonstrated a willingness to engage in a positive manner with Noetic.

PTTEP AA's initial *Montara Action Plan* (4 June 2010) was necessary in that it addressed the majority of technical issues identified through the MCI. However, the initial *Montara Action Plan* (4 June 2010) was insufficient as it did not address many of the systemic and governance issues that led to the Montara Blowout.

Subsequent versions of the *Montara Action Plan* contained the initiatives required to address technical, systemic and governance issues that arose from the Montara Blowout and MCI. The revised *Montara Action Plan* now articulates a comprehensive change management program that will assist PTTEP AA to meet industry good practice. Crucially, PTTEP AA has also recognised the need to address the lack of clarity in the governance arrangements between PTTEP and PTTEP AA. PTTEP AA's CEO has assured Noetic these governance issues will be resolved as a matter of priority.

At this (early) stage of PTTEP AA's change process, Noetic has only been able to examine the company's intent and the comprehensiveness of its plans for change. To this end, Noetic is satisfied that PTTEP AA has a plan that **effectively responds to the issues raised in the MCI** and importantly the plan sets the company on the path to **achieving industry standards for both good oilfield practice and good governance**. However, the success of PTTEP AA's program for change will **depend entirely on the quality of execution**.

PTTEP AA's plans for change are extensive. The benefits of the changes will require up to 18 months to be realised.

PTTEP AA has clearly identified its commitment and capacity to implementing its change program. However, to ensure the effective implementation of the *Montara Action Plan*, the Australian Government should instigate a monitoring program. Noetic understands that the MCI Report recommends the Minister undertake a review of PTTEP AA's licence to operate under the *Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2006*. Noetic notes that the scope of the independent review does not include commenting on this recommendation. However, we understand that this is one avenue that the Minister is able to use in order to seek assurance on the quality of the implementation of the *Montara Action Plan* by PTTEP AA. Noetic also notes that the Minister has the option to monitor directly PTTEP AA's implementation of the *Montara Action Plan*, through the appropriate regulators, directly by DRET through a regime of follow-up reviews, or through a combination of both.

ANNEX A: LIST OF ACRONYMS AND ABBREVIATIONS

Acronym or abbreviation	Long form	Notes
AM	Member of the Order of Australia	
APPEA	Australian Petroleum Production and Exploration Association	
BOP	blowout preventers	
CEO	Chief Executive Officer	
Commonwealth	Commonwealth of Australia	Used interchangeably with Australian Government in this Report
CMS	Competency management system	
CRL	Coogee Resources Limited	Acquired by PTTEP in February 2009.
DRET	Department of Resources, Energy and Tourism	Australian Government Department
HSE	health, safety and environment	Referred to as SSHE in PTTEP
JV	Joint venture	
KPI(s)	Key performance indicator(s)	
MAE	Major accident event	
MAPSC	<i>Montara Action Plan</i> Steering Committee	
MCI	Montara Commission of Inquiry	Established by the Australian Government pursuant to the <i>Royal Commission Act 1902</i> .
MP	Member of Parliament	
Noetic	Noetic Solutions Pty Limited	
Minister, the	Minister for Resources and Energy	Minister of the Commonwealth of Australia
NOPSA	National Offshore Petroleum Safety Authority	Australian Government agency
PTT	PTT Public Company Limited	Formerly known as the Petroleum Authority of Thailand.
PTTEP	PTT Exploration and Production Company Limited	Majority owned by PTT.
PTTEP AA	PTTEP Australasia	A subsidiary of PTTEP. Also referred to as PTTEP Australasian Asset or PTTEP Australasia. Incorporates PTTEP Australia Pty Ltd, PTTEP Australia Offshore Pty Ltd, PTTEP Australia Perth Pty Ltd, PTTEP Australia Timor Sea Pty Ltd, PTTEP Australasia (Ashmore Cartier) Pty Ltd, PTTEP Australia Browse Basin Pty Ltd, PTTEP Australasia Pty Ltd, PTTEP Australasia (Petroleum) Pty Ltd, and PTTEP Australasia (Operations) Pty Ltd.
SSHE	security, safety, health and environment	Equivalent to HSE
WHP	wellhead platform	

ANNEX B: INTERVIEWED PERSONNEL

Name	Position Title	Department, Company
Dr Chalermkiat Tongtaow	Chief Executive Officer	PTTEP Australasia
Mr David John	SSHE Advisor	Safety, Security, Health Environment Department PTTEP
Mr Andy Jacob	Chief Operations Officer	PTTEP Australasia
Mr Pasook Eagark	Drilling and Well Service Manager	PTTEP Australasia
Mr Dan Dunne	SSHE Manager	PTTEP Australasia
Sorasan Milindasuta	Business Services Manager	PTTEP Australasia

ANNEX C: DOCUMENTS REVIEWED

Publication Date	Publication Title	Author Organisation
2003	Principles of Conduct	Australian Petroleum Production and Exploration Association
2005	Integrity Management: Learning From Past Major Industrial Incidents. Booklet fourteen.	BP
2005	Safety, Culture and Risk	CCH Australia Limited
2006	Developing process safety indicators	Health and Safety Executive (UK)
2007	Corporate Governance Principles and Recommendations with 2010 Amendments	ASX Corporate Governance Council
2007	Operational Excellence	Chevron Corporation
2007	The Report of the PM US Refineries Independent Safety Review Panel	Independent Safety Review Panel
2008	Code of Environmental Practice	Australian Petroleum Production and Exploration Association
2009	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units	International Association of Drilling Contractors
2009	Managing the Risks of Organizational Accidents	
25 Mar 2003	Creating a New Offshore Petroleum Safety Regulator	Australian Government Department of Industry, Tourism and Resources
Jan 2006	McKinsey Coogee Integration Plan V5 Jan 06	McKinsey
Oct 2006	Montara Development: Schedule of Quality, Validation and Equipment Critically Requirements	Coogee Resources
Oct 2008	Safety Security Health and Environment Management System	PTTEP
Dec 2008	Asset integrity - the key to managing major risks	International Association of Oil and Gas Producers
Dec 2008	SSHE MS.S.01 Plan Management Standard	PTTEP
Dec 2008	SSHE MS.S.06 Document Management Standard	PTTEP AA
Mar 2009	SSHE MS.S.11 Security Management Standard	PTTEP

(continued)

Publication Date	Publication Title	Author Organisation
Apr 2009	SSHE MS.S.08 Asset Integrity Management Standard	PTTEP
Jun 2009	SSHE MS.S.09 Management of Change Standard	PTTEP
Jun 2009	SSHE MS.S.15 Audit and Review Standard	PTTEP
Jul 2009	SSHE MS.S.02 Training & Competence Standard	PTTEP
Jul 2009	SSHE MS.S.07 Risk Management Standard	PTTEP
Jul 2009	SSHE MS.S.12 Performance Management Standard	PTTEP
Aug 2009	SSHE MS.S.04 Regulatory Compliance Standard	PTTEP
Oct 2009	SSHE MS.S.14 Incident Management Standard	PTTEP
Nov 2009	SSHE MS.S.10 Emergency and Crisis Management Standard	PTTEP
9 Nov 2009	Initiatives Charter - PTTEP AA 1 Integration - 9 Nov 09	PTTEP AA
Dec 2009	SSHE MS.S.13 Behaviour -Based Safety	PTTEP
Jan 2010	Production Operations Monthly HSE Report	PTTEP
15 Jan 2010	PTTEP Organisation Structure	PTTEP AA
15 Jan 2010	PTTEP Organisation Structure	PTTEP
Feb 2010	Production Operations Monthly SHE Report	PTTEP
Feb 2010	SSHE MS.S.03 Contractor Management Standard	PTTEP
Feb 2010	SSHE MS.S.05 Communication Standard	PTTEP

(continued)

Publication Date	Publication Title	Author Organisation
16 Feb 2010	Montara HI ST1 Well Release Incident - Report on action to prevent re-occurrence	PTTEP AA
Mar 2010	Production Operations Monthly SHE Report	PTTEP
Apr 2010	Delegation of Authority	PTTEP AA
1 Apr 2010	Minutes of Meeting: Monthly SSHE Review Meeting	
21 Apr 2010	Minutes of Meeting: Monthly SSHE Review Meeting	PTTEP
May 2010	Production Operations Monthly SHE Report	PTTEP
1 Jun 2010	Minutes of Meeting: Monthly SSHE Review Meeting	PTTEP
4 Jun 2010	Letter to Ho Minister Ferguson	PTT Exploration and Production Public Company Limited
4 Jun 2010	Letter to Minister Ferguson	PTTEP
10 Jun 2010	<i>Montara Action Plan</i> Steering Committee (charter)	PTTEP
17 Jun 2010	Report of the Montara Commission of Inquiry	Commonwealth of Australia
14 Jul 2010	Montara Well H1 ST1 Incident, 21 August 2009	PTTEP
16 Jul 2010	Job Competency Profile (JCP): Well Engineering	PTTEP
23 Jul 2010	Job Competency Profile (JCP): Drilling	PTTEP
23 Jul 2010	Technical Career Ladder - Drilling - Competency Criteria	PTTEP
26 Jul 2010	Minutes of Meeting: Monthly SSHE Review Meeting	PTTEP AA
Aug 2010	New Venture Process	PTTEP

(continued)

Publication Date	Publication Title	Author Organisation
Aug 2010	New Venture Process	PTTEP
Aug 2010	PTTEP AA Integration - August 2010 Report	PTTEP AA
4-Aug 2010	Drilling Interfaces Meeting	PTTEP AA
Sep 2010	Australia Assets Division Org Chart	PTTEP AA
Sep 2010	Drilling Department Org Chart	PTTEP AA
Sep 2010	International Assets Group Org Chart	PTTEP AA
4 Sep 2010	Parliament Steering Committee visit	PTTEP
9 Sep 2010	Montara Audit Program	PTTEP AA
9 Sep 2010	PTTEP AA 20101 and 5-year Work Plan	PTTEP AA
14 Sep 2010	PTTEP AA Drilling & Well Engineering Competency Assurance	PTTEP AA
21 Sep 2010	PTTEP Corporate Lessons Learned from Montara and Macondo	PTTEP AA
23 Sep 2010	Montara vs Macondo Comparison	PTTEP AA
27 Sep 2010	PTTEP AA Drilling & Well Engineering Competency Assurance: Weekly Meeting #2 - Project Team	PTTEP
28 Sep 2010	PTTEP AA Drilling & Well Services Organisation	PTTEP
5 Oct 2010	PTTEP <i>Montara Action Plan</i> (Draft A)	PTTEP AA

(continued)

Publication Date	Publication Title	Author Organisation
25 Oct 2010	Management Standard (V.4)	PTTEP
28 Oct 2010	Montara Action Plan, Rev 14 (Action list)	PTTEP
28 Oct 2010	PTTEP AA Australia Strategy and Execution Plan (Draft A)	PTTEP
29 Oct 2010	<i>Montara Action Plan</i> Timeline, Rev 3	PTTEP
Oct 1998	SSHE MS Management System Rev 1	PTTEP
28 Sep 2010	PTTEP AA Drilling & Well Services Organisation	PTTEP
(undated)	About PTTEP (Corporate Value)	PTTEP
(undated)	About PTTEP (Vision and Mission)	PTTEP
(undated)	PTTEP AA 2011 Drilling Campaign Drilling Integrated Project Planning & Execution (PREP Rev 6)	PTTEP
(undated)	PTTEP HQ – PTTEP AA Working Relations	PTTEP
(undated)	Well Engineering Standards (D41-502433-FACCOM)	PTTEP
2010	PTTEP AA is building its Governance System and is aligning with the Corporate Committees.	PTTEP
15 to 30 Mar 2010	Evidence	Montara Commission of Inquiry
31 Mar to 16 Apr 2010	Evidence	Montara Commission of Inquiry
9 Apr 2010	Evidence given	PTT
Mar – Aug 2009	PTTEP – CRL SSHE MS Integration	PTTEP

ANNEX D: CORPORATE PLANNING FRAMEWORK

The corporate planning framework described below is based on Noetic's expertise and experience in assisting a number of public sector and private sector organisations. It is based on our practical experience to develop of planning and implementation at the strategic, operational and tactical levels.

The **strategic level** includes:

- + **Vision.** This is a statement of end state an organisation wishes to achieve. The vision is typically aspirational and sits at the top of the planning framework. The vision may contain a time-specific end date.
- + **Mission.** This is a statement of the reason for the organisation's existence. A mission is ongoing for the duration that the organisation chooses.
- + **Values.** These describe the principles of operation that are important to the organisation. They provide guidance as to how an organisation will seek to achieve its vision and carry out its mission. Values should drive decisions at all levels and are ideally reflected in the behaviour of employees at all levels of the organisation. Values are not limited by time.
- + **Objectives or Goals.** These are high-level statements of what an organisation will aim to achieve in order to attain its vision and complete its mission. Objectives and goals can be specific to one part of an organisation or can apply across the whole organisation. Achievement of objectives or goals must be measurable either subjectively or objectively. Goals may be both finite and non-finite, meaning they can have an end date or be ongoing.

The **operational level** includes:

- + **Strategies.** They describe how the organisation is to achieve its objectives or goals. They emphasise the core themes that initiatives or programs of work are grouped under or contribute to. Strategies provide an explanation of why initiatives are being undertaken and how they will contribute to an organisation's mission and vision. Strategies will ideally reflect the values of an organisation. Strategies are not finite and may be applied on an on-going basis.

The **tactical level** includes:

- + **Initiatives or programs of work.** These must be undertaken and completed in order to realise the strategy and achieve the objective or goal. They implement the strategy and are typically assigned to individual managers who will be responsible for ensuring the initiatives or programs are completed. Initiatives are usually finite, with a specific end date.
- + **Individual tasks.** These are activity items that form part of an initiative or program of work. They are usually undertaken by individuals or small teams, depending on their complexity. Individual tasks may include development of tools, production documents, maintenance activities or monitoring activities and all activities needed to implement strategies. Individual tasks are finite with an end date.
- + **Sub-tasks.** These break-down individual tasks into even smaller tasks. They are typically undertaken by an individual who forms part of a team. There may be several levels of sub-tasks underneath sub-tasks. Sub tasks are finite with an end date.

ANNEX E: PERSONNEL PARTICIPATING IN *MONTARA ACTION PLAN* STEERING COMMITTEE MEETINGS

Table 6. Montara Action Plan Steering Committee Members³⁴

Name	Position	Base Location
Dr Somporn Vongvuthipornchai (Chair)	Executive Vice President, International Assets Group	Bangkok
Mr Somchai Manopinives	Senior Vice President, Operations Support Division	Bangkok
Mr Jirapong Dharaphop	Vice President, Safety, Security, Health and Environment Department	Bangkok
Mr Christopher Pungya Kalnin	Advisor to Chief Executive Officer's	Bangkok
Mr David John	SSHE Advisor Implementation Manager and Committee Secretary	Bangkok
Dr Chalermkiat Tongtaow	Chief Executive Officer, PTTEP AA	Perth
Andy Jacob	Chief Operation Officer, PTTEP AA	Perth

Table 7. Other Montara Action Plan Steering Committee participants³⁵

Name	Position	Base Location
Mr Pramote Phloi-montri	Acting EOP	Bangkok
Jose Martins	Chief Finance Officer	Perth
Mr Vanruedee	International Assets Group	Bangkok
Mr Janpen	International Assets Group	Bangkok
Mr Preecha	International Assets Group	Bangkok

³⁴ As noted in Memorandum from PTTEP CEO dated 10 June 2010.

³⁵ As noted from Minutes from MAPSC from 10 June to 14 September 2010.

ENCLOSURE 1: TERMS OF REFERENCE – TECHNICAL REVIEW

1 Statement of Requirements

1.1 The Department's Requirements

1.1.1 Scope for Consultancy: Review of PTTEP Australasia Action Plan³⁶

The Commonwealth Minister for Resources and Energy, the Hon Martin Ferguson AM MP, has tasked the Department of Resources, Energy and Tourism (Department) with commissioning an independent review of the PTTEP Australasia (PTTEP AA) Action Plan.

The Action Plan was developed by PTTEP AA, with the assistance of its parent company PTTEP, prior to the finalisation of the Report of the Montara Commission of Inquiry. The Montara Commission of Inquiry was commissioned by the Minister in November 2009 immediately after the uncontrolled release of hydrocarbons from PTTEP AA's Montara Wellhead Platform in the Timor Sea.

The Action Plan details how PTTEP proposes to substantially transform their offshore petroleum operations and management to bring PTTEP AA in line with industry best practice requirements and fully leverage the resources, experience and capabilities of PTTEP to meet industry compliance standards.

The intent of the independent review is to provide the Australian Government with sufficient assurance that the Action Plan will address the learnings from the Montara Commission of Inquiry and that PTTEP AA's identified operational measures meet industry best practice requirements.

The review of the Action Plan will be principally undertaken by an independent petroleum industry expert, with a supporting audit of the governance structures of PTTEP AA to be performed by an accredited auditor. Legal support will be provided both in terms of general oversight of the review process and to ensure that all legal issues are considered, with supporting legal advice as appropriate, in the course of the industry expert's review.

1.1.2 Purpose of consultancy: industry expert

To undertake a technical review of the PTTEP AA Action Plan in support of the Australian Government's objective of facilitating the development of the 'best and safest offshore petroleum industry in the world'.

The review will:

- (i) consider if the Action Plan adequately addresses the issues identified by the Montara Commission of Inquiry, and if not, gaps are to be identified with recommended options to address them as appropriate;
- (ii) consider if the measures to be implemented in regards to PTTEP AA's operations and management processes and procedures reflect industry best practice, and if not, those actions are to be identified, with recommended options as appropriate;

³⁶ The 'Action Plan' referred to in this Terms of Reference is the *Montara Action Plan* referred to in the body of the Report to which this document is annexed.

- (iii) consider PTTEP AA's progress against, and timeliness for, implementation of the Action Plan; and
- (iv) suggest possible conditions and/or mechanisms that the Australian Government may place on PTTEP AA to assure it that the Action Plan is being implemented and that PTTEP AA operations reflect industry best practice.

This will require specific analysis of the well management systems and processes put in place by PTTEP AA at the Montara Wellhead Platform (and elsewhere) to determine whether these systems and processes are in accordance with industry best practice and compliance monitoring standards.

The successful supplier will have detailed practical knowledge of petroleum industry procedures and processes in respect of offshore petroleum well operations and management, with a sound knowledge of industry best practice and accepted regulatory standards for offshore petroleum operations. Detailed technical knowledge of well drilling techniques is not a specific requirement of the consultancy.

1.1.3 Required Outcomes

In light of the criteria outlined above at (i) to (iv), the industry expert will be required to provide a report to the Department which addresses the following outcomes:

1. Investigate the actions and activities contained in the PTTEP AA Action Plan with a view of ascertaining:
 - a. whether these actions and activities are adequate to address the issues identified by the Montara Commission of Inquiry and the Report of the Montara Commission of Inquiry; and
 - b. whether these actions and activities represent industry best practice.

This will require an analysis of PTTEP AA's actions against the Action Plan and consideration of PTTEP AA's existing operating standards, technical practice procedures and protocols, training methods, policy framework and governance framework. The industry expert will also consider the methods identified by PTTEP AA to ensure continuous improvement in these areas.

2. Recommend overarching actions and activities, arising from their understanding of the issues/ learnings/ process and procedures of industry identified by the Montara Commission of Inquiry in relation to industry best practice that may be leveraged to support growth and training in the broader offshore petroleum industry.

ENCLOSURE 2: TERMS OF REFERENCE – GOVERNANCE REVIEW

1 Statement of Requirements

1.1 The Department's Requirements

1.1.1 Scope for Consultancy: Review of PTTEP Australasia Action Plan³⁷

The Commonwealth Minister for Resources and Energy, the Hon Martin Ferguson AM MP, has tasked the Department of Resources, Energy and Tourism (Department) with commissioning an independent review of the PTTEP Australasia (PTTEP AA) Action Plan.

The Action Plan was developed by PTTEP AA, with the assistance of its parent company PTTEP, prior to the finalisation of the Report of the Montara Commission of Inquiry. The Montara Commission of Inquiry was commissioned by the Minister in November 2009 immediately after the uncontrolled release of hydrocarbons from PTTEP AA's Montara Wellhead Platform in the Timor Sea.

The Action Plan details how PTTEP proposes to substantially transform their offshore petroleum operations and management to bring PTTEP AA in line with industry best practice requirements and fully leverage the resources, experience and capabilities of PTTEP to meet industry compliance standards.

The intent of the independent review is to provide the Australian Government with sufficient assurance that the Action Plan will address the learnings from the Montara Commission of Inquiry and that PTTEP AA's identified governance structure meets industry best practice requirements.

The review of the Action Plan will be principally undertaken by an independent petroleum industry expert, with support from an auditor. The auditor will focus specifically on the governance structure of PTTEP AA. The industry expert and auditor will work cooperatively in undertaking the review.

Legal support will be provided both in terms of general oversight of the review process and to ensure that all legal issues are considered, with supporting legal advice as appropriate, in the course of the review.

1.1.2 Purpose of consultancy: auditor

To undertake an audit of the PTTEP Action Plan and PTTEP AA governance structure to ensure their appropriateness and adequacy for addressing systemically the findings of the Montara Commission of Inquiry.

The review of the Action Plan will:

- (i) consider if the Action Plan adequately addresses the issues identified by the Montara Commission of Inquiry, and if not, gaps are to be identified with recommended options to address them as appropriate;

³⁷ The 'Action Plan' referred to in this Terms of Reference is the *Montara Action Plan* referred to in the body of the Report to which this document is annexed.

- (ii) consider if the measures to be implemented in regards to PTTEP AA's operations and management processes and procedures reflect industry best practice, and if not, those actions are to be identified, with recommended options as appropriate;
- (iii) consider PTTEP AA's progress against, and timeliness for, implementation of the Action Plan; and
- (iv) suggest possible conditions and/or mechanisms that the Australian Government may place on PTTEP AA to assure it that the Action Plan is being implemented and that PTTEP AA operations reflect industry best practice.

1.1.3 Required Outcomes

In light of the criteria outlined above at (i) to (iv), the auditor will be required to:

1. Undertake an audit of PTTEP AA's governance structure, operating policy and review procedures, including procedures to implement change and continuous improvement, with a view of ascertaining whether they are appropriate and adequate to address the issues identified through the Montara Commission of Inquiry and the Report of the Montara Commission of Inquiry.
2. Undertake an audit of PTTEP AA's systems and processes for the implementation of review activities under the PTTEP Action Plan.

This will require an analysis of PTTEP AA's actions against the Action Plan and consideration of PTTEP AA's existing operating standards, training methods, policy framework and governance framework. The auditor will also consider the methods identified by PTTEP AA to ensure continuous improvement in these areas.

ENCLOSURE 3: INITIAL REPORT AND KEY ISSUES SUMMARY

Summary

PTTEP AA's *Montara Action Plan* outlines how the company planned to address the expected findings of the MCI. A review of the *Montara Action Plan* identified that the majority of the actions it contained were concerned with improving future drilling operations by improving the PTTEP AA Drilling Management System. These improvements are necessary and important, but in our view, insufficiently address the root causes of the Montara Blowout.

Our reasoning for this is that while significant improvements to drilling practices are required, significant improvements are also required at the organisational level. This is because the drilling activities take place within an organisational context, which the MCI Report found to be unsatisfactory.

While PTTEP AA's *Montara Action Plan* identified some organisational improvements, they received less detail and prominence than well management issues. Additionally, some improvements, which we believe are needed appear to be absent.

As we have set out below, from our reading of the MIC Report, the Montara Blowout is a classic 'organisational incident' and actions to prevent a recurrence need to be explicitly targeted at this the organisational level as well as the detailed drilling practices. Further discussion on the nature of organisational accidents, the key issues and the approach we have taken to identifying them, is in the following sections.

Difficulties with Assessing the Action Plan

As we have mentioned above, the *Montara Action Plan* contained little we could authoritatively judge in a desk top review without access to supporting documents and the personnel responsible for developing and implementing the planned actions. For example the nature of the '...strengthened ...drilling organization,' referred to in PTTEP AA's letter of 4 June 2010 was not described in the *Montara Action Plan* nor was the 'enhanced reporting and review management process' (see page 2 PTTEP AA's letter of 4 June 2010). By contrast, there were 74 actions identified in Appendix 1 of the *Montara Action Plan* in relation to improving the PTTEP AA Drilling Management System.

Background to our Approach to Identifying Key Issues

Accidents in the oil and gas industry can be looked at in two different ways, personal safety and major accident events. Firstly, 'personal safety' refers to incidents which typically involve one person of which most are slips and trips, minor machinery incidents, falling off a ladder and so on. They are typically measured using lagging indicators such as loss time incident rates (LTIFR) or a similar measure. Secondly, major accident events (MAEs), such as the Montara Blowout, refer to those low probability but high consequence events which although very rare can have disastrous consequences in terms of loss of life, environmental, asset and hence value destruction. Traditional safety measures such as LTIFR are irrelevant as a measure of these sorts of low probability but high consequence events. These two 'types' of safety require different approaches.

Personal Safety and Major Accident Events – Different Approaches

MAEs in the oil and gas industry are often associated with a loss of containment of hazardous substances, such as toxic or flammable materials from the well or process plant, which can result in serious fires and explosions. In the

petrochemical industries they are also referred to as 'process safety' events. Examples of these types of major accident events are the Piper Alpha fire and explosion in the North Sea, the BP Texas City explosion in the US, and the Esso Longford Gas plant explosion. The Montara Blowout was an MAE.

Our experience, as well as the literature on MAEs, strongly suggests there is no correlation between a good personal safety performance (as measured by loss time injury rates or similar measures) and the risk of MAEs. Companies with excellent personal safety records have suffered disastrous MAEs. Conversely, companies with poor personal safety records may also have a poor process safety performance.

These two distinct types of 'safety' require preventive strategies with differing emphases. In particular, to prevent MAEs, an explicit focus on the management systems, leadership behaviours and culture of the organisation is required. This is because prevention depends on much more than the acts or omissions of one person and requires significant managerial and leadership attention to focus on MAE prevention. It also presupposes that the senior leaders of the organisation are familiar with the distinction between personal safety and major accident events and the techniques for the prevention of MAEs.

Issues Identified by the Montara Commission of Inquiry

The MCI comments that there were 'many deficiencies in [PTTEP AA's] practices and corporate culture,' (section 7.75), and these shortcomings were described in the Executive Summary of the MIC Report as 'widespread and systemic'. Based on our experience of reviewing MAEs in both the offshore oil and gas industry and other so called 'major hazard' sectors, this is not unusual. MAEs are usually multi-causal, with the immediate or 'proximate' causes representing the final risk control that failed amongst other more systematic organisational failures.

Generally, some risk controls have deteriorated or failed gradually over time. In addition, in the offshore oil and gas industry there is an inevitable barrier to communications due to the onshore/ offshore divide. Often this divide is compounded by the multi-national nature of an industry. In this situation it is common for the organisational level risk-controls (or barriers to incidents) to be managed remotely from the scene of the operational activity by senior managers onshore (or who are frequently in another country). High quality communications are essential to overcome this issue. Inadequate communications or management of competency issues are examples of the 'organisational causes' of incidents.

In summary, in addition to the immediate or proximate technical causes of MAEs, there are usually a variety of management system, leadership and cultural shortcomings. These shortcomings provide the environment in which the immediate or proximate causes exist. It is our analysis that these shortcomings are the ultimate cause in the Montara Blow out. Therefore the organisational causes of MAEs must be addressed by PTTEP AA if MAEs are to be prevented in the future.

Identifying key issues

Noetic has approached the identification of the 'key issues' by reviewing the MCI Report and MCI evidence and by grouping the findings into themes. The themes were constructed by identifying findings with common underlying contributory causes (e.g. 'insufficient competence' or 'inadequate communications'). For example Finding 9 is concerned with the testing of the cemented shoe and the failure to follow the Well Construction Standard (WCS). At the time of the incident, PTTEP AA onshore management were not aware of the failure to follow WCS. Finding 16 relates to the failure to install a pressure corrosion control cap (PCCC). Again PTTEP AA onshore managers were not aware of the failure to install the PCCC. These two examples strongly suggest there was insufficient oversight (or 'performance monitoring') by managers at the time of the Blowout.

Comparison with an HSE Management System

In addition to using our own expertise in oil and gas health and safety environment (HSE) issues, Noetic has also examined the MCI Report from the perspective of the International Association of Drilling Contractors (IADC) HSE Case Guidelines, a highly regarded HSE system. This approach will assist us to examine where the emphasis was placed in the *Montara Action Plan* compared with a widely accepted model of a safety management system to help identify apparent gaps.

According to the 3.2 version of the IADC HSE Case Guidelines, a management system can be defined as a structured set of elements (independent principles and processes) intended to ensure the operations of an organisation are directed, planned, conducted and controlled in such a way as to provide assurance that the objectives of the organisation are met.

Many detailed and important activities in the *Montara Action Plan* need to take place within an organisational environment, which is as well equipped as possible to ensure that the actions are discharged effectively and reliably. Current good practice would expect this environment to include an HSE management system, which includes all the essential elements of a recognised HSE management system.

IADC Guidance on HSE Cases

We have used the IADC HSE Case Version 3.2 Management System Elements as the basis of our comparison. However, it should be noted that all management systems share these elements, albeit described in slightly different terms. Table 8 below compares the United Kingdom health and safety regulator's guidance on safety management systems with the IADC guidance and Chevron's Operational Excellence Management System, (OEMS). Although the terminology is slightly different in each case, the fundamental principles are the same. Additionally these approaches are aligned with the relevant standards used internationally for occupational health and safety management systems.

Table 8. Comparison of IADC, Chevron and UK HSE Safety Management System Elements

Management System Elements (IADC)	Management System Process (CVX)	UK Health and Safety Executive Guidance on Safety Management Systems
+ Policies and Objectives	+ Purpose, Scope and Objectives	+ Policy
+ Organisation, Responsibilities and Resources	+ Procedures	+ Organising
+ Standards and Procedures	+ Resources, Roles and Responsibilities	+ Planning and Implementing
+ Performance Monitoring	+ Measurement and Verification	+ Measuring Performance
+ Management Review and Improvement	+ Continual Improvement	+ Audit
		+ Review
IADC HSE Case Guidelines Part 2.0.1	Chevron Operational Excellence Management System (OEMS) 2007	HS(G)65 Successful Health and Safety Management, HSE Books, UK.

Note on 'Best Practice'.

The concept of 'best practice' is not defined nor universally accepted. The concept of 'best practice' implies that there is one 'best' way to do something. In the risk management world the focus tends to be more on the outcome – are the risks reduced to a level 'as low as is reasonable practicable'. This is an important concept in risk management in relation to the Australian petroleum regulatory regime. The risk management concept implies that

there are a variety of acceptable ways in which the risks can be made acceptable. Therefore, there is no one 'best practice'. For this reason Noetic has chosen to use the term 'good practice'.

Key Issues

Following the Technical Review, Noetic believes the key issues with the *Montara Action Plan* relate to how adequately it addresses organisational causes of the Montara Blowout. The PTTEP AA has identified a wide range of important improvements to its standards, documents, competency arrangements, etc that are listed in the *Montara Action Plan*. Some organisational actions are also identified such as 'Demobilise...contracted drilling personnel..'. (Item 7.1) and a review of the PTTEP AA organisation, (Item 7.2). However, other important organisational issues were either not mentioned or their intent or impact was not clear. Noetic could not be certain that PTTEP AA intended to address the organisational causes of the Blowout on the basis of a desk top examination of the *Montara Action Plan*.

To provide assurance to the Australian Government that it is addressing the lessons from the MCI and meeting industry standards for good practice, PTTEP AA needed to address the seven key issues outlined below.

- + Leadership behaviours (in relation to the most senior PTTEP AA personnel) are not mentioned.
- + No changes to company policies and objectives are referred to in the Action Plan nor is there any mention of the development of suitable lagging and leading measures (or KPIs) to help PTTEP AA monitor progress with the improvements outlined in the Action Plan.
- + The actions directed at improving the competency arrangements do not explicitly mention the need to train personnel (from the most senior to those on the front line) in MAE causation and the techniques of preventing MAEs above and not just risk assessment.
- + There is no mention of how the workforce will be actively involved in participating in helping to shape and implement the changes which are planned.
- + While the *Montara Action Plan* refers to changes to the contracts entered into with third parties (Items 3.1 and 3.2), there is no mention on the wider issue of improving communications within PTTEP AA and between PTTEP AA and contractors. Related to this point is the absence of any mention of how effective teamwork between the various companies will be achieved.
- + It is not clear what performance monitoring arrangements are to be put in place. In addition it is not clear that the important difference between '*performance monitoring*' as carried out by line personnel such as managers and supervisors compared with *auditing* by people with some independence of the organisation is recognised. Related to the concept of performance monitoring, there is no mention of PTTEP AA planning to carry out any safety climate or culture survey to help monitor the implementation of the changes currently contemplated.
- + Communications with regulatory organisations were not always complete or accurate. There is no mention in the *Montara Action Plan* as to how this will be addressed.

Noetic believes that unless they are in place (or are perhaps being addressed outside of the *Montara Action Plan*) there is less chance that the important improvements currently listed in the *Montara Action Plan* will be implemented effectively and reliably 'in the field'. Further commentary on the seven issues mentioned above is provided in the following sections to follow.

6.1.1 Leadership Behaviours

The behaviour of senior leaders is recognised as one of the most important determinants of an organisation's performance. This is sometimes defined as senior management's visible and active participation in HSE initiatives to ensure HSE is embedded in a company's culture. It is difficult to understand how the systemic failures described in the MCI Report could have occurred if the safety leadership was effective. Consequently, it is unlikely that some improvements cannot be identified and included in the Montara Action Plan.

6.1.2 Company Policies and Objectives

There were no references to any changes in PTTEP AA's policies and objectives in the *Montara Action Plan*. One example relates to the significant changes made to the Drilling Department where contract staff either have been or are being replaced by staff personnel. It was not clear from the *Montara Action Plan* whether this was one off short-term change or if it was a change of practice and policy in PTTEP AA. Good practice would expect PTTEP A to codify an organisation-wide change in a policy document concerning organisational staffing for safety critical roles.

The *Montara Action Plan* does not mention any revised HSE management objectives and HSE programmes, nor does it identify plans to show how HSE objectives are to be achieved. Given the number and significance of the adverse MCI findings we would have expected that a key PTTEP AA objective would be to review and change its key HSE policy objectives. However, such reviews were not reviewed in the *Montara Action Plan*. Nor was there any mention in the *Montara Action Plan* of the need for the development of suitable lagging and leading measures (or KPIs) to help PTTEP AA monitor progress with the improvements.

6.1.3 Competency in MAE causation and the techniques of preventing MAEs.

Competency issues form a major feature of the MCI Report and 'competence' falls into the management system element of 'organisation, responsibilities and resources' in the IADC framework. Examples of the competency issues raised in the MCI Report include Finding 7 (risk assessment), Finding 26 (use of PCCCs), Findings 32-34 (well operations), Finding 44 (cementing) and Finding 45 (PTTEP AA did not have effective systems to acquire and maintain appropriate level of expertise). These issues were addressed in the *Montara Action Plan*. However, good practice in preventing MAEs includes the provision of training in:

- + the theoretical concepts of MAE causation;
- + the techniques used for identifying and assessing critical controls;
- + the classification into both preventive controls and mitigating controls;
- + the documentation and recording of these controls in ways in which all members of the workforce can see how their contribution contributes to effective risk management, e.g. by the use of 'fault and event trees' or 'bow-tie' diagrams; and
- + the techniques of performance monitoring of the critical controls (This last point is discussed further in key issue number 6 below).

These elements were not explicitly mentioned in the *Montara Action Plan*.

6.1.4 Workforce Involvement

There was no mention in the *Montara Action Plan* of how the workforce would be actively involved in participating in shaping and implementing the changes aimed at improving HSE in PTTEP AA. Active participation is widely regarded as a prerequisite for effective management of HSE and is considered good practice. Good practice also includes the provision of a 'stop work authority', enhancement of reporting arrangements of unsafe acts/ conditions and the introduction of a 'no blame' or 'just' culture. The *Montara Action Plan* did not explicitly include actions that would introduce these elements of workforce participation.

6.1.4.1 STOP WORK AUTHORITY

A feature of many HSE management systems is the empowerment of the workforce to decide for themselves to stop work if they believe an activity is unsafe. To make this work effectively managers must ensure that supervisors understand that this is legitimate and actively supported by more senior managers. Good practice in this area is for supervisors and/or managers (once a member of the workforce has initiated the stop work process) to demonstrate that it is safe to work in circumstances in which a member of the workforce believe it is unsafe, rather than the individual demonstrate it was unsafe.

6.1.4.2 INTRODUCTION OF THE 'JUST CULTURE' CONCEPT

To support this good practice of a stop work authority for all personnel, the concept of a 'just culture' needs to be embedded in an organisation. 'Just culture' draws on the discipline of human factors to understand the causes of human error. Even the perception of a blame culture can inadvertently drive the reporting of incidents or near misses, which are valuable learning opportunities 'underground'. Hence a 'just culture' is important so that it is recognised that not all human errors are equally culpable. It allows organisations to focus on understanding what happened and why rather than apportioning blame.

6.1.4.3 IMPROVING REPORTING OF INCIDENTS AND NEAR MISSES

To complement a stop work authority and introduction of a 'just culture', specific action is also appropriate to encourage the reporting of unsafe conditions, incidents and near misses. It was not clear how far the *Montara Action Plan* would improve the safety observation program.

6.1.5 Communications and Teamwork with Contractors

While the *Montara Action Plan* refers to changes to the contracts entered into with third parties (3.1 and 3.2) there was no mention on the wider issue of improving communications within PTTEP AA and between PTTEP AA and contractors. There was also an absence of information on how effective teamwork between the various companies could be achieved.

It is important to ensure that the goals and objectives of all parties in a drilling campaign are aligned so far as possible, if good HSE outcomes are to be delivered. This is because whoever has the contractual responsibility, effective teamwork on the part of all participants is still essential. This is true onshore and offshore. However, it is particularly important where company representatives, the drilling rig offshore installation manager and third party contractors such as cementing contractors are working together on a drilling rig. It is difficult to see how effective team working can be delivered solely by contractual means.

6.1.6 Performance Monitoring

There are a number of MCI findings that relate to failures in oversight. Some examples include a failure to detect that the WCS was not followed (Finding 9); the failure to detect the absence of the 13³/₈ PCCC (Finding 16); monitoring of the casing fluid (Finding 35); and the absence of internal systems to achieve a high level of quality assurance with respect to well control operations - through internal audits (Finding 42).

6.1.6.1 PERFORMANCE MONITORING DEFINED

Performance monitoring is a crucial element in an effective management system. Effective performance monitoring detects variances from standards and controls and allows corrective action to be taken. It is akin to the thermostat on an air conditioning unit. It detects if the desired temperature is being achieved and enables corrective action to increase or decrease the temperature. Effective performance monitoring systems are implemented by line management and require engagement from senior personnel in their design and implementation including taking part themselves in these activities. These are not just frontline supervisory activities and middle and senior managers need to be involved too. These activities also play an important part in effective governance arrangements. However, there was no mention of changing or improving performance monitoring processes in the *Montara Action Plan*.

6.1.6.2 PERFORMANCE MONITORING VS AUDIT

It is possible the MCI Report (and PTTEP AA) used the term 'audit' to mean '[performance monitoring]' in Finding 42. This is a common but inaccurate use of the term in the context of HSE management systems. Auditing is generally defined as a checking process by people who are (to a greater or lesser extent) independent of area or process being checked. 'Performance monitoring' is the process of line personnel routinely checking that their subordinates are effectively implementing the specified policies, procedures and risk controls. This is not an academic distinction. A failure to distinguish between the two concepts can lead to gaps in organisational performance.

Performance monitoring is a feature of all credible management systems not just in connection with health, safety and environment management systems and is a feature of the models set out in Table 1 of the IADC HSE Guidelines and the Chevron Operational Excellence Management System. Failure to distinguish clearly between these two different concepts cannot be regarded as good practice and will need to be followed up during the dialogue with PTTEP AA personnel.

6.1.6.3 SAFETY 'CLIMATE' OR 'CULTURE' SURVEY

Given the changes in personnel, documents and systems and hence working practices, senior management will need to have as clear a picture as possible as to the views and attitudes of the workforce to these changes. To assist in obtaining this picture many companies use proprietary safety climate or culture surveys which seek to elicit anonymous feedback.

6.1.7 Regulatory Relationships

The MCI Report finds several examples of inadequate communications with regulators, particularly the Northern Territory Department of Resources (NOT DoR) and the National Offshore Petroleum Safety Authority (NOPSA). There was no mention of improving communications with regulators in the *Montara Action Plan* apart from lobbying in relation to a more collaborative approach during an emergency, nor is there mention of developing PTTEP AA's knowledge of the role of the regulators and what would constitute professional behaviour in relation to its dealings with them.

6.2 Conclusion

From Noetic's initial review of the *Montara Action Plan* provided with the letter from PTTEP AA of 4 June 2010, we conclude that there are very many good and important actions underway or planned within PTTEP AA. The largest single set of actions is aimed at addressing the undoubted weaknesses in the Drilling Management System. However, based on the limited evidence contained in the *Montara Action Plan* and letter of 4 June, (and without any dialogue with PTTEP AA), there appears to be insufficient focus on the organisational failures which arose during the drilling of the Montara wells. However, we emphasise that this is only a very preliminary observation based on limited

evidence. This will need to be examined in much more detail in the dialogue with PTTEP AA personnel scheduled for week commencing 27 September.

**ENCLOSURE 4: AMENDED MONTARA ACTION PLAN
(DRAFT B - 2 NOVEMBER 2010).**



PTTEP

MONTARA ACTION PLAN

Document Number:

Revision	Date	Reason for Issue	Author	Checked By	Approved By
Draft B	2/11/10	Final draft for review	D John, CSH		
Draft A	5/10/10	First draft for review.	D John, CSH	Dr Chalemkiat, PTTEP AA CEO	Dr Somporn, INA

CONTENTS

1. DISTRIBUTION LIST	3
2. INTRODUCTION	3
3. PURPOSE	3
4. MONTARA ACTION PLAN	3
4.1 General	3
4.2 Responsibilities and Accountabilities	4
4.3 Management of Change	4
4.4 Post Action Plan	4
5. MONTARA ACTION PLAN IMPLEMENTATION	5
5.1 Steering Committee Objectives	5
5.2 Steering Committee Members	5
5.3 Steering Committee Meetings	5
5.4 Implementation Manager	5
5.5 Montara Response, Perth	5
5.6 Request For Services	6
6. KEY MILESTONE	6
7. RELATION WITH OTHER INITIATIVES	6

1. DISTRIBUTION LIST

PTTEP Bangkok	PTTEP AA
Khun Somchai, INA	Dr Chalermkiat, CEO
Khun Somchai, EOP	Andy Jacob, COO
Khun Jirapong, CSH	Dan Dunne, SSHE Manager
Chris Kalnin, Advisor to CEO	Khun Pasook, Well Const. Manager
Khun Vanruedee, INA	Khun Sakchai, CFO
Khun Chayong, EDL	Ian Paton, Exploration Manager
Khun Pramote, EWE	Greg Youd, Production Manager
Khun Alongkorn, HRD	
Khun Sanga, HRD	
David John, CSH	

2. INTRODUCTION

On 21st August 2009 a blowout occurred on the H1 ST1 well at the Montara wellhead platform in the Timor Sea, offshore north west Australia. The Montara Field is operated by PTTEP Australasia (PTTEP AA), a subsidiary of PTT Exploration and Production PCL (PTTEP).

69 people were evacuated safely from the jack-up drilling rig West Atlas. A relief well had to be drilled to control the blowout. A first well kill attempt on 1st November 2009 was unsuccessful and ignition of hydrocarbons occurred. The fire burned until 3rd November 2009 when a second well kill attempt was successful. The West Atlas was a total constructive write-off. The wellhead platform topsides were damaged.

During the period that the blowout occurred a likely 400 barrels per day on light oil were released to the sea. Environmental impacts appear to have been limited by oil evaporation, natural degradation, dispersant spraying and skimming.

PTTEP and PTTEP AA recognize that the consequences could have been worse, particularly potential loss of human life. Lessons must be learned and actions taken to prevent recurrence.

3. PURPOSE

The purpose of this document is to provide a narrative to the actions that have been identified to prevent recurrence of such a major accident event (MAE) and describe how those actions are managed.

Some of the Actions identified will be implemented in the PTTEP company for the first time. In this respect PTTEP AA is acting as a sounding board for future reverse implementation of these actions into the PTTEP corporate function (and other subsidiaries).

4. MONTARA ACTION PLAN

4.1 General

A *Montara Action Plan* has been developed that lists the actions identified to prevent incident recurrence. The sources of actions in the Plan are:

- PTTEP Internal Investigation Report, subject to legal professional privilege.
- Borthwick Commission of Inquiry Transcripts. At the time of writing the Commission Report has been submitted to, but not published by the Minister of Energy.
- Third party sources e.g. recommendations from AGR (a drilling management consultancy).
- Observations from Noetic, contracted by the Department of Resources, Energy and Tourism to review progress and suitability of the Action Plan.

The Action Plan is a live document and will be amended as required e.g. when the Borthwick Commission of Inquiry Report is published.

The current revision of the Action Plan can be requested from David John, davidj@pttep.com

Actions are a combination of 'point actions' intended to prevent recurrence of a specific event (blowout) and systemic actions which have a broader scope and can be applied to other MAE's. Note that actions also cover Corporate Lessons Learned.

4.2 Responsibilities and Accountabilities

Responsibilities (doing the work) and accountabilities (ensures work is done) are shown in the Action Plan. One of the actions of the Responsible parties is to identify those that need to be Consulted or Informed.

In general line management are assigned as Responsible with the next level of Management as Accountable.

4.3 Management of Change

Actions that may require Management of Change to be applied are identified in the Action Plan. Reference SSHE Standard Management of Change.

4.4 Post Action Plan

The Action Plan has a discrete lifetime. It is required that actions and behaviours be embedded in PTTEP and PTTEP AA organizations and processes to ensure continuity of response.

5. MONTARA ACTION PLAN IMPLEMENTATION

A Steering Committee was originally established to oversee implementation of the Montara Action Plan. Ref memo PTTEP/2000/M.139/2010.

5.1 Steering Committee Objectives

The objectives of the Steering Committee are to:

- Provide senior management oversight of the Action Plan.
- Agree the Action Plan and any amendments to it.
- Monitor progress with closing out actions.
- Ensure and confirm that recommendations in the Action Plan are completed in agreed timescales and at the required level of rigor.
- Monitoring overall work plans to ensure capability exists to execute work safely.
- Ensure that resources (financial, personnel etc) are available to achieve the above.
- Provide advice about strategic issues regarding Action Plan implementation.
- Ensure coordination of efforts between different departments in Perth and Bangkok.
- Be made aware of potential impediments to completing actions and proposing solutions.
- Review and agree (or not) proposals from PTTEP AA Line Management to progress with key activities e.g. recommencing drilling.
- Approve information to be sent externally, in particular to Authorities / Government.
- Oversight and coordination of other initiatives (see section 7).

5.2 Steering Committee Members

Members of the Steering Committee are:

- Dr Somporn, EVP International Assets Group, Bangkok, (Chairman).
- Khun Somchai, SVP Operations Support Division, Bangkok.
- Chris Kalnin, Advisor to the CEO, Bangkok.
- Khun Jirapong, VP SSHE, Bangkok.
- Dr Chalermkiat, CEO PTTEP AA, Perth.
- Andy Jacob, COO, PTTEP AA, Perth.
- David John, SSHE Advisor, Bangkok (Implementation Manager + Committee Secretary).
- Other members may be co-opted as required.

5.3 Steering Meetings

The Committee will meet regularly by video conference between Perth – Bangkok.

The Committee Secretary will arrange meetings, prepare draft meeting minutes for review and issue final minutes.

5.4 Implementation Manager

A full time *Montara Action Plan* Implementation Manager has been appointed (David John, CSH, based in Bangkok). Key functions are:

- Reports to EVP International Assets.
- Develop and update the Montara Action Plan.
- Animate process to ensure assigned personnel are aware of responsibilities under the Plan and they follow actions up in a timely and rigorous manner.
- Identify with assigned persons how to make action permanent and sustainable.
- Identify with those responsible any actions under the Action Plan that require Management of Change review such as risk assessments. Arrange / facilitate these as required.
- Regularly report Action Plan progress and status to the Steering Committee, including highlighting any areas of concern.
- Prepare reports for external review if required.

5.5 Montara Response, Perth

PTTEP AA COO has been temporarily assigned to follow-up the issues below relating to Montara: (Ref memos 154331_1 and 154335_1)

- Investigations
- Environmental Monitoring Plans
- Montara Action Plan
- Claims
- Insurance
- Media
- Government Relations

5.6 Request For Services

RFS INA004/2010 has been raised for use by involved Departments – CSH, EDL, EWE, HRS etc.

6. KEY MILESTONE

The key milestone is the decision to recommence the Montara drilling campaign. There are a number of actions that are required to be completed before drilling can start. In particular these are:

- Adequate drilling organization defined based on work plan and personnel recruited.
- Competency Assessments and training of PTTEP AA drilling personnel.
- An approved PTTEP AA Drilling Management System has been issued (including Bangkok – Perth drilling interfaces).
- Drilling contractors and sub-contractors fully engaged.
- Pre-Drilling Audit completed and actions closed out.
- Major Accident Event prevention program in place.

In order to ensure an appropriate level of decision making the following will present the case for recommencing drilling to the Montara Steering Committee for final sanction:

- PTTEP AA Drilling Manager for drilling-related issues (Drilling Management System, Recruitment, Training and Competency, Drilling MAE's, Drilling Contractor Communication and Teamwork)
- Implementation Manager for all other issues.
- This presentation to be made approximately 1 month before expected commencement of drilling activities.

7. RELATIONSHIP WITH OTHER INITIATIVES

There are currently 3 major initiatives in PTTEP AA:

- *Montara Action Plan* (to which this document refers)
- Growth Strategy and Enablers.
- 2011 Work Plan including Integration Plan.

Links between them are given in the overarching PTTEP AA Australia Strategy and Execution Plan to which further reference should be made.

ENCLOSURE 5: MONTARA ACTION PLAN (LIST OF ACTIONS) REV 14, 29/10/201)

Main Plan

#	Action Description	Responsible	Accountable	Review By	Original Target	Current Target	MoC Assessment	Status	Comment
Clarify Well Barrier Integrity									
1	Review and confirm status of existing well barriers	AA Drilling, AGR	AA COO	BKK Drilling	30/6/10	Complete	Safety Case risk assessment	Program finalised and regulatory approvals obtained. Completed 27/7/10.	See Montara Well Verification Report, Rev 2, 13/8/10.
2	Prepare well barrier integrity test procedures / plan.	AA Drilling, AGR	AA COO	BKK Drilling	30/6/10	Complete	Safety Case risk assessment	Program prepared and reviewed by EDL. Completed.	
3	Prepare contingency plans should integrity tests prove inconclusive or negative.	AA Drilling, AGR	AA COO	BKK Drilling	30/6/10	Complete	Safety Case risk assessment	Program prepared and reviewed by EDL. Completed.	
4	Execute well barrier integrity tests offshore.	AA Drilling	AA COO	BKK Drilling oversight	30/6/10	Complete	Safety Case risk assessment	Completed 26/7/10.	
5	Carry out any remedial work required as per contingency plan	AA Drilling	AA COO	BKK Drilling oversight	30/6/10	Complete	Safety Case risk assessment	Works carried out as part of 1.4 above. Completed.	
AA Drilling Management System (see Appendix 1)									
6	Complete an independent review of the WCMF and WCS	AGR	AA COO	AA Drilling, BKK Drilling	30/6/10	Complete	Part of review is to ensure no risks increased / introduced.	Complete. List of actions developed. See Appendix 1 on separate spreadsheet.	AGR Report - Montara Well Incident, Report on Actions to Prevent Reoccurrence, Rev 1, 16/2/10. See 75 actions in AGR PTTEP WCMS Update Tracker file.
7	Draft DMS documents	AGR	AA COO		30/6/10	Complete	No	Completed 30/6/10	
8	Compare DMS with PTTEP Corporate requirements and Good Oilfield Practice.	BKK Drilling	AA COO		31/7/10	30/9/10	No	Drilling Management System project with Expert Advisors.	References: PTTEP Drilling Management System, PTTEP-DMS-001 Rev C. Well Operations Manual, PTTEP-WOM-002 Rev C
9	Develop stand alone Well Operations Management Plans.	AA Drilling	AA COO		As required	As required	No	To be done.	Clarify with regulator preferred format
10	Develop PTTEP AA specific Blowout Contingency Plan	AA Drilling	AA COO	AA Drilling, BKK Drilling	1/4/11	1/4/11	No	To be done.	Ensure in line with EDL BCP being prepared by Boots + Coats.
Contracts / Document Amendment									
11	Insert a requirement in Contracts that any reports Contractor prepares on work done must be sent to PTTEP AA Drilling on / offshore.	AA Drilling	AA COO		1/4/11	1/4/11	No	To be done	Next drilling campaign planned for April 2011.
12	Review contracts to make sure there is a requirement for third party personnel to complete training as per their Training Matrices which should be similar to PTTEP AA Operating Discipline standards.	AA Drilling, Legal	AA COO		1/4/11	1/4/11	No	To be done	Next drilling campaign planned for April 2011.
13	Update PTTEP AA investigation protocols to require PTTEP Corporate or independent expert to investigate any well control incidents.	AA HSE	AA COO		30/6/10	30/9/10	No	Drafted. To be reviewed by new Well Construction Manager before issue.	Reference: Corporate SSHE Standard Incident Management
14	Ensure that realities of drilling activities are accounted for in Major Accident Event identification and QRA in Safety Cases.	AA Drilling, AA HSE	AA COO		1/3/11	1/3/11	No	To be done. As part of hazards identification studies for Safety Case submission.	Ensure personnel familiar with MAE barriers e.g. bow ties.
Industry Liaison									
15	Lobby industry to approach NOPSA to develop a policy which requires collaborative engagement and consultation during an emergency.	AA CEO + COO	AA COO		31/12/10	31/12/11	No	APPEA Drilling & Completions steering committee established. Emergency Response and Oil Spill Sub Committees established.	Ongoing.
16	Participate in industry response	BKK Drilling,	AA COO		31/12/10	31/12/10	No	PTTEP AA personnel participating in APPEA	Should also refer to need to improve Well

	(particularly lessons learned from Montara / Macondo). Take account of learnings in drilling, emergency response, spill response.	AGR						initiatives. PTTEP BKK personnel will participate in OGP Oil Industry Response Group.	Control Certification training courses.
Organisation and Personnel									
17	Demobilise, or temporarily assign for knowledge continuity, contracted Drilling personnel from Perth office.	AA COO	AA COO		30/6/10	Complete	No	Completed 30/6/10	
18	Undertake a review of AA drilling organisation, taking in to account 2010 work plans.	AA Drilling	AA COO	EDL, COO	31/9/10	Complete	No	Discussed and agreed. Complete.	
19	Develop a Recruitment Tool	AA Drilling, AA COO	AA COO	EDL, COO	31/10/10	31/10/10	No	2/11/10. Work done by Expert Advisors (Competency Management System Phase 1). Complete.	
20	Recruit AA Drilling personnel.	AA Drilling	AA COO		31/12/10	31/12/10	No	In progress	
21	Review complete organisation of PTTEP AA. Make recommendations and implement changes required including personnel.	AA CEO, AA COO	INA	HOP	1/5/11	1/5/11	No	Link to Operating Model and Growth Enablers work.	Operating Model meeting 7/10/10.
Training and Competence									
22	Review technical and SSHE competency matrices for drilling personnel (and extend to other disciplines later).	HRS, CSH, BKK Drilling, PTTEP AA	AA COO		1/4/11	1/4/11	No	Ongoing. Will use BKK JC Profiles for Drilling and Well Engineering as a basis. Expert Advisor assistance from 13/9/10 - benchmarking; review JCP's for Australian work; aide to recruitment.	References: Corporate SSHE Standard Training and Competence; Corporate Competency Management System.
23	Undertake competency assessments, involving relevant disciplines from PTTEP HQ.	PTTEP AA Line Management	AA COO		1/4/11	1/4/11	No	See above.	Any Gaps identified to be input to 7.4.
24	Review and improve technical and SSHE training matrices for Drilling and other personnel (operations, SSHE, Construction etc)	HRS, CSH, BKK Drilling, PTTEP AA	AA COO		1/4/11	1/4/11	No	In progress. BKK matrices passed to AA for review.	
25	Identify and provide training courses required.	HRS, CSH, BKK Drilling, PTTEP AA	AA COO		1/4/11	1/4/11	No	To be done.	The 2 1/2 day Safety Induction developed for Montara Project can be used as a basis for training Drilling personnel, with some adjustments.
26	Engage with training providers to broaden well control course scope.	AA COO	AA COO		31/12/10	31/12/10	No	To be done.	Will be part of APPEA process see 5.1
Environmental									
27	Revise Oil Spill Contingency Plan	AA HSE	AA COO		31/8/10	30/9/10	No	Incorporate learnings from Inquiry, discuss with AMSA	Review of emergency / crisis response in PTTEP AA 22-23/7/10 will identify issues. Input from Dr Wardrop received. Internal workshop 9th August
28	Assess Oil Spill Equipment / Chemical availability	AA HSE	AA COO		31/8/10	30/9/10	No	AMOSC	Will be part of APPEA process see 5.1
29	Develop sampling packs at operational locations	AA HSE	AA COO		31/8/10	30/9/10	No	In progress.	
30	Identify training gaps re Oil Spill Contingency Plan	AA HSE	AA COO		31/8/10	30/9/10	No	In progress.	
31	Review existing base line data available for locations associated with our operations	AA HSE	AA COO		31/8/10	30/9/10	No	In progress.	
32	Develop list of possible studies required post spill, suitable providers	AA HSE	AA COO		31/8/10	30/9/10	No	To allow for case by case selection of studies	May be part of APPEA process see 5.1
Corporate Oversight / Lessons Learned									
33	Ensure appropriate level of Corporate oversight of PTTEP AA Drilling activities.	EDL, AA Drilling	AA COO		31/10/11	Complete	No	Drilling relations Perth - BKK discussed 4/8/10 and agreed. Complete.	
34	Ensure appropriate level of Corporate oversight of PTTEP AA activities generally.	AA CEO	INA		31/5/11	31/5/11	No	Growth Enablers Workshop 7/10/10. SSHE MS Integration already started.	
35	Develop and conduct plan of Corporate	CSH	INA		1/4/11	1/4/11	No	Audits planned pre-drilling and during drilling.	Reference: Corporate SSHE Standard Audit

	technical and SSHE Management system audits.							Top Management Visit planned during drilling. To be executed.	and Review; Operations and Project Technical Review documents.
36	Develop and implement lessons learned from Montara at Corporate level.	CSH, EDL, INA	CEO		31/12/10	31/12/10	Review	Corporate Lessons Learned file drafted and under discussion with relevant departments.	
Implementation									
37	Establish a senior management committee to oversee implementation of this plan. Members from PTTEP AA and PTTEP HQ.	INA + AA CEO	CEO		30/6/10	Complete	No	Committee established. Regular meetings taking place.	
38	Appoint an Implementation Manager to ensure this plan is followed-up in agreed timeframes and actions are sustainable.	INA + AA CEO	CEO		30/6/10	Complete	No	Done 28/5/10. DJ appointed.	

Shaded Cell = Action Closed.

Critical, before drilling start up

Number of Actions	38	
Completed	12	
In progress	18	8 behind target
To be done	7	

Supplementary Plan

#	Action Description	Responsible	Accountable	Review By	Original Target	Current Target	MoC Assessment	Status	Comment
Leadership + Commitment									
39	Establish PTTEP AA Corporate SSHE committee	AA SSHE	AA CEO		31/12/10	31/12/10	No	Charter drafted.	
40	Regular SSHE information sharing meeting	AA SSHE	AA CEO		31/12/10	31/12/10	No		
41	Define and implement SSHE Leadership Program	AA SSHE	AA CEO	CSH	1/4/11	1/4/11	No		APPEA Stand Up For Safety; UK HSE Leadership for Major Hazard Industries
Audit + Monitoring									
42	Define audit and monitoring philosophy	AA SSHE	AA COO		31/12/10	31/12/10	No		
43	Establish audit plan and monitoring program.	AA SSHE	AA COO		1/4/11	1/4/11	No		Annual audit plan exists; monitoring to be developed. Drilling first.
Governance									
44	Review role of PTTEP AA Board of Directors	Board Chairman	CEO		31/12/10	31/12/10	No	In progress. Advisory Board recommended.	Action from Growth Enablers Workshop 7/10/10. New Chairman announced.
45	Review SSHE organisation in PTTEP AA (report to CEO)	AA SSHE, AA CEO	AA COO	CSH	31/12/10	31/12/10	No	In progress	
46	Develop overarching plan covering PTTEP AA initiatives	CK, DK	INA	Steering Cttee	31/10/10	31/10/10	No	Drafted.	
47	Develop <i>Montara Action Plan</i> narrative.	DJ	Steering Cttee	Steering Cttee	31/10/10	31/10/10	No	Drafted.	
SSHE Improvements									
48	Ensure workforce involvement in DMS development, Safety Cases etc	AA Drilling, AA SSHE	AA COO		1/4/11	1/4/11	No		
49	Re-start BKK - Perth SSHE MS integration	DJ, DD	CSH, AA COO	CSH	31/12/11	31/12/11	No		
50	Undertake Safety Climate Survey	AA SSHE	AA COO	CSH	31/12/11	31/12/11	No		
51	Extend BBS training to PTTEP AA	CSH/O	COO		31/12/11	31/12/11	No		
Major Accident Event Prevention									
52	Implement MAE's prevention program for drilling.	AA Drilling, AA SSHE	AA COO	CSH/I	1/4/11	1/4/11	No	Discussions with RPS and Expert Advisors.	Identify MAE's; identify barriers; assign TA's; develop monitoring program; ensure senior management 'line of sight'
53	Implement MAE prevention program for other disciplines	AA SSHE + others	AA COO	CSH/I	31/12/11	31/12/11	No		Identify MAE's; identify barriers; assign TA's; develop monitoring program; ensure senior management 'line of sight'
Engage Regulators									
54	Engage Regulators regularly, above legal	AA COO	AA CEO		1/4/11	1/4/11	No		

	requirements.								
	Competence								
55	Extend Competency Assessments to other disciplines, including Management	AA COO	AA CEO		31/12/11	31/12/11	No	CMS Phase 2 by Expert Advisors.	See item 22 in Main Plan.
	Multiple Drilling Operations								
56	Confirm adequate management and supervisory levels for 2011 drilling program	AA Drilling	AA COO		31/12/10	31/12/10	No		
57	Hold teambuilding sessions for drilling department, contractors and sub-contractors	AA Drilling, AA SSHE	AA COO		1/4/11	1/4/11	No		
58	Extend scope of Drilling Peer Reviews	HOP	HRS		31/12/10	31/12/10	No	Will be extended to other areas via PREP process. Drilling Peer Review held in BKK 5-6/10/10	Action from Growth Enablers Workshop 7/10/10.

Critical, before drilling start

Appendix 1

#	Action	Status	Further Action	Comment	Activity	Task
1	Review Well Construction Standards and development drilling programs to assess opportunities for technical improvement.	Done	Follow up actions identified.	Done by AGR. List of 75 actions (this list).	n/a	
2	Refer to need for peer reviews of final well design.		Before drilling		4.1.2	3
3	Refer to Drill the Well on Paper session to be held to inform service providers.		Before drilling		4.1.2	6
4	Align PTTEP AA drilling documents with PTTEP Corporate Drilling Management System		Before drilling	EDL review	n/a	
5	Additional information on well barrier policy and implementation when MODU is not in place.		Before drilling		TS, 5, Barrier	
6	Drilling Supervisors to review JSA's and be aware of content.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.	4.1.4	3
7	Ensure Rig Contractor applies and monitors JSA performance.		During drilling		4.1.4	2
8	Undertake compliance (PTTEP AA HSE) and technical integrity reviews (by PTTEP Corporate).		During drilling		4.1.2	3
9	Include authorities, responsibilities and accountabilities for each drilling job.		Before drilling			
10	Include current logistics and materials management processes.		Before drilling			
11	Review if attendance of third party contractors at HAZIDS is compulsory.		Before drilling	Amend PTTEP Safety Critical Service provider contracts (Rig, Boats, Helicopters, Testing)		
12	Ensure Safety Case submission standards do not drop.		Before drilling	Ensure that PTTEP AA continue to involve themselves with the Rig Contractors SCR preparation process. Should reserve the make changes in the event that sub-standard work is proposed by the drilling contractor. Perhaps a suggestion to APPEA / NOPSA would be development of 'Best Practice' guidelines for all who submit these documents to follow. These may be floating around already however I have never seen them.		
13	Review rig operators SMS to ensure effective JSA is in place + covers 3rd party work on rig.		Before drilling		4.1.4	2
14	Require that daily work instructions issued by Driller are Signed Off by Senior Toolpusher or OIM.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.	4.1.4	3
15	Drilling Supervisors sign off any Operational Management of Change requests.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.	4.1.4	3
16	Daily conference call is held attended by core operations team on rig, in Darwin and Perth.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.	4.1.4	4
17	Third party audit is undertaken of safety critical components of Well Construction management System such as Management of Change.		During drilling		n/a	
18	Implementation of MODU facility Safety Case revision requirements interfaces with PTTEP AA Drilling Program and WOMP		Before drilling			
19	Periodic audits held of Rig Contractors JHA process.		During drilling	WCMS Changes made, pending PTTEP acceptance To be included in the DSDG submitted for review & acceptance - 9.7 & 14.9.3 covers	4.1.4	3
20	Documenting of reasons for selecting Drilling Supervisors and benchmark skills against responsibilities and ensure further reference for each person employed is sourced.		Before drilling	Include in Process/Framework as an action for the Well Construction Manager.		
21	Include Frontline Safety Leadership for training for Drilling Supervisors.		Before drilling	Use 2 1/2 day SSHE Induction for Montara Project.		
22	Ensure Materials and Logistics Supervisors have been trained and understand work processes.		Before drilling			
23	Induct Drilling Supervisors into WCMS before operations start.		Before drilling	Use 2 1/2 day SSHE Induction for Montara Project.	4.1.4	2

24	Handover notes to be sent to Drilling Superintendent as well as oncoming Drilling Supervisor the night before shift changeover. 1 hour long call to take place day before change over and short face-to-face meeting on rig.		During drilling		4.1.4	3
25	Ensure Rig Contractors have effective tracking system for Safety Observation Programs.		During drilling	DSDG submitted for review & acceptance - 10.3 covers		
26	Drilling Supervisors to be trained in PTTEP AA HSE, hazard identification, well control.		Before drilling	DSDG submitted for review & acceptance - 19.3, 9.4 & 9.5 covers		
27	As part of Management of Change process ensure each hazard is identified and Drilling Superintendent and Offshore each have opportunity to sign off on final risk assessment and mitigations, and that this is checked during audits. Reference: Corporate SSHE Standard Management of Change.		During drilling		4.1.8	
28	Ensure ongoing risk management is done and this is audited.		During drilling		4.1.7	2
29	Review drilling training matrix to cover third party and rig equipment. Review and update annually. Reference: Corporate SSHE Standard Training and Competence.		Before drilling	DSDG submitted for review & acceptance - 10.4, &14.8 covers		
30	Develop more detailed training matrix that identifies courses or experience requirements to each well of well construction personnel.		Before drilling			
31	Develop minimum training matrices for major contractors eg Rig Operators, Cementers.		Before drilling			
32	Develop an Operating Discipline Standard for supervisors.		Before drilling			
33	Set clear expectations regarding importance + effectiveness of supervision / oversight at rig site.		Before drilling	DSDG submitted for review & acceptance - propose that section 10 covers		
34	Ensure manufacturer's instructions are received and available on site.		During drilling	DSDG submitted for review & acceptance - propose that section 10 covers		
35	As built diagrams containing serial numbers of all components are provided on job completion.		During drilling	DSDG submitted for review & acceptance - propose that section 10 covers		
36	Review communications processes and suggest improvements.		Before drilling	DSDG submitted for review & acceptance - propose that section 15.10 covers		
37	Ensure Drilling Superintendent and Drilling Engineer cross check that the work being reported as having been done in the DDR and IADC is what is said was done and any changes are properly assessed by Management of Change process.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.		
38	Include hold points in Drilling Program where work must cease until it has been signed off by the Drilling Supt and OIM that it has been completed.		During drilling	DSDG submitted for review & acceptance - 15.8.2 covers		
39	Regular technical drilling audits occur during drilling campaign.		During drilling	DSDG submitted for review & acceptance - 10.8 covers / WCMS Changes made	4.1.2	5
40	Competency Matrix is developed for Drilling Manager, Drilling Superintendent, Drilling Engineer and Drilling Supervisors. Reference: Corporate Competency Management System (HRS), Corporate SSHE Standard Training and Competence.		Before drilling			
41	Persons employed for above roles are engaged in accordance with Competency Matrix.		Before drilling			
42	Infield verification of competency prior to undertaking role unsupervised the first time. This may be waived if person has worked for PTTEP AA before and Drilling Manager and COO agree. PTTEP Corporate to assist with performing competency assessment		During drilling			
43	Requirement to comply with Drilling Program is included in Drilling Supervisors Job Description.		Before drilling	DSDG submitted for review & acceptance - 10.8 covers / WCMS Changes		
44	Need to comply with JSA and MoC is included at inductions and on Drilling Supervisors course.		Before drilling	DSDG submitted for review & acceptance - 9.5 covers	4.1.4	4
45	Audit program to include checks that JSA and MoC procedures are being complied with.		During drilling	DSDG submitted for review & acceptance - 15.9.3 covers / WCMS Changes		
46	Include in JSA training examples of what constitutes safe work, Good Oilfield Practice.		Before drilling	Use 2 1/2 day SSHE Induction for Montara Project.		
47	Audits to be conducted for JSA's for all critical tasks and SimOps.		During drilling	DSDG submitted for review & acceptance - 10.6 covers		
48	A materials list for all significant well control steps is available.		During drilling			
49	Production logistics system will apply to drilling.		During drilling		4.1.5	3/4
50	Requirement for 2 proven well barriers to be included.		During drilling			
51	Review updated WCMS documents by third party or PTTEP Corporate.		Before drilling		TS, 5, Barrier	
52	Schedule periodic project management audits.		N/A	This action applied when Drilling reported to Projects.		
53	PTTEP Corporate to review roles, responsibilities and accountabilities for PTTEP AA CEO, HSE Drilling Team and Project Team.		Before drilling	Project Team relevance now that Drilling is no longer in Projects ?		
54	Update Job Descriptions based on above review.		Before drilling			
55	Any change in well control barriers is fully risk assessed and is submitted with MoC documents to the Regulator with the application to change approval.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.		
56	Hold pre-spud meeting for each swing shift to explain well design + reasoning.		Before / during		4.1.8	1/2/3

			drilling			
57	Develop Drilling Program based on manufacturer's instructions for installation of any parts such that detailed use is described and there is no need to refer to manufacturers instructions later.		Before drilling		4.1.4	1
58	Clearly identify requirements with respect to cementing well and if appropriate for the design and use of lead / tail cement.		Before drilling			
59	Drilling to undertake handovers using Operations methodology.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.		
60	Documented records are kept of teleconferences between onshore / offshore.		During drilling	Use 2 1/2 day SSHE Induction for Montara Project.		
61	Barrier certifications are provided to Drilling Superintendent and Drilling Engineer for review.		During drilling	DSDG submitted for review & acceptance - 10.9 covers / WCMS Changes	4.1.4	4
62	Day to Day Instructions to Drillers are copied to the Drilling Supt, Drilling Manager + Drilling Eng.		During drilling	DSDG submitted for review & acceptance - 15.1 covers / WCMS Changes	4.1.4	6
63	Detailed minutes of any hazid are kept.		Before / during drilling	DSDG submitted for review & acceptance - 10.3 covers / WCMS Changes	4.1.4	3
64	All staff technical drilling personnel are required to undertake 20 hours of continuing professional development per year.		Before / during drilling		4.1.7	1/2/3
65	Contractors required to ensure management personnel have undergone a program similar to PTTEP and are required to work to work to PTTEP discipline operating standard.		Before drilling			
66	Document the need for a repeat pressure test if the plugs do not bump or de-bump.		During drilling			
67	Address a failure of floats during the course of cementing.		During drilling			
68	Identify the relevance of other documents to well control e.g. contractors operations manual.		Before drilling	Include in template Drilling Programme / AGR / included in 1.3.1, Cementing Operations Guidelines created and submitted for review		
69	Drilling and suspension of wells at a platform prior to topsides installation.		During drilling			
70	Well control during batched tieback of casing strings on different wells.		During drilling		TS, 5, Barrier	
71	Develop WOMP's so that they are stand alone documents and there is no need to refer to any other document when reading it and that they include manufacturer's instructions		Before drilling		TS, 5, Barrier	
72	Review formatting of documents associated with the Management System		Before drilling		4.1.2	8
73	Develop a new desk guide for Drilling Supervisors.		Before drilling			
74	Develop Cementing Manual covering cementing process, what can go wrong + what to do.		Before drilling			
75	Include reference to investigating emergency resources (rigs etc) in the region prior to starting drilling		Before drilling			

- Risk, JSA**
- Training + Competence**
- Audit**
- Comms / Supervision**
- Drilling Documents**