



**NOPSEMA**

# Report

## Planned Inspection

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Facility: Northern Endeavour  
Operator: Woodside Energy Ltd  
Offshore Inspection Dates: 22/04/2015 – 24/04/2015

Lead inspector [REDACTED]  
Inspection Team [REDACTED]

Report Number 1106

### REPORT DISTRIBUTION

Position	Company
Records management	NOPSEMA
Asset Superintendent – Northern Endeavour	Woodside Energy Ltd (WEL)
Offshore Installation Manager	Northern Endeavour - WEL
Health & Safety Representatives	Northern Endeavour - WEL

### REVISION STATUS

Rev:	Date:	Description:	Prepared by:	Approved by:
A	04/05/2015	Internal Draft	[REDACTED]	[REDACTED]
B	08/05/2015	Draft for Discussion with Operator	[REDACTED]	[REDACTED]
0	19/05/2015	Final	[REDACTED]	[REDACTED]

**Table of Contents**

1	Abbreviations .....	3
2	Inspection Method.....	3
3	Conclusions and Recommendations .....	4
3.1	Previous recommendations.....	4
3.2	Consultation with Health & Safety Representatives.....	5
3.3	Follow-up previous incidents .....	5
3.4	MAE 01 Subsea Loss of Containment.....	5
3.5	MAE 04 Vessel Collision .....	10
3.6	Communications – Vessel & Aircraft.....	11
4	Attachments .....	12
	Attachment A – Meetings .....	12
	Attachment B – Detailed Recommendations from this Inspection.....	15
	Attachment C – Recommendations Status from Previous inspections .....	17

## 1 Abbreviations

CCR	Central Control Room
COABIS	Subsea integrity management database
COR	Corallina
CP	Cathodic Protection
CoC	Condition of Class
ERP	Emergency Response Plan
ESD	Emergency Shutdown
HLO	Helideck Landing Officer
HSR	Health & Safety Representative
IMS	Integrity Management Strategy
JIRA	Action tracking system
LAM	Laminaria
█	█
MAE	Major Accident Event
NE	Northern Endeavour
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
PS	Performance Standard
RBI	Risk Based Inspection
PRT	Production Resource Tool
SAP-PM	Computerised preventative maintenance system
SCE	Safety Critical Element
SCSSV	Surface Controlled Subsea Safety Valve
TCMS	Technical Change Management System
TQ	Technical Query
UPS	Uninterruptable Power Supply
UT	Ultrasonic Thickness
WBT	Water Ballast Tank
WEL	Woodside Energy Ltd

## 2 Inspection Method

The inspection team prepared a planned inspection brief and discussed this with the operator prior to the inspection. The brief set out the proposed inspection itinerary and scope. A list of persons present at this pre-inspection meeting is included in Attachment A.

The proposed scope for this inspection included:

- Verification of commitments regarding previous inspection recommendations
- Consultations with Health & Safety Representatives and members of the workforce
- Follow-up previous incidents #3854, #4011 and #4058
- MAE-01 – Subsea loss of Containment
- MAE-04 – Vessel Collision
- Communications – Vessel & Aircraft

On arrival at the facility, an entry meeting was held so as to present the plan to the offshore personnel. Before leaving the facility, the inspection team prepared an Inspection Exit Brief, which was discussed with key offshore personnel during an exit meeting. An attendance list for both the offshore entry and exit meetings is included in Attachment A.

Subsequently, a meeting was held with key onshore personnel of the operating company to discuss key findings from the inspection. Significant details of this meeting are provided in Attachment A.

### **3 Conclusions and Recommendations**

At the time of the inspection, the Northern Endeavour was operating at a reduced capacity with the Laminaria wells (Lam-2 and Lam-8) shut-in due to suspect gas lift pipework wall thickness at the gas compressor. The Corallina wells were in production. Opportunity testing of the Laminaria 2 Surface Controlled Subsea Safety Valve (SCSSV) and wellhead tree valve effectiveness was being undertaken, with Lam-8 having been completed the previous day. By the conclusion of the inspection the field had returned to its normal operating configuration.

Water ballast tank (WBT) steelwork diminution rectification activities were nearing completion in 4 port WBT according to the requirements of Class (Lloyds Register), with 4S WBT to be undertaken on completion. Fabric maintenance by third party contractors was being undertaken on the cargo deck.

On 23 April 2015 a General Alarm and full muster was conducted as a consequence of both the smoke detectors in UPS room trunk polling. It was established that the alarm was false and was attributed to water and debris in way of the smoke detectors.

The number of facility personnel onboard at the time of the inspection was 46.

Detailed findings are provided in the following sub-sections, which highlight any particular areas where non-compliance or opportunities for improvement have been identified. The inspectors' detailed recommendations are included in the following sub-sections and are repeated in the Recommendations and Follow-up List in Attachment B.

Attachment C also includes the status of previous recommendations from the last inspection report as well as any other open recommendations.

#### **3.1 Previous recommendations**

The outstanding recommendations were reviewed and the current status provided.

Nine recommendations from planned inspection 854 and 1083 remain open: 854-32, 1083-07, 1083-08, 1083-17, 1083-18, 1083-19, 1083-20, 1083-21, and 1083-22. These relate to fabric maintenance and are currently undergoing remedial activity. These matters are also the subject of a [REDACTED] Condition of Class.

Nine recommendations related to Performance Standards from planned inspection 693, 854 and 982 remain open: 693-01, 693-04, 854-01, 854-02, 854-03, 854-04, 854-05, 982-05 and 982-09. It was stated that new performance standards are intended to be submitted following approval of the 5 yearly Safety Case.

The following recommendation from planned inspection 982 also remains open: 982-10, relating to TEMPSC maintenance. It was stated that this has been completed and the data will be submitted for close-out by the end of the month.

Eight recommendations related to pan Woodside Assurance activities from planned inspection 854 remain open: 854-06, 854-07, 854-08, 854-09, 854-11, 854-12, 854-13, 854-14. It was stated that the responses to these are intended to be submitted by the due date 30 April 2015.

No recommendations were closed and 27 remain open from earlier inspections. Refer to Appendix C for further information.

### 3.2 Consultation with Health & Safety Representatives

Two Health & Safety Representatives (HSRs) met with the inspector. It was reported that the safety culture onboard was good and there are regular HSR meetings. HSE matters and Minor Hazard Reports were discussed at each daily pre-shift meeting; this was also observed by the inspector during the inspection.

The HSRs reported that recognition of the need for more diligence and explanation in the daily work activities was occurring due to the increasing number of “new starters” being encountered on the facility.

Concern was raised regarding the uncertainty of employment for WEL staff after the end of field life in late 2016.

### 3.3 Follow-up previous incidents

Notifications received with respect to three previously raised incidents were reviewed and discussed:

- #3854 - Unplanned General Alarm, Muster and automatic activation of Inergen system in Emergency Switchboard / EDG room dated 31 August 2014
- #4011 - Electric shock from UPS batteries forward SW/FW generator dated 15 November 2014
- #4058 - Defects on Passenger Lift Fire Doors dated 10 March 2015

The investigation report actions for each of the incidents were verified as closed out by sighting objective evidence, actual incident location and where necessary maintenance records, with the exception of the update of “Live Work Justification Case” required for the incident #4011.

A slide presentation titled “The case for working on live LV electrical equipment – Electrical Monthly Meeting 6/2/2015” has been circulated for comment and it was stated that whilst the Production department Learning Meetings have been concluded, the document update for “Live Work Justification Case” has not yet been fully rolled out.

<b>Recommendation 1106-1</b>
Ensure that the release and issue of the updated “Live Work Justification Case” procedure is expedited.

### 3.4 MAE 01 Subsea Loss of Containment

MAE-01 Subsea Loss of Containment barriers and controls are described in the Major Accident Event Datasheet and its respective Bow-Tie diagram. The prevention measures are identified on the Bow-Tie diagram as either a Safety Critical Element (SCE) or Safety Management System Control. The Performance Standards (PS) identified are:

- P09 – Pipeline Systems
- P21 – Substructures

- P23 – Mooring Systems
- P28 – Sand Management System
- F05 – ESD Valves
- F06 – Emergency Shutdown System

As part of the inspection it was noted that 4 wells (LAM-4, LAM-5, LAM-6 & LAM-7) and the Corallina gas lift riser and flowline were no longer in service (refer Laminaria & Corallina Field Schematic diagram M2061DU001.0002 Rev 2).

The design technical integrity, inspection and maintenance of the safety critical elements are listed as the main controls for this Major Accident Event (MAE). The inspectors sought verification of the controls specified for this MAE by reviewing the Performance Standards for the safety critical elements. For each Performance Standard the Assurance tasks were reviewed and the associated maintenance activities were sampled.

### **P09 - Pipeline Systems**

The performance standard (M1500RF1000.0180 Rev 1) Assurance Section includes a statement that the activities are conducted in accordance with the facility IMS [1] (document M2040EX0019 Laminaria and Corallina Integrity Management Strategy for Flexible Lines and ancillaries). This section also contains a note which states “IMS [1] used in preference of the subsea RBI [4] as this is under review”.

However, it was stated by the Subsea Operations representative that subsea assurance tasks were being undertaken in accordance with risk based inspection (RBI) requirements and not following the Integrity Management Strategy (IMS). In addition the RBI document (M2000EY0001 LMC 2006 Subsea RBI Workshop Summary Report and Plan) referenced in the performance standard was advised as being superseded by Laminaria and Corallina - Subsea Risk Based Inspection Report M2000RQ0100, Rev 1, dated July 2013.

On review it is noted that not all RBI/IMS assurance tasks are identified in the performance standard, for example 3 yearly Riser/Flowline Coupon Sampling (AU06-0183), 2 yearly Annulus Vacuum Testing (PRT procedure AU06-PSP090003) and Ultrasonic Thickness (UT) testing of the manifold pipework.

It was further noted that the PS requires 3 monthly Bore Fluid Composition Inspection whereas the AU06-01825 identifies the activity as 6 monthly. The Asset Superintendent stated that all changes to technical integrity maintenance activities are covered by the technical change process and in this instance by X1-PM Master Data Change #60024229.

#### **Recommendation 1106-2**

Review the performance standard P09 Pipeline Systems and ensure that this performance standard, RBI requirements and integrity management strategy are aligned in order to form a clear inspection and testing regime for subsea pipeline systems.

#### **Recommendation 1106-3**

Ensure that the performance standard P09 assurance tasks section lists all assurance activities to be undertaken as identified in the selected maintenance strategy.

The Subsea Production representative advised that subsea integrity records are contained within the COABIS system and SAP-PM systems. The SAP-PM system remains the master maintenance record and

contains the integrity inspection reports however the anomaly tracking and inspection details (photos, readings) are retained and managed via COABIS. It was also stated that data matching (functional location details) was underway to ensure both systems have linkage and this activity should be completed during 2015.

The most recent (2013) subsea inspection campaign report (2013– LMC Subsea Inspection Campaign – Operations Report (SP03-022) Rev 0, dated 16 August 2013, DRIMS # 8834327) was reviewed. This report summary stated *“No critical anomalies were noted during the inspection campaign, however significantly depleted anodes were a common theme on subsea components throughout the field. On most occasions CP levels were still within acceptable limits and no significant deterioration of components was reported.”* Anomaly LMC/13/R/135 was sampled, it was noted that a technical query TQ 91020973 had been raised and approved in the Technical Change Management System (TCMS) to “accept” the anomalous cathodic protection (CP) reading.

The report summary also stated that *“Ultrasonic wall thickness readings were completed at 4 out of 9 preselected locations. Wall thickness readings returned showed no significant wall thickness loss from the previous 2011 values.”* The Inspectors noted that the 2011 Report previously received by NOPSEMA (M2000RU7507081 2011 – LMC Underwater Inspection Campaign – Final Report Rev 0) only included General Visual Inspection and CP activities with no UT testing being conducted.

The 2013 operations report was later supplemented by report “2013 LMC Subsea Facilities Inspection Final Report - (SP03-022)” M2000RU9039613, Rev 0, dated 10 April 2015. It is noted that the final report has only recently been released and this is 20 months after the conduct of the RBI inspection.

The 2013 final subsea report does not include the actual UT readings reported in the earlier operations report, nor does it identify to the same extent the incomplete UT reported in the early released report. Furthermore the report does not discuss the fact that UT measurements were taken in the manifold section of the report (section 6.1); it draws no conclusions regarding the UT readings that were recorded or the recordings that were unable to be done. Section 3.3 of the report simply states that UT was completed on the 3 manifolds (COR, LAM-2S and LAM-C); section 3.4 then states that UT was not completed.

A history of the UT readings (2007-2013 LMC UT Gated Data Report dated 23 April 2015) was provided, however due to differing naming conventions the correlation of the data does not appear clear and therefore questionable for analysis purposes; e.g. “PS-GAS LIFT HEADER” identifies 2 locations in 2007 and 4 locations in 2013, while “TP-WT1 (10”P/T)” identifies 4 generic locations in 2001, 4 locations with no result in early 2005, 1 location with no result in late 2005, 1 location with result in 2007 and 1 location without result in 2013.

A WEL internal email “Laminaria/Corallina Workscope Review” dated 31 January 2011 was provided. This email seeks to confirm acceptance of the basis of the 2011 Laminaria/Corallina ROV inspection of subsea assets and this specifically excludes UT readings of the manifolds. Notwithstanding this email no objective evidence has been provided to explain what definitive actions (TCMS, risk assessment) had been instigated to address the UT readings that were not able to be taken during the 2013 campaign or the basis for excluding UT readings from the 2011 campaign.

**Recommendation 1106-4**

Ensure that the RBI assurance requirements for manifold pipe UT inspections are fully completed and reported in a timely manner.

**P21 – Substructures**

The performance standard (document M1500RF1000.0200 Rev 1) Performance Criteria Section states as a criteria “No damage or degradation to substructure [7] with the potential to result in failure during service” however it was noted that [REDACTED] had placed a condition of class (CoC) with respect to the hull longitudinal strength [REDACTED] Interim Certificate FRE 1500018 dated 26 February 2015 CoC item number 33) and which is due for resolution in May 2015.

The Asset Superintendent stated that the overall structural integrity of the facility had been assessed by finite element methods and was the subject of [REDACTED] review ([REDACTED] report DAD SATS/Hull/0012496; not sighted during the inspection) and the repair activities had been agreed. It was noted that localised hull repair was presently ongoing on the facility and would not be completed until July 2015.

It was identified that as these deficiencies were related to Classification Society activities they were not tracked within COABIS consistent with other subsea related anomalies but within the JIRA system which is an action tracking database for Classification/Regulatory matters.

**Recommendation 1106-5**

Consider capturing all subsea integrity related anomalies within one common database for completeness.

**P23 – Mooring System**

The performance standard (M1500RF1000.0210 Rev 1) deals with the assurance aspects related to the subsea mooring system and turret. Similar to P09 discussed above, the Assurance section does not contain a complete list of maintenance assurance activities associated with this SCE; for example 3 monthly Inspection turret main roller bearing (AU06-00040), 3 monthly Sample main roller bearing (AU06-00039) and 4 yearly Eddy Current Main roller bearing (AU06-00041) are not listed.

**Recommendation 1106-6**

Ensure that the performance standard P23 assurance tasks section lists all assurance activities to be undertaken as identified in the selected maintenance strategy.

The latest inspection report (M2061RG7604134 Rev 0 - 2013 Northern Endeavour In-Water Survey Final Report (SP03-023)) of the mooring system and turret fittings was reviewed.

**P28 – Sand Management System**

The performance standard (M1500RF1000.0220 Rev 1) deals with the assurance aspects related to the sand management system. It was noted that MAE-01 was not referenced in this performance standard.

**Recommendation 1106-7**

Ensure that a reference is made between performance standard P28 to MAE-01 where it is used as a control.

Erosion due to sand is identified as a failure mode in the RBI report (M2000RQ0100 Rev 1 - Laminaria and Corallina - Subsea Risk Based Inspection Report) in Table 5.3 – Tree Failure Modes, Table 5.4 – Rigid Spools Failure Modes and Table 5.5 – Manifolds, however the inspection requirement has not been carried into the inspection requirements in section 7 which form the basis of the assurance inspection tasks in the performance standard.

Maintenance records were sampled for assurance tasks of each of the 6 listed performance standards and the records appeared to be in order except for the 3 monthly Sand Detection Performance routine (work order 2200293011) which although tagged as completed did not have the results filed in the maintenance system. The “MAE Dashboard” which derives its information from the maintenance management system reflected that no overdue or outstanding maintenance activities for MAE-01.

Also sampled and found the technical change management actions with respect to alarm/set points was being managed in accordance with the Forced Bridged, MOS and Inhibit (FBMI) procedure (L0000MF4975133).

In addition the amendment to the tree valve testing regime were sampled and found to be covered by deviations COR-3 – Noti 92013283 and COR-2 – Noti 92013282.

In accordance with the WEL Drilling and Completions – Engineering Manual – Managing Well Integrity – Guidelines (DC0000AP3151404 Rev: 2), a Northern Endeavour Well & Subsea Integrity Status Report (DRIMS #2209164) is maintained monthly by the subsea production team. A copy of the 9 March 2015 report was reviewed. The report is in a traffic light format where components are graded in 4 levels from meets original design criteria, to out of original design criteria.

The report indicates that the choke valves for each well (except LAM8) are green (i.e. meets original design criteria), however it is noted that Operating Procedure “Close A Production Well SCSSV” (M1500MP0003.0033 Rev 3) includes an equipment warning that the “Subsea Chokes have been cycled more than their designated/tested life span”. It was confirmed during the offshore inspection that the LAM-8 gas lift choke valves are out of service and that the Operating Procedure had not been updated to reflect the actual status of these valves.

Furthermore the report indicates that the manifold wall thickness for each well are green (i.e. meets original design criteria), however as noted above, the 2013 subsea inspection campaign (2013– LMC Subsea Inspection Campaign – Operations Report (SP03-022) Rev 0; DRIMS # 8834327) highlighted 5 out the required 9 UT measurements were not undertaken.

**Recommendation 1106-8**

Ensure that the manifold wall thickness assurance status is accurately captured in the Well & Subsea Integrity Status report.

██████████ have been contracted to perform annual verification of each of the Performance Standards as part of the overall Integrity Management process. It was noted from the records sampled that the ██████ Verification Reports were not up to date for any of the 6 Performance Standards.

- P09 – Pipeline Systems; ██████ Report FRE1200011/NE/001-001, dated 2012.
- P21 – Substructures; ██████ Report FRE1300004/NE/001-001, dated 26 June 2013.
- P23 – Mooring Systems; ██████ verification activity has not been undertaken. It was stated that the mooring system is subject to Classification inspection regime and therefore excluded from the verification activities.
- P28 – Sand Management System; ██████ verification activity has not been undertaken.
- F05 – ESD Valves; ██████ verification activity has not been undertaken.
- F06 – Emergency Shutdown System; ██████ verification activity has not been undertaken.

It was stated by the Asset Superintendent that ██████ undertake the role of verification authority and facility Classification Society. As a consequence of an International Association of Classification Societies directive

to prioritise classification activities ■ had not been able to complete both verification and classification tasks.

**Recommendation 1106-9**

Ensure that the annual third party performance standard verification activities are completed as required by the WEL Integrity Management process.

A review of the “Competency Dashboard”, which derives its information from the WeLearn database, appeared to be a well-structured management tool for competency management and it was noted that each of the Central Control Room (CCR) operators were showing “green” for “Managing Well Integrity”.

The operating procedures in use by the CCR operators were sampled and reviewed as there were multiple documents listed in the “Virtual Bookshelf” for subsea start-up, shutdown and methanol use. It was stated that many of these documents are not used and/or potentially superseded.

**Recommendation 1106-10**

Ensure that documents relating to Subsea start-up, shut-down and methanol use contained on the “Virtual Bookshelf” are reviewed and where necessary remove the documents no longer in use.

### 3.5 MAE 04 Vessel Collision

A sample Woodside Marine Charter pack was sighted. This appears to be a comprehensive information pack for the Master of a Chartered vessel and includes event reporting rating criteria (WM1040MF5404904 Rev 1 & WM1040MF5404919 Rev 0), charterer’s instructions (WM6070MV005269 Rev 0) and a copy of the WEL Golden safety rules. This pack is supported by Marine Operation Procedure for Support Vessels (M1500AG010 Rev 4) which provides specific and comprehensive instructions regarding vessel operations in the vicinity of the Northern Endeavour.

Support vessel vetting is undertaken by the WEL marine group and is conducted in accordance with Marine Offshore Vessel Suitability and Assurance Process (W0000MV9641358 Rev 0). It was advised that the vetting task follows the Oil Companies International Marine Forum Offshore Vessel Inspection Database template and includes a review of crew competency (sighted records for the OMS Endurance crew). The next scheduled audit on the OMS Endurance is scheduled for 18-19 May 2015 (WEL email dated 23 April 2015).

There is no emergency response checklist and/or response available for errant vessel and/or vessel collision in the Emergency Response Plan (ERP2110 Rev 19). Vessel collision issues appear to be addressed in the Emergency Response Plan (ERP) in Section 6.15 “Suspected Irregular Arrival of Vessels”.

**Recommendation 1106-11**

Develop an emergency response instruction for MAE 04 vessel collision for inclusion into the ERP.

Vessel Collision drills are exercised as drill #13 in the Emergency Drills Matrix (M1500MF014 Rev 7) with the last exercise completed in November 2014. The records (scenario and scribe notes) were sighted and appear to be in order. It was stated that photographs are now also taken routinely taken of the “emergency command board”.

Maintenance records were sampled for assurance tasks of each of the 3 listed performance standards (P04 - Communications, P33 - Nav aids and P34 - Vessel collision) associated with MAE-04. The records

appeared to be in order except for the P04 1 yearly PA performance checks (work order 2200288285) which although tagged as completed did not have the results filed in the maintenance system. The “MAE Dashboard” which derives its information from the maintenance management system reflected that no overdue or outstanding maintenance activities for MAE-04.

It was noted however that despite the Safety Case including the Fog Horn as a control measure for vessel collision, the current version of the performance Standard P33 (M1500RF1000.0230 Rev 1) notes that the “fog horn is not considered safety/environment critical as no credible risk of restricted visibility”.

**Recommendation 1106-12**

Ensure that the vessel collision performance standard aligns with the controls listed in the Safety Case.

**3.6 Communications – Vessel & Aircraft**

As mentioned above the support vessel interaction is described in Marine Operation Procedure for Support Vessels (M1500AG010 Rev 4), Section 6 Communications defines the various protocols for field entry, emergency response and the methods by which communications can be achieved.

It was stated that the completed Helicopter Arrival checklist (M1500MP0033.0014 Rev 6) is not retained in hardcopy (wet signature) after the flight is completed. The check sheet is laminated and completed with a “chino graph” pencil; it is therefore not possible to demonstrate safe conduct of helicopter operations.

**Recommendation 1106-13**

Ensure that a record of the helicopter arrival checklist for each flight is retained.

The review of the Communications performance standard maintenance activities is addressed above in the MAE-04 section.

It was noted that a deviation (TSD 91018194 Apr 2014) is in place for the use of an EC225 helicopter, 11.0t “t value” on the Northern Endeavour helideck where the landing area markings painted in accordance with CAP437 only reflects a 9.3 tonne “t value”.

**Recommendation 1106-14**

Ensure that that the helideck is fit for purpose for the helicopters in use (EC225).

Helicopter operator vetting is undertaken by the WEL aviation group and is conducted in accordance with Aviation Procedures & Guidelines (W1000M94824492 Rev 3). It was advised that the vetting task includes a review of crew competency (sighted extracts from the guidelines). The next scheduled audit for **Bond Aviation at Truscott** is scheduled for June 2015 (WEL email dated 23 April 2015 and DRIMS #4155401).

The “MAE Dashboard” which derives its information from the maintenance management system reflected that no overdue or outstanding maintenance activities for performance standard E13 Helideck Facilities. As stated previously no anomalies were evident from the MAE Dashboard for the communications performance standards (P04).

A review of the Competency Dashboard indicated that the “License to Operate” competencies fulfilled for Helicopter Landing Officer (HLO), Helicopter Landing Assistant and Heli Admin Co-ordinator. The HLO assignment is identified in Northern Endeavour Emergency Response Team list posted around facility.

## 4 Attachments

### Attachment A – Meetings

#### 1. Pre-Inspection Meeting

The pre-inspection meeting was held on 18 March 2015 in order to discuss the proposed inspection scope and to ascertain senior management’s understanding and expectations of the OHS risks posed by the operation at the facility and the control measures employed to reduce risks to ALARP.

Name	Position
[REDACTED]	NOPSEMA Inspector
[REDACTED]	NOPSEMA Inspector
[REDACTED]	WEL Northern Endeavour Asset Superintendent

The main points arising from this meeting were:

- Inspection brief and status of the open recommendations were reviewed.
- Some of the remaining documents requested in the brief will be provided (SF).

#### 2. Onshore Inspection Meeting (MAE-01 – Subsea Loss of Containment)

The onshore inspection meeting was held on 15 April 2015 in order to discuss the MAE-01 inspection scope to ascertain the subsea operations personnel’s understanding and expectations of the OHS risks posed by the operation at the facility and the control measures employed to reduce risks to ALARP.

Name	Position
[REDACTED]	NOPSEMA Inspector
[REDACTED]	NOPSEMA Inspector
[REDACTED]	WEL Northern Endeavour Asset Superintendent
[REDACTED]	WEL Subsea Engineer
[REDACTED]	WEL Reservoir Engineer

The main points arising from this meeting were:

- WEL to provide a copy of X1 notification to support the change in periodicity for Bore Fluid Composition Inspection (AU06-01825).
- WEL to provide a copy of the 2013– LMC Subsea Inspection Campaign final report.
- WEL to advise what actions had been instigated to address the UT readings that were not taken during the 2013 subsea campaign and evidence that UT readings had been undertaken in 2011.
- WEL to provide a copy of 2013 Northern Endeavour In Water Survey (M2061RU9043844) final report.
- WEL to provide further explanation of Operating Procedure Close A Production Well SCSSV (document M1500MP0003.0033 Rev 3) warning that states the “Subsea Chokes have been cycled more than their designated/tested life span”.

## 2. Facility Meetings

The facility Entry Meeting provided an opportunity for NOPSEMA to provide an overview of the planned inspection programme and confirm the itinerary. The facility Exit Meeting provided an opportunity for NOPSEMA to present the interim observations and conclusions from the planned inspection and for the facility's workforce to give their views.

A list of personnel at the entry and exit meetings is attached below:



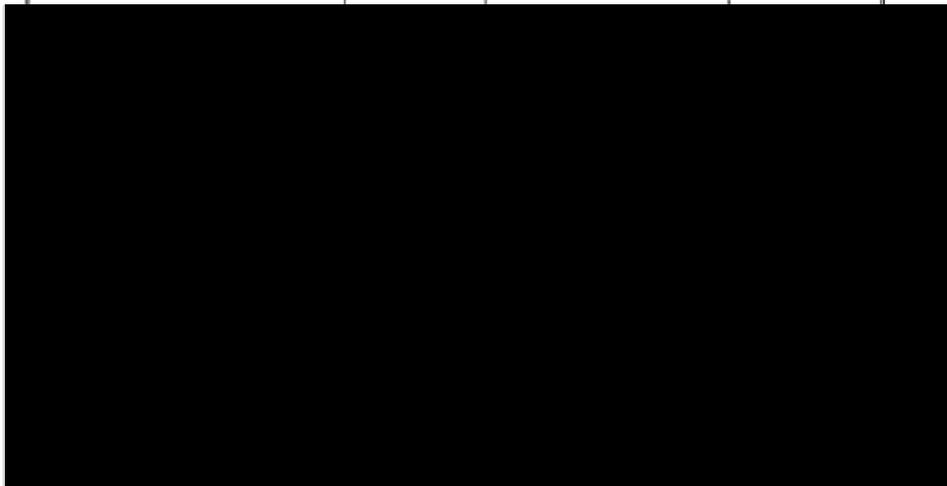
# Form

## Entry and Exit Meeting Register and Notification of Entry

*By initialling the 'Entry' column of the form below, I hereby acknowledge that on entering the facility the inspectors notified the entry meeting attendees of the purpose of entering the facility in accordance with Clause 50 (1) [regulated business premises] or Clause 50 (2) [other regulated business premises]: "Notification of entry" of Part 4 (OHS Inspections), Division 2 of Schedule 3 to the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA).*

*Note: Page two of this form contains NOPSEMA Privacy Notice*

<b>OPERATOR:</b>	WEL	<b>FACILITY:</b>	Northern Endeavour
<b>Entry meeting date:</b>	25 March 2015 <del>27 April</del>	<b>Exit meeting date:</b>	27 March 2015 <del>28 April</del>
<b>NAME</b>	<b>COMPANY</b>	<b>POSITION</b>	<b>Entry</b> <b>Exit</b>




### 3. Post-Inspection meetings

A meeting was also held on 12 May 2015 in order to discuss the inspection findings. People present at that meeting are listed below:

Name	Position
[REDACTED]	Asset Manager
[REDACTED]	Asset Superintendent
[REDACTED] ora	NOPSEMA Inspector
[REDACTED]	NOPSEMA Inspector

The main points arising from this meeting were:

- Operator accepted the report and the recommendations.
- Outstanding recommendations from previous inspections were discussed.

**Attachment B – Detailed Recommendations from this Inspection**

NOPSEMA	ID	1106-1
	Recommendation	Ensure that the release and issue of the updated “Live Work Justification Case” procedure is expedited.
	Status	Open

NOPSEMA	ID	1106-2
	Recommendation	Review the performance standard P09 Pipeline Systems and ensure that this performance standard, RBI requirements and integrity management strategy are aligned in order to form a clear inspection and testing regime for subsea pipeline systems.
	Status	Open

NOPSEMA	ID	1106-3
	Recommendation	Ensure that the performance standard P09 assurance tasks section lists all assurance activities to be undertaken as identified in the selected maintenance strategy.
	Status	Open

NOPSEMA	ID	1106-4
	Recommendation	Ensure that the RBI assurance requirements for manifold pipe UT inspections are fully completed and reported in a timely manner.
	Status	Open

NOPSEMA	ID	1106-5
	Recommendation	Consider capturing all subsea integrity related anomalies within one common database for completeness.
	Status	Open

NOPSEMA	ID	1106-6
	Recommendation	Ensure that the performance standard P23 assurance tasks section lists all assurance activities to be undertaken as identified in the selected maintenance strategy.
	Status	Open

NOPSEMA	ID	1106-7
	Recommendation	Ensure that a reference is made between performance standard P28 to MAE-01 where it is used as a control.
	Status	Open

NOPSEMA	ID	1106-8
	Recommendation	Ensure that the manifold wall thickness assurance status is accurately captured in the Well & Subsea Integrity Status report.
	Status	Open

NOPSEMA	ID	1106-9
	Recommendation	Ensure that the annual third party performance standard verification activities are completed as required by the WEL Integrity Management process.
	Status	Open

NOPSEMA	ID	1106-10
	Recommendation	Ensure that documents relating to Subsea start-up, shut-down and methanol use contained on the “Virtual Bookshelf” are reviewed and where necessary remove the documents no longer in use.
	Status	Open

NOPSEMA	ID	1106-11
	Recommendation	Develop an emergency response instruction for MAE 04 vessel collision for inclusion into the ERP.
	Status	Open

NOPSEMA	ID	1106-12
	Recommendation	Ensure that the vessel collision performance standard aligns with the controls listed in the Safety Case.
	Status	Open

NOPSEMA	ID	1106-13
	Recommendation	Ensure that a record of the helicopter arrival checklist for each flight is retained.
	Status	Open

NOPSEMA	ID	1106-14
	Recommendation	Ensure that that the helideck is fit for purpose for the helicopters in use (EC225).
	Status	Open

**Attachment C – Recommendations Status from Previous inspections**

<b>NOPSEMA</b>	<b>ID</b>	1083-7
	<b>Recommendation</b>	Ensure that the poop deck plating above the foam room is permanently repaired.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers, and Class Society ( ). Repairs to be executed by fabric maintenance team.
	<b>Position</b>	
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-8
	<b>Recommendation</b>	Ensure that the bunded pallets for the storage of helicopter fuel containers are permanently repaired/replaced and fit for purpose.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers, and Class Society ( ). Repairs to be executed by fabric maintenance team.
	<b>Position</b>	
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-17
	<b>Recommendation</b>	Ensure that the HPU support frame which supports the hydraulic oil tank tag No. 59-TI-515 is permanently repaired and adequately supported.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers. Repairs to be executed by fabric maintenance team.
	<b>Position</b>	
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-18
	<b>Recommendation</b>	Ensure that corrosion on the Hose king post is arrested and the king post assessed/tested to demonstrate that it is fit for purpose.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers. Repairs to be executed by fabric maintenance team.
	<b>Position</b>	
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-19
	<b>Recommendation</b>	Ensure that the corrosion on the bilge/sludge/black sewage, cofferdam connections and tank vents on main deck starboard side of the accommodation is arrested and made fit for purpose.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers, and Class Society [REDACTED] Repairs to be executed by fabric maintenance team.
	<b>Position</b>	[REDACTED]
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-20
	<b>Recommendation</b>	Ensure that the Inergen cabinets on the port side are repaired/replaced in order to protect the inergen manifold and release mechanism inside the cabinets.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers. Repairs to be executed by fabric maintenance team.
	<b>Position</b>	[REDACTED]
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-21
	<b>Recommendation</b>	Ensure that corrosion on the deluge piping including support brackets for the paint store is arrested and the piping maintained such that it is fit for purpose.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers. Repairs to be executed by fabric maintenance team.
	<b>Position</b>	[REDACTED]
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	1083-22
	<b>Recommendation</b>	Ensure that corrosion on the process deck plating is arrested and the plating maintained such that it is fit for purpose.
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Facility to address the issue.
	<b>Action</b>	Repair methodology to be checked and approved by WEL structural engineers. Repairs to be executed by fabric maintenance team.
	<b>Position</b>	[REDACTED]
	<b>Due Date</b>	15/05/2015

<b>NOPSEMA</b>	<b>ID</b>	982-05
	<b>Recommendation</b>	<p>WEL to ensure that the following documents are maintained and up to date</p> <p>The strategy document W1000SL7954516 rev 0 references the WEL engineering Standard – Risk Based Inspection W1000AM148863 Rev3 which is superseded. (The document appears to be superseded by W1000SL8326295).</p> <p>P08 piping systems performance standard also references the W1000AM148863 Rev3 superseded standard.</p> <p>The strategy document W1000SL7954516 Rev 0 references the WEL Engineering Standard – Inspection Management W1000ML4702905 which is superseded. (The document appears to be superseded by W1000SL8273467).</p>
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	WEL to review and ensure up to date where appropriate. Chief Materials & Inspection Engineer responsible for W1000SL7954516 Rev 0 review and Offshore Maintenance Engineering Manager responsible for P08 piping systems performance standard
	<b>Position</b>	Chief Materials, Inspection Engineer, Maintenance engineer manager
	<b>Due Date</b>	15/09/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	
	<b>Due Date</b>	15/09/2014
<b>Operator</b>	<b>Status Update</b>	<p>Item 1 - W1000SL7954516 rev 0 Superseded by Corrosion Management Process (WM1000PL9284937), Engineering Standard Inspection of In-service Pressure Equipment (W1000SL8326295) and Engineering Standard Offshore Structural Risk Based Inspection (W1000SS8577141). All references have been updated in the revised documents. W1000SL7954516 rev 0 is now stated as Superseded in CDD. Closed</p> <p>Item 2 - Performance standards are being revised as part of the 5 yearly safety case review - due for completion early 2015. Adjust due date to end January 2015</p> <p>Item 3 - Refer to point above. Closed</p>
	<b>Response</b>	
	<b>Action</b>	
<b>Operator</b>	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
	<b>Response</b>	

	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
<b>NOPSEMA</b>	<b>Status</b>	item 2 open.
<b>NOPSEMA</b>	<b>Status</b>	Date extended based on progress made. Item 2 remains open.
	<b>Due Date</b>	31/01/2015

<b>NOPSEMA</b>	<b>ID</b>	982-09
	<b>Recommendation</b>	<p>WEL to review the performance standard TEMPSC (E09). The review should take into account the following observations:</p> <p>The performance standard TEMPSC (E09) Doc No. M1500RF1000.0030 Rev 3 contains key requirements of being capable of launching and being capable of full manoeuvrability and a speed of 6 knots. The assurance section of the performance standard does not provide adequate testing for this.</p> <p>The performance standard TEMPSC (E09) does not contain a key performance requirement of remaining buoyant with no leaks.</p> <p>There is no clear link between WEL generic maintenance plans and that of the NE specific maintenance plans in the performance standard TEMPSC (E09).</p>
	<b>Status</b>	Open
<b>Operator</b>	<b>Status Update</b>	Performance standard to be updated as part of 5 yearly safety case reviews. Generic maintenance strategies have been developed as part of the pan Woodside Maintenance Strategy Project. These are reviewed by system engineers when reviewing specific maintenance strategies for the facility.
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015

<b>NOPSEMA</b>	<b>ID</b>	982-10
	<b>Recommendation</b>	<p>WEL to ensure defects raised during inspection and testing of lifeboats are reviewed and work orders raised as necessary, have notifications raised, are clearly linked to the original work order within SAP and are completed in a timely manner. The defects include but may not be limited to the following identified in the May 2013 annual inspection:</p> <p>Stbd Lifeboat items B4, B6, B13, B1, L1;</p> <p>Stbd Davit items D1, D13, D15, D1</p> <p>Port Lifeboat Items B1 windows, skate wires &amp; deluge rail</p> <p>Port Davit D1 corrosion winch &amp; sheaves</p>
	<b>Status</b>	Open
<b>Operator</b>	<b>Status Update</b>	2100158237 – planned for CMT 7 (2014) 2100158219 – activity confirmed completed (awaiting technical completion)

<b>NOPSEMA</b>	<b>ID</b>	854-1
	<b>Recommendation</b>	<p>Woodside Energy Limited to develop procedural, competency and relevant software performance standards for the Northern Endeavour as committed to in the safety case and the guidance on the Development of Facility Performance Standards W0000SF335227.</p> <p>* Regulation 2.45 OPGGS(S)R 2009</p>
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	<p>The document Development of Facility Performance Standards W0000SF335227 is a guideline. Hence we do not necessarily prepare this format for all Performance Standards in the Safety Case. For procedural controls we rely on assurance and audit.</p> <p>12/2/14 WEL are committed to performance standards for all safety critical elements as defined within safety case, chapter 3, section 6.1. These are managed by a series of formal Performance Standard documents for hardware SCE as stated within Safety Case Chapter 3, 6.4.5. Management system controls, such as procedural, competency and software controls, are managed via WMS and are embedded within WEL Operating Standards and Processes &amp; Procedures, for example emergency drill performance standards are defined within M1500MF014, NE Emergency Drills and Competence managed via W1000AF497519, Production Competency Regulated Roles Compliance Report Standard.</p>
	<b>Action</b>	Develop Performance Standard Procedure with clarity on which SCE controls require Performance Standards
	<b>Position</b>	Principal Advisor Process Safety
	<b>Due Date</b>	31/12/2014

<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Manager
	<b>Due Date</b>	28/02/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
<b>NOPSEMA</b>	<b>Status</b>	<p>Updated 17/2/14</p> <p>Response Not accepted – remains open as this is a safety case commitment. WEL committed to the development of performance standards for all safety critical controls in the safety case as per the formal safety assessment (FSA) Section 3.2 (including hardware, software and procedures which are required to prevent or control a MHH or MAE as defined in regulation 1.5 of the OPGGS(S)R). The proposed operator action only addresses SC equipment. WEL require to review all other listed controls to ensure that the required performance is defined by performance standards.</p> <p>The performance standard need not be a separate document, but a section embedded in existing document. The point is that WEL need to demonstrate to NOPSEMA that the performance standards for all safety control exist. Further the proposed timeframe for completing this action is excessive and unacceptable.</p>

<b>NOPSEMA</b>	<b>ID</b>	854-2
	<b>Recommendation</b>	Woodside Energy Limited to ensure the guidance document for the selection of SCE (W1000AG3184458 Rev 3) aligns with the safety case and the development of performance standard guideline (W1000SF3352276). Specifically it should include procedures, processes and competency MAE control measures and subsequent performance standard development. Currently the guidance excludes "Health, Safety and Environment (HS&E) business process (HS&E management systems), processes and procedures". * Regulation 2.45 OPGGS(S)R 2009
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	The document Development of Facility Performance Standards W0000SF335227 is a guideline. Hence we do not necessarily prepare this format for all Performance Standards in the Safety Case. For procedural controls we rely on assurance and audit. 12/2/14 WEL will establish a procedure stating minimum standards and expectations in establishing managing SCE and associated performance standards which will ensure alignment with Safety Case
	<b>Action</b>	Develop Performance Standard Procedure with clarity on which SCE controls require Performance Standards
	<b>Position</b>	Principal Advisor Process Safety
	<b>Due Date</b>	31/12/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Manager
	<b>Due Date</b>	28/02/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
<b>NOPSEMA</b>	<b>Status</b>	Updated 17/2/14 Response Not accepted – remains open It is unclear how the response of 12/2/14 addresses the recommendation. WEL committed to the development of performance standards for all safety critical controls in the safety case as per the formal safety assessment (FSA) Section 3.2 (including hardware, software and procedures which are required to prevent or control a MHH or MAE. Further the timeframe for completing this action is considered excessive.

<b>NOPSEMA</b>	<b>ID</b>	854-3
	<b>Recommendation</b>	<p>Woodside Energy Limited to review the performance standard for the IGG system in relation to the commitments in the safety case and its FSA to ensure all committed safety case requirements are captured in the performance standard. WEL to consider reviewing other performance standards to ensures their alignment also.</p> <p>* Regulation 2.45 OPGGS(S)R 2009</p>
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	<p>Woodside has reviewed the performance standard for the IGG and we are satisfied that the alarm and executive set-points which are set to a value lower than that stated in the performance standard meets the performance standard and meets that stated in the Safety Case.</p> <p>All Performance Standards were reviewed through the PSAP project to ensure alignment with process design and maintenance system.</p> <p>12/2/14 Woodside agreed to update Performance Standard to ensure consistent with alarm and executive actions</p>
	<b>Action</b>	Update IGG Performance Standard to ensure consistent with alarm and executive actions
	<b>Position</b>	NE Asset Manager
	<b>Due Date</b>	30/06/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL response filed (A397668).
	<b>Due Date</b>	15/02/2015

*Please provide an update*

<b>Operator</b>	<b>Status Update</b>	
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<b>NOPSEMA</b>	<b>ID</b>	854-4
	<b>Recommendation</b>	Woodside Energy Limited to ensure performance standards are clearly linked to their associated controls for Major accident events.  * Regulation 2.45 OPGGS(S)R 2009
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Woodside will provide this clear link in the 5-Yearly Safety Case update for Northern Endeavour.
	<b>Action</b>	Ensure revised safety case includes clear link between Performance Standards and Major Accident Events.
	<b>Position</b>	NE Asset Manager
	<b>Due Date</b>	31/12/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL response filed (A397668).
	<b>Due Date</b>	15/02/2015

<b>NOPSEMA</b>	<b>ID</b>	854-5
	<b>Recommendation</b>	<p>Woodside Energy Limited to review performance standards in relation to them being specific and measurable with self-contained performance requirements. It should be noted that SMART criteria (Specific, Measurable, Achievable, Realistic, Timely) are a stated key objective of any performance standards according to WEL Guidance for the Development of Facility Performance Standards document W0000SF3352276.</p> <p>* Clause 9(2)c OPGGSA 2006</p>
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	<p>Woodside believe that our Performance Standards, though not equipment specific, are SMART when combined with the SAP maintenance plans for each individual SCE. Our philosophy is not to create bespoke Performance Standards for each equipment item, rather rely on SAP to provide the equipment-specific set-points.</p> <p>4/2/14 Woodside has the following responses to the referenced Performances Standards as follows:</p> <p>P25: WEL shall establish a procedure stating minimum standards and expectations in establishing and managing SCE and associated performance standards. PS shall be aligned as part of normal review cycle</p> <p>P03: WEL shall establish a procedure stating minimum standards and expectations in establishing and managing SCE and associated performance standards. PS shall be aligned as part of normal review cycle</p> <p>F06: 5Y offline function test is not appropriate for SAP-PM as not conducted on the asset</p> <p>P20: WEL shall establish a procedure stating minimum standards and expectations in establishing and managing SCE and associated performance standards. PS shall be aligned as part of normal review cycle</p> <p>1st Stage Separator: see comments above. WEL maintain it is not appropriate to define each vessel with the Performance Standard.</p> <p>P25 PV Breaker: This will be reviewed and if additional requirements are identified they will be added.</p> <p>P25 IGG O2 Analysers: This will be addressed in the Safety Case revision in 2014.</p> <p>P03: See above</p>
	<b>Action</b>	Develop Performance Standard Procedure with clarity on which SCE controls require Performance Standards
	<b>Position</b>	Principal Advisor Process Safety
	<b>Due Date</b>	31/12/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015

<b>NOPSEMA</b>	<b>Status</b>	Updated 17/2/14 Action Not accepted – remains open. The proposed action does not address the issue raised. It does not commit to review of the performance standards on the Northern Endeavour to ensure they are SMART and measurable. Please ensure the action addresses the individual observations made in the inspection report.
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL response filed (A397668).
	<b>Due Date</b>	15/02/2015

<b>NOPSEMA</b>	<b>ID</b>	854-11
	<b>Recommendation</b>	Woodside Energy Limited to ensure audit level assurance activities are conducted on an annual basis for the production processes, as committed to in the assurance operating standard.  * Regulation 2.45 OPGGS(S)R 2009
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	The Assurance Operating Standard does not commit to annual audits on Production Processes; it recommends audits occur on yearly or greater frequency. As presented we ensure all processes are assured on a risk basis, but at most every 3 years. 12/2/14 Woodside we remove this incorrect use of terminology in our Operating Standard. Internal Audit has agreed to review the Assurance Operating Standard by June 2014. The Production Assurance Procedure is being updated. Audits are not managed through the PAT process and there is not intention to change this approach. Only IR, Review and Monitor assurance is carried out using PAT.
	<b>Action</b>	Update Operating Standard to remove incorrect use of the word “frequency” and will ensure period of time between audits is clear.
	<b>Position</b>	GM Production Assurance
	<b>Due Date</b>	30/06/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Manager
	<b>Due Date</b>	
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	

<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL to submit the completed/populated Assurance Plan to NOPSEMA for review.
	<b>Due Date</b>	28/02/2015
<b>NOPSEMA</b>	<b>Status</b>	Evidence sighted and filed - progress to be verified at the next PI (September 2015)
	<b>Due Date</b>	30/09/2015

<b>NOPSEMA</b>	<b>ID</b>	854-13
	<b>Recommendation</b>	Woodside Energy Limited to ensure independent review level assurance activities are conducted on a quarterly basis for the production processes, as committed to in the safety case and the assurance operating standard.  * Regulation 2.45 OPGGS(S)R 2009
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	The Assurance Operating Standard does not commit to quarterly Independent Reviews on Production Processes; it recommends Independent Reviews occur on quarterly or greater frequency. 12/2/14 The Production Assurance Process selectively does IR across select assets to identify asset compliance and systemic business issues. IR are completed quarterly across the division. IR are completed at frequency nominated in the Process but this frequency is for the divisional and not each asset. Review and Monitor reviews are at Asset level. This will be clarified during the reviews of the Assurance OS (scheduled for end June 14), Production Assurance Planning Guideline and Production Assurance Procedure (scheduled end March 2014).
	<b>Action</b>	Update Operating Standard to remove incorrect use of the word "frequency" and will ensure period of time between audits is clear.
	<b>Position</b>	GM Production Assurance
	<b>Due Date</b>	30/06/2014
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Manager
	<b>Due Date</b>	
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL to submit the completed/populated Assurance Plan to NOPSEMA for review.
	<b>Due Date</b>	28/02/2015

<b>NOPSEMA</b>	<b>Status</b>	Evidence sighted and filed - progress to be verified at the next PI (September 2015)
	<b>Due Date</b>	30/09/2015

<b>NOPSEMA</b>	<b>ID</b>	854-32
	<b>Recommendation</b>	Woodside Energy Limited to repair laydown area starboard side fwd. of the accommodation entry door. *OPGGSA 2006, Schedule 3, Clause 9(2)c
	<b>Status</b>	Open
<b>Operator</b>	<b>Response</b>	Woodside accepts this recommendation. Work order 2100109936 raised 12/2/14: This work is not seen as high priority compared to other repair activities. Hence the due date.
	<b>Action</b>	Assess laydown area starboard side fwd. of the accommodation entry door and implement repairs if required.
	<b>Position</b>	NE Refurb Coordinator
	<b>Due Date</b>	30/11/2014
<b>Operator</b>	<b>Status Update</b>	Update 5/3/14 – due date reflects repair and assessment on track.
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/07/2015
<b>NOPSEMA</b>	<b>Status</b>	Open due date seems excessive for an assessment of the state (over 1 year after the inspection)
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL response filed (A397668).
	<b>Due Date</b>	31/03/2015

<b>NOPSEMA</b>	<b>ID</b>	693-01
	<b>Recommendation</b>	<p>Ensure procedure AU6-PSP09001 and performance standards are aligned to measure the blowdown activation time requirements as stipulated in the safety case. *OPGG(S)R 2009, Regulation 2.45</p> <p>Recommendation basis The AU6-PSP09001 procedure does not measure the performance criteria described in the safety case, being:</p> <p>Confirmed gas in turret initiates blow-down within twenty seconds of the debutaniser and turret and after ten minutes blow-down of the process, and</p> <p>Confirmed gas in process initiates blow-down within twenty seconds of the debutaniser and process and after ten minutes blow-down of the turret.</p>
	<b>Status</b>	Open

<b>Operator</b>	<b>Response</b>	<p>Review AU6-PSP09001 for compliance with the Safety Case.</p> <p>Present to NOPSEMA, either:-</p> <ul style="list-style-type: none"> <li>- A valid reason why these Performance Criteria do not appear in AU6-PSP09001</li> <li>or</li> <li>- Proposed amendments to AU6-PSP09001 which will ensure the referred Performance Criteria are measured</li> </ul> <p>Procedure AU6-PSP09001 is not related to the blowdown valve test. The correct procedure is AU06-PSF09001.</p> <p>The logic sequence of the blowdown system has been confirmed to be aligned with the safety case requirement.</p> <p>The blowdown test is initiated under ESD2 level and confirmed gas in the turret room will initiate the ESD in this instance. This test is done separately under ESD 1&amp;2 logic solver (F06 – “Emergency Shutdown System”).</p> <p>The PRT can be found in Drims #8499786 and is in the process of being updated to ensure visible alignment.</p> <p>Provide attachments that demonstrate logic and performance standard are aligned, and executive action timing is clearly demonstrated.</p> <p>Update 170513 – WEL verified timing was stated in the cause and effects. Procedures do not contain the actual prompt to check specifics of the cause and effects and are “generic” procedures for all facilities.</p> <p>1Yr ESD logic solver and function test document (DRIMS 8499786) is still in draft format and does not appear to contain 10 minute measurement requirement. This requires further discussion with WEL as onshore provided different logic test drims No 8582319 to what offshore personnel provided.</p> <p>3/9/13 – WEL states the Procedure references cause and effect , which has the 10 minute requirement. Procedure in itself does not state requirements.</p>
	<b>Action</b>	
	<b>Position</b>	██████████
	<b>Due Date</b>	31/12/2012
<b>Operator</b>	<b>Status Update</b>	██████████ provided an email stating Closeout of 693-01 with attachments
<b>Operator</b>	<b>Response</b>	
	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
<b>Operator</b>	<b>Due Date</b>	30/04/2015
	<b>Response</b>	
	<b>Action</b>	
<b>Operator</b>	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
	<b>Status</b>	due date 31/12/12 Overdue - Reopen, WEL have still not demonstrated that 20 seconds then 10 minute blowdown criteria is being tested/checked as part of a testing procedure for confirmed gas in the turret/process. This is a performance requirement stated in the SC and performance standard and requires evidence of routine assurance.

<b>NOPSEMA</b>	<b>Status</b>	Please can you send me the finalised procedure AU06-PSF09001 (DRIMS 8499786), which provides a reference to the 10minute criteria as detailed in the cause and effect as stated by WEL.
<b>NOPSEMA</b>	<b>Status</b>	<p>As discussed in our previous meeting it helps if WEL provide a brief description on what WEL did to close this action out instead of only providing attachment documents.</p> <p>I have reviewed these documents and the recommendation does not appear to have been addressed.</p> <p>The recommendation was to:</p> <p>Ensure procedure AU6-PSP09001 and performance standards are aligned to measure the blowdown activation time requirements as stipulated in the safety case.</p> <p>How did WEL ensure alignment?</p> <p>Note that the AU6-PSP09001 procedure STILL does not appear to measure the performance criteria described in the safety case, being:</p> <ul style="list-style-type: none"> <li>• Confirmed gas in turret initiates blow-down within twenty seconds of the debutaniser and turret and after ten minutes blow-down of the process, and</li> <li>• Confirmed gas in process initiates blow-down within twenty seconds of the debutaniser and process and after ten minutes blow-down of the turret</li> </ul> <p>Is there a problem with confirming this safety case requirement?</p>
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL response filed (A397668).
	<b>Due Date</b>	15/02/2015

<b>NOPSEMA</b>	<b>ID</b>	693-04
	<b>Recommendation</b>	<p>Review the performance standards in relation to subsea critical valves and their requirements to ensure their respected performance requirements (i.e. identification of subsea critical valves, test type and frequency, accepted leak rates and acceptable valve operating times etc.) are effectively captured.</p> <p>*OPGGSA 2006, Schedule 3, Clause 9(2)(e)</p> <p>Recommendation basis</p> <p>The following are not identified on the performance standard(s):</p> <p>Subsea critical valves,                  Valve test type,                  Valve minimum test frequency,                  Valve maximum accepted leak rates (gas and oil), and                  Valve maximum acceptable valve operating times.</p> <p>Note: the Process Safety Times and Valve Response Times for Northern Endeavour Shut Down Valves (M5810RP7464174, Rev 0, 07/07/2011) was presented. This report excludes RESDV's and does not include subsea valves operating times.</p> <p>Note: the superseded 'Critical Safety System Performance Standards' for ESD – Reservoir Isolation System – Subsurface and Xmas Tree Valves, identified some of the above performance, including valve response times.</p>
	<b>Status</b>	Open

<b>Operator</b>	<b>Response</b>	<p>Provide either:</p> <p>a) proposals to revise relevant Performance Standards to reflect these performance requirements or</p> <p>b) a demonstration of where else in the Platform Safety Management System these performance requirements are captured and tested or</p> <p>c) justification as to why these particular valves should be excluded from such a performance assurance regime</p> <p>Northern Endeavour (Laminaria – Corallina) Operations Performance Standards</p> <ul style="list-style-type: none"> <li>• Wells (P10)</li> <li>• Reservoir Isolation (F07)</li> </ul> <p>Are in the process of being updated/ reviewed.</p> <p>Current Status:</p> <ul style="list-style-type: none"> <li>- Draft performance standards developed</li> <li>- Reviewing SAP to ensure tests capture all information required to demonstrate compliance to performance standards</li> </ul> <p>Work to Close</p> <ul style="list-style-type: none"> <li>- Issue performance standards as final</li> </ul> <p>Demonstrate SAP is aligned to performance standards and show work done in meeting these requirements</p> <p>Update 170513 – updating action at the moment, an alignment audit by Cody was conducted of the performance standards an maintenance data. Will be completed shortly (1 week).</p> <p>Update – 3/09/13 Cody completed check , verified subsea testing is now in line with Performance standard.</p>
	<b>Action</b>	
	<b>Position</b>	██████████
	<b>Due Date</b>	31/12/2012
	<b>Operator</b>	<b>Response</b>
<b>Operator</b>	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/04/2015
	<b>Operator</b>	<b>Response</b>
<b>Operator</b>	<b>Action</b>	
	<b>Position</b>	██████████ - Asset Superintendent
	<b>Due Date</b>	30/06/2015
	<b>NOPSEMA</b>	<b>Status</b>
<b>NOPSEMA</b>	<b>Status</b>	To be Closed awaiting review documentation -Please provide me the review and alignment audit by Cody and subsequent action.
<b>NOPSEMA</b>	<b>Status</b>	Extended based on progress made - WEL response filed (A397668).
	<b>Due Date</b>	15/02/2015