Pluto LNG Project – Ministerial Statement 757 as amended by Ministerial Statement 850 Annual Compliance Report 2015

Pluto Liquefied Natural Gas Development (Site B Option) Burrup Peninsula, Shire of Roebourne.

Date: March 2016
Status: Final
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1. **INTRODUCTION**

This Annual Compliance Report (ACR) is provided to the Western Australian Office of the Environmental protection Authority for the Pluto Liquefied Natural Gas Development (Site B Option) Burrup Peninsula, Shire of Roebourne under Ministerial Statement 757, as amended by Ministerial Statement 850. This report covers the reporting period from 1 January 2015 to end 31 December 2015.

This reporting period represents the second full year of licenced operation of the Pluto LNG Plant, which processes gas and liquids piped onshore from the offshore riser platform to produce LNG and condensate.

Licensed operation continued from 1 January 2015 in accordance with Department of Environment Regulation (DER) (EP Act Part V) Licence L8752/2013/2 through the reporting period.

1.1 **Structure of this Document**

Section 2 of the ACR is a table that sets out the status of the Ministerial Statement conditions during the reporting period from 1 January 2015 to end 31 December 2015. Appendix 1 describes the status of key actions contained within Environmental Management Plans.

This document is provided in accordance with the requirements of the Annual Audit Program approved by the Department of Environment and Conservation (now the DER) on 30 June 2008.
# Ministerial Conditions and Comments

## 2. AUDIT TABLE

**Pluto LNG Project**

**Ministerial Statement 757 as amended by Ministerial Statement 850 Annual Compliance Report 2015**

### 2.1 Audit Table

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<th>Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>757:M1.1</td>
<td>Proposal Implementation</td>
<td>Action Implement the proposal as documented and described in schedule 1 of this statement (Ministerial Statement 757) subject to the conditions and procedures of this statement.</td>
<td>Overall</td>
<td>Minister for Environment</td>
<td></td>
<td></td>
<td>C</td>
<td>The proposal is being implemented as documented in Schedule 1. The plant was in licenced operation for the entire 2015 period under Licence L8752/2013/2.</td>
</tr>
<tr>
<td>757:M2.1</td>
<td>Proprietor Nomination and Contact Details</td>
<td>Action Notify the Chief Executive Officer of the Department of Environment and Conservation (CEO) of any change of the name and address of the proponent or of any change of the name, address or other correspondence within 30 days of such change. How to maintain contact with the proponent</td>
<td>Overall</td>
<td>Minister for Environment</td>
<td></td>
<td></td>
<td>C</td>
<td>Woodside remains responsible for implementation of Ministerial Statement 757 as nominated by the Minister for Environment.</td>
</tr>
<tr>
<td>757:M3.1</td>
<td>Time Limit of Authorisation</td>
<td>Action The proposal must be substantially commenced within five years of the date of publication of this statement.</td>
<td>Overall</td>
<td>Minister for Environment</td>
<td></td>
<td></td>
<td>CLD</td>
<td>Construction commenced on 15 October 2007. Proposal has been substantially commenced, as demonstrated in Pluto LNG Project Ministerial Statement 757 - 2008 Annual Compliance Report (ACR).</td>
</tr>
<tr>
<td>757:M4.1</td>
<td>Compliance Reporting</td>
<td>Action Submit to the CEO an annual environmental compliance report relating to the previous twelve-month period, the first report to be submitted within 15 months after the commencement of operations and thereafter annually, unless required by the CEO to report more frequently.</td>
<td>Overall</td>
<td>Minister for Environment</td>
<td></td>
<td></td>
<td>CLD</td>
<td>Pluto LNG Project Ministerial Statement 757 - 2008 ACR provided evidence which demonstrated the substantial commencement of the Project.</td>
</tr>
</tbody>
</table>

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1 In accordance with Table 2 of the OPEA Post Assessment Guideline for Preparing an Audit Table dated August 2012, the following compliance status terms apply in this Report: C (compliant), CLD (completed), NR (not required at this stage), PNC (potentially non-compliant), NC (non-compliant) and IP (in process).
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<th>To requirements of</th>
<th>When it is to be taken</th>
<th>Report to be submitted by</th>
</tr>
</thead>
<tbody>
<tr>
<td>757:M4.2</td>
<td>Compliance Reporting</td>
<td>Action</td>
<td>The environmental compliance reports shall address each element of an audit program approved by the CEO and shall be prepared and submitted in a format acceptable to the CEO.</td>
<td>Overall</td>
<td>OEPA</td>
<td>C</td>
<td>Pluto LNG Project Annual Audit Program was submitted to DEC for comment on 28 May 2008. DEC approved the audit program on 30 June 2008. This ACR follows the approved format.</td>
<td></td>
</tr>
<tr>
<td>757:M4.3</td>
<td>Compliance Reporting</td>
<td>Action</td>
<td>The environmental compliance reports shall: 1. be endorsed by signature of the proponent's Managing Director or a person, approved in writing by the CEO, delegated to sign on behalf of the proponent's Managing Director; 2. state whether the proponent has complied with each condition and procedure contained in this statement; 3. provide verifiable evidence of compliance with each condition and procedure contained in this statement; 4. state whether the proponent has complied with each key action contained in any environmental management plan or program required by this statement; 5. provide verifiable evidence of conformance with each key action contained in any environmental management plan or program required by this statement; 6. identify all non-compliances and non-conformances and describe the corrective and preventative actions taken in relation to each non-compliance or non-conformance; 7. review the effectiveness of all corrective and preventative actions taken; and 8. describe the state of implementation of the proposal.</td>
<td>Overall</td>
<td>OEPA</td>
<td>C</td>
<td>This Pluto LNG Project Ministerial Statement 757 ACR 2015 fulfils requirements of 757:M4.3</td>
<td></td>
</tr>
<tr>
<td>757:M4.4</td>
<td>Compliance Reporting</td>
<td>Action</td>
<td>Make the environmental compliance reports required by Condition 4.1 publicly available in a manner approved by the CEO.</td>
<td>Overall</td>
<td>OEPA</td>
<td>C</td>
<td>Pluto LNG Project Ministerial Statement 757 ACR for 2008 to 2014 were made publicly available following submission, on the Woodside internet site; <a href="http://www.woodside.com.au/Working-Sustainably/HSE/Pages/Compliance.aspx">http://www.woodside.com.au/Working-Sustainably/HSE/Pages/Compliance.aspx</a></td>
<td></td>
</tr>
<tr>
<td>757:M1</td>
<td>Performance Review</td>
<td>Action</td>
<td>Submit a Performance Review report, every five years after the start of operations to the Environmental Protection Authority, which addresses: 1. the major environmental issues associated with implementing the project; the environmental objectives for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those objectives; 2. the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable; 3. significant improvements gained in environmental management, including the use of external peer reviews; 4. stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and 5. the proposed environmental objectives over the next five years, including improvements in technology and management processes.</td>
<td>Operation</td>
<td>EPA</td>
<td>NR</td>
<td>The first Performance Review Report was provided to the OEPA on 14 January 2013 for the 2007-2012 five year period.</td>
<td></td>
</tr>
<tr>
<td>757:M2</td>
<td>Performance Review</td>
<td>Action</td>
<td>Make the Performance Review reports required by condition 5.1 publicly available in a manner approved by the CEO.</td>
<td>Operation</td>
<td>EPA</td>
<td>C</td>
<td>The 2007-2012 Performance Report was made publicly available following submission, on the Woodside internet site; <a href="http://www.woodside.com.au/Working-Sustainably/HSE/Pages/Compliance.aspx">http://www.woodside.com.au/Working-Sustainably/HSE/Pages/Compliance.aspx</a></td>
<td></td>
</tr>
</tbody>
</table>
### 757.0.M6.4 Audit Code

#### Project phase

- **Construction**

#### What action must be taken

Action: Undertake all works to ensure that the limits of Coral Loss, specified in Schedule 2 (of Ministerial Statement 757), associated with each of the designated Impact Criteria Zones described and defined in Section 3, are not exceeded.

1. **How action must be taken:**
   - Implement Best Environmental Practice (BEP) techniques;
   - Implement the Dredging and Spoil Disposal Management Plan (DSDMP) specified Water Quality Monitoring Program to identify any decline in water quality and allow contingency management actions to be applied;
   - Implement the DSDMP specified Coral Health Monitoring Program to identify any net coral mortality and allow contingency management actions to be applied.

2. **Objective:** To minimise impact of dredging on the marine environment.

#### Evidence that action has been taken

- **Evidencing that action has been taken:**
  - Implement the DSDMP specified Coral Health Monitoring Program to identify any net coral mortality and allow contingency management actions to be applied.

#### Where it is to be taken

- **Where action must be taken:**
  - Construction During Construction

#### On advice from

- **On advice from:**
  - Minister for Environment

#### To requirements of

- **To requirements of:**
  - 757.0.M6.3

#### Status

- **Finance:** January 2015 – December 2015

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### 757.0.M6.3 Audit Code

#### Project phase

- **Construction**

#### What action must be taken

Action: If any Level 3 Coral Condition Management Trigger Criterion referred to in Schedule 3 is exceeded, within 12 hours following detection of the exceedance, notify the CEO and provide details of the actions being taken to reduce turbidity generating activities which are effecting that site; and within 24 hours of the criterion being exceeded, implement management actions to keep impacts within approved limits specified in Schedule 2.

1. **How action must be taken:**
   - Management actions taken are dependent on circumstances (dredge location, meteorological conditions, tide etc.). Appropriate contingency actions will be selected from those specified in the DSDMP in consultation with the DEMG.

2. **Objective:** To minimise impact of dredging on the marine environment.

#### Evidence that action has been taken

- **Evidencing that action has been taken:**
  - Compliance reports to the DEC CEO in the event of a Schedule 3 exceedance; DEMG minutes outlining actions taken and assessment of adequacy.

#### Where it is to be taken

- **Where action must be taken:**
  - Construction During Construction

#### On advice from

- **On advice from:**
  - DEC: December

#### To requirements of

- **To requirements of:**
  - 757.0.M6.2

#### Status

- **Finance:** January 2015 – December 2015

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### 757.0.M6.2 Audit Code

#### Project phase

- **Construction**

#### What action must be taken

Action: If any Level 1 Coral Condition Management Trigger Criterion referred to in Schedule 3 is exceeded, within 12 hours following detection of the exceedance, notify the CEO and provide details of the actions being taken to reduce turbidity generating activities which are effecting that site; and within 24 hours of the criterion being exceeded, implement management actions to keep impacts within approved limits specified in schedule 2.

1. **How action must be taken:**
   - Management actions taken are dependent on circumstances (dredge location, meteorological conditions, tide etc.). Appropriate contingency actions will be selected from those specified in the DSDMP in consultation with the DEMG.

2. **Objective:** To minimise impact of dredging on the marine environment.

#### Evidence that action has been taken

- **Evidencing that action has been taken:**
  - Compliance reports to the DEC CEO in the event of a Schedule 3 exceedance; DEMG minutes outlining actions taken and assessment of adequacy.

#### Where it is to be taken

- **Where action must be taken:**
  - Construction During Construction

#### On advice from

- **On advice from:**
  - DEC: December

#### To requirements of

- **To requirements of:**
  - 757.0.M6.1

#### Status

- **Finance:** January 2015 – December 2015

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### 757.0.M6.1 Audit Code

#### Project phase

- **Construction**

#### What action must be taken

Action: Undertake all works to ensure that the Limits of Coral Loss, specified in Schedule 2 (of Ministerial Statement 757), associated with each of the designated Impact Criteria Zones described and defined in Figure 3, are not exceeded.

1. **How action must be taken:**
   - Implement Best Environmental Practice (BEP) techniques;
   - Implement the Dredging and Spoil Disposal Management Plan (DSDMP) specified Water Quality Monitoring Program to identify any decline in water quality and allow contingency management actions to be applied;
   - Implement the DSDMP specified Coral Health Monitoring Program to identify any net coral mortality and allow contingency management actions to be applied.

2. **Objective:** To minimise impact of dredging on the marine environment.

#### Evidence that action has been taken

- **Evidencing that action has been taken:**
  - Marine Impacts

#### Where it is to be taken

- **Where action must be taken:**
  - Construction During Construction

#### On advice from

- **On advice from:**
  - Minister for Environment

#### To requirements of

- **To requirements of:**
  - 757.0.M6.0

#### Status

- **Finance:** January 2015 – December 2015

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### Notes

- This condition was met during the 2010 reporting period and no further action is required.
- Dredging was completed on 21 May 2010.
- This condition was met during the 2010 reporting period and no further action is required.
- This condition was met during the 2010 reporting period and no further action is required.
**757.M6.5 Marine Impacts**

**Objective**: To minimise impact of dredging on the marine environment.

**Evidence**
- Investigation reports analysing the exceedance. Compliance reports to the Minister for the Environment regarding the Schedule 3 exceedance.

**Action**
- Prior to commencement of turbidity-generating activities, prepare a Dredge Impact Management Plan for dredge activities which demonstrates that the activities can achieve the management targets for the Marine Park as set out in the Indicative Management Plan for the Proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area, and which demonstrates that management strategies will be applied which will minimise impacts on benthic habitats and communities (including corals) outside the Marine Park, to the requirements of the Minister on advice of the Environmental Protection Authority. Further details on the content required in this Plan are provided in schedule 4.

**How**
- DSDMP (DIMP) developed in consultation with key stakeholders (including DEC, DPA, DoF). Address the following: 1. comprehensive monitoring of water quality, sediment deposition, and coral condition; 2. best practice dredge procedures; 3. selection of a suitable location for the off-shore spoil ground which demonstrably does not cause impacts on the Marine Park; 4. optimum timing of works with respect to sea and meteorological conditions; 5. establishment of conservative ‘stop work’ trigger levels; 6. identification and temporal definition of key ecological windows when dredging activity will not occur, such as during coral spawning periods; and 7. contingency plans. Further details on the content required in this Plan are provided in schedule 4.

**Objective**: To minimise impact of dredging on the marine environment.

**Evidence**
- Dredge Impact Management Plan.

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**757.M6.6 Marine Impacts**

**Objective**: To implement the Dredge Impact Management Plan required by Condition 6.5.

**How**
- Communicate Legal and Other Requirements to responsible parties (stakeholders); implement an internal audit program involving six monthly audits and Verification Plans for application/review of contractors.

**Evidence**
- Internal audit schedule, audit criteria, and evidence of completion. DEMG minutes.

**757.M6.7 Marine Impacts**

**Objective**: To make the Dredge Impact Management Plan publicly available in a manner approved by the CEO.

**How**
- Dredge Impact Management Plan to be made available in the following locations: - the Local Government Authority (2 copies); Battye Library (2 copies); Karratha Public Library (2 copies); and DEC Library Peth (2 copies - 1 hard copy, 1 cd copy) - Copies also to be freely available for download from the Woodside internet site, (availability and locations of the Dredge Impact Management Plan are to be advertised in the Local newspaper Public Notices).

**Evidence**
- To ensure that the public is kept informed.

**757.M6.8 Marine Impacts**

**Objective**: To evidence of advertisement of Dredge Impact Management Plan.

**How**
- The role of the Dredge Environmental Management Group is to provide the Minister for the Environment, the Department of Environment and Conservation and the proponent with advice including, but not limited to: 1. the marine management plans; 2. the marine monitoring programs; 3. the management of turbidity-generating activities and marine works; 4. impacts on marine fauna and flora, including corals; 5. reporting; 6. new management measures and 7. Level 1 and 2 Coral Condition Management Trigger Criteria for Zone C as required in Schedule 3. The membership of the Dredge Environmental Management Group may include: an

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<th>Project phase</th>
<th>When action to be taken</th>
<th>To requirements of</th>
<th>Project phase</th>
<th>On advice from</th>
<th>Status *</th>
<th>When action to be taken</th>
<th>Where it is to be taken</th>
<th>On advice from</th>
</tr>
</thead>
<tbody>
<tr>
<td>757/ME.9</td>
<td>Marine Impacts</td>
<td>Design</td>
<td>Prior to commencement of marine works</td>
<td>Minister for Environment</td>
<td>DEC</td>
<td>CLD</td>
<td>This condition was met during the 2008 reporting period and no further action is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>757/ME.10</td>
<td>Marine Impacts</td>
<td>Action</td>
<td>Provide an initial report on a detailed survey of coral habitat and communities, and a map showing the general distribution of other benthic habitat types (including soft corals, sponges, algal reef communities) within and adjacent to the area of predicted effects of dredging to the Department of Environment and Conservation at least one month prior to the commencement of dredging.</td>
<td>Design</td>
<td>One month prior to dredging</td>
<td>DEC</td>
<td>CLD</td>
<td>This condition was met during the 2008 reporting period and no further action is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>757/ME.11</td>
<td>Marine Impacts</td>
<td>Action</td>
<td>Conduct a comprehensive field survey, consistent with the approved Scope of Baseline Marine Habitat Survey document, and provide a report of the results to the Department of Environment and Conservation within twelve months following commencement of any marine works associated with the proposal.</td>
<td>Construction</td>
<td>Within 12 months of commencement of dredging works</td>
<td>DEC</td>
<td>CLD</td>
<td>The final report to address specific requirements of Condition 6-11 was submitted to DEC on 21 November 2008 (WBPL ref: PLU000154). DEC acknowledged receipt of the report on 25 November 2008 (DEC reference: DEC0862-04).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Status: January 2015 – December 2015
757.1 Marine Impacts

A Post-Dredging Benthic Marine Habitat Survey shall be undertaken in accordance with the approved Scope of Baseline Habitat Survey.

Objective To minimise impact of dredging on the marine environment.

Evidence See M6.14.

757 as amended by 850/M6.13

Action Repair the survey required by condition 6-12, at the same time of the year annually for three years, or for a lesser number of years as determined by the CEO of the OEPA, on advice of the Department of Environment and Conservation and the Department of Fisheries.

How A Post-Dredging Marine Habitat Survey shall be undertaken in accordance with the approved Scope of Baseline Habitat Survey.

Objective To minimise impact of dredging on the marine environment.

Evidence See M6.14.

757 as amended by 850/M6.14

Action Within three months following completion of each of the surveys required by conditions 6-12 and 6-13, the proponent shall report the findings of each of the surveys to the OEPA and the Department of Environment and Conservation.

Objective To report progress of subsequent surveys.

Evidence 1) Findings of Post-Dredging Benthic Marine Habitat Survey initially at least 3 months following completion of marine works, then 2) Within three months following completion of each of the surveys required under condition 6-13.

757/M7.1 Deepwater Marine Outfall

Action If a marine wastewater discharge is required by the proponent, the proponent shall construct the associated infrastructure so that wastewater is discharged into water of depth greater than 30 metres outside the Dampier Archipelago, unless otherwise determined by the CEO under Part V of the Act.

How A Marine Treated Wastewater Discharge Management Plan will be developed and the appropriate infrastructure constructed to accommodate wastewater discharge.

Objective To minimise the environmental impact associated with wastewater discharge.

Evidence DEC Works Approval - Marine Wastewater discharge is required, evidence that wastewater discharge structure is discharged into water of depth greater than 30 metres.

757/M7.2 Deepwater Marine Outfall

Action Prior to construction of the wastewater treatment plant or the Marine Outfall, whichever is the sooner, the proponent, in consultation with the Department of Environment and Conservation, shall prepare a Marine Treated Wastewater Discharge Management Plan to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

How Address the following: 1) determination of the effect of wastewater WQX rate on the number of dilutions the diffuser is predicted to achieve within the zone of initial dilution at maximum flow rate; 2) setting of environmental quality, environmental quality objectives and levels of ecological protection to be achieved around the outfall; 3) identification of a range of feasible and practical management options and the environmental quality indicators and associated "trigger" levels for the implementation of remedial, management and/or preventative actions to protect the water quality and the marine environment based on the guidelines and recommended approaches in ANZECC/ARMCANZ (2000); 4) Whole Effluent Toxicity (WET) testing of wastewater, consistent with ANZECC requirements, and addressing the items in schedule 5 (attached); 5) redesign and incorporation of a new diffuser, including timelines, in the

Evidence Draft WTWMP and EIS

Objective To manage wastewater discharge.

Evidence DEC EPM, EIA, EIS
event that the WET testing results show that the original wastewater diffuser is not achieving sufficient dilutions to meet a high level of ecological protection at the edge of the mixing zone; 6. verification of diffuser performance in terms of achieving the required number of initial dilutions under low energy/calm meteorological and sea-state conditions to achieve a high level of ecosystem protection (99% species protection) at the edge of the approved mixing zone; 7. A monitoring program to permit determination of whether the water quality objectives are being met; and 8. Protocols and schedules for reporting performance against the Environmental Quality Objectives using the environmental quality trigger levels.

Objective The objective of this Plan is to ensure that the discharge of treated wastewater is managed to achieve simultaneously the following Environmental Quality Objectives as described in the document, Pilbara Coastal Water Quality Consultation Outcomes: Environmental Values and Environmental Quality Objective. (Department of Environment, March 2006): Maintenance of ecosystem integrity with spatially assigned levels of protection; Maintenance of aquatic life for human consumption assigned to all parts of the marine environment surrounding the ocean outlet; Maintenance of primary contact recreation values assigned to all parts of the marine environment surrounding the ocean outlet; Maintenance of secondary contact recreation values assigned to all parts of the marine environment surrounding the ocean outlet; Maintenance of aesthetic values assigned to all parts of the marine environment surrounding the ocean outlet; Maintenance of cultural and spiritual values assigned to all parts of the marine environment surrounding the ocean outlet; and Maintenance of Industrial Water Supply.

Evidence Marine Treated Wastewater Discharge Management Plan.

Action Implement the Marine Treated Wastewater Discharge Management Plan required by condition 7.2.

Objective To minimise environmental impacts and apply relevant technology to the project.

Evidence Details in Appendix 1 of the ACR.

Operation Minister for Environment

Implementation continued under Licensed operation during the reporting period in accordance with the management framework outlined in the Marine Treated Wastewater Discharge Management Plan (TWMP). To reflect the most up to date information regarding the management of the waste water treatment and disposal facilities implemented during the operational phase, Revision 4 of the TWMP was prepared to incorporate minor amendments made based on operating experience (including testing results) during the commissioning, proving and operations phases.

Revision 4 of the plan was provided to the OEPA for information on 20 March 2014. Revision 4 remains in line with the management framework and revision process outlined in the approved Revision 3 of the plan, and DER Operating Licence revision L8752/2013/2.


Any future revisions to the plan will also be published on the Woodside internet site.

Action Make the Marine Treated Wastewater Discharge Management Plan available on the Woodside website or upon request.

Objective To ensure the public is kept informed.

Evidence Management Plan available on the Woodside website or upon request.

Construction Construction Minister for Environment

These aspects were covered in the Marine Treated Wastewater Discharge Management Plan, which was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). OEPA approved the revised Marine Treated Wastewater Discharge Management Plan (2011) on 1 July 2011.
### Audit Code
- Subject
- What action must be taken
- How action must be taken and/or objective of action
- Objective
- Evidence that action has been taken

### Marine Outfall
- Practicable technology and waste minimisation principles for contaminants and nutrients.
  - How: A review of current Best Environmental Practice (BEP) will be conducted to ensure that the most up to date technology is being utilised. This review will be outlined in the Marine Treated Wastewater Discharge Management Plan.
  - Objective: To demonstrate best practice in wastewater treatment and discharge.
  - Evidence: Approval from DEC of MTWDMP, Works Approval granted from OCEC.

#### 757:M7.1 Deepwater Marine Outfall
- Action: Prior to submitting a Works Approval application for the wastewater treatment plant, design, and subsequently operate, plant and equipment on the site such that: 1. the contaminant concentrations in the wastewater effluent from the site, just prior to entry to the wastewater discharge system, meet (in order of preference): the ANZECC/ARMCANZ (2000) 99% species protection level; or the ANZECC/ARMCANZ (2000) 99% species protection level at the edge of an approved mixing zone; 2. The concentrations of contaminants in the wastewater effluent which can potentially bio-accumulate/bio-concentrate meet the ANZECC/ARMCANZ (2000) 80% species protection trigger levels just prior to entry into the wastewater discharge system; and 3. Mass balances and inventories of toxicants can be maintained throughout the life of the plant so that their fate can be traced.
  - How: The proponent shall demonstrate that the proposed discharge meets the Ministerial Condition 7 via modelling. This will be outlined in the Marine Treated Wastewater Discharge Management Plan.
  - Objective: To minimise the environmental impact associated with wastewater discharge.
  - Evidence: Approval from DEC of MTWDMP.

#### 757:M7.2 Deepwater Marine Outfall
- Action: Operate the Wastewater Treatment Plant such that: 1. the contaminant concentrations in the wastewater effluent from the site, just prior to entry to the wastewater discharge system, meet (in order of preference): the ANZECC/ARMCANZ (2000) 99% species protection level; or the ANZECC/ARMCANZ (2000) 99% species protection level at the edge of an approved mixing zone; 2. The concentrations of contaminants in the wastewater effluent which can potentially bio-accumulate/bio-concentrate meet the ANZECC/ARMCANZ (2000) 80% species protection trigger levels just prior to entry into the wastewater discharge system; and 3. Mass balances and inventories of toxicants can be maintained throughout the life of the plant so that their fate can be traced.
  - Evidence: Details in Appendix 1 of the ACR.

#### 757:M7.8 Compliance Reporting
- Action: Within three months following commissioning and stabilisation of plant operations, conduct an analysis of effluent properties and contaminant concentrations, to an analytical limit of reporting agreed by the Department of Environment and Conservation, demonstrating that they are substantially consistent with predictions.
  - How: A report will be prepared on the analysis of effluent properties and contaminant concentrations in consultation with DEC.
  - Objective: To demonstrate that Woodside wastewater concentrations are substantially consistent with predictions.
  - Evidence: Efficient characterisation report.

### Project phase
- When action to be taken
- Where it is to be taken
- To requirements of
- On advice from

### Approval Application for the Wastewater Treatment Plant.

<table>
<thead>
<tr>
<th>Action</th>
<th>Design</th>
<th>Operator</th>
<th>DEC</th>
<th>CLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>757:M7.1</td>
<td></td>
<td>Operation</td>
<td>OEPA</td>
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</tr>
<tr>
<td>Deepwater Marine Outfall</td>
<td></td>
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<td>Action</td>
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<tr>
<td>Prior to submitting a Works Approval application for the wastewater treatment plant, design, and subsequently operate, plant and equipment on the site such that: 1. the contaminant concentrations in the wastewater effluent from the site, just prior to entry to the wastewater discharge system, meet (in order of preference): the ANZECC/ARMCANZ (2000) 99% species protection level; or the ANZECC/ARMCANZ (2000) 99% species protection level at the edge of an approved mixing zone; 2. The concentrations of contaminants in the wastewater effluent which can potentially bio-accumulate/bio-concentrate meet the ANZECC/ARMCANZ (2000) 80% species protection trigger levels just prior to entry into the wastewater discharge system; and 3. Mass balances and inventories of toxicants can be maintained throughout the life of the plant so that their fate can be traced.</td>
<td>Design</td>
<td>Operation</td>
<td>OEPA</td>
<td></td>
</tr>
</tbody>
</table>

### Status:
- January 2015 – December 2015

These aspects were covered in the Marine Treated Wastewater Discharge Management Plan, which was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). OEPA approved the revised Marine Treated Wastewater Discharge Management Plan (2011) on 1 July 2011.
Revision 4 of the Contingency Wastewater Management Plan was prepared to incorporate minor amendments made based on operating experience (including testing results) during the commissioning, proving and operations phases.

Minor revisions to contingency measures have been provided in an update to the Treated Wastewater Discharge Management Plan. The update reflects on the most up to date information regarding the management of the waste water treatment and disposal facilities implemented during the operational phase. Revision 4 of the Treated Wastewater Management Plan was prepared to incorporate minor amendments made based on operating experience (including testing results) during the commissioning, proving and operations phases.

Revision 4 of the plan was provided to the OEPA for information on 20 March 2014. Revision 4 remains in line with the management framework and revision process outlined in the approved Revision 3 of the plan, and DER Operating Licence revision L8752/2013/2.

Minor revisions to contingency measures have been provided in an update to the TWMP (Rev 4). The update reflects on the most up to date information regarding the management of the waste water treatment and disposal facilities implemented during the operational phase. Revision 4 of the TWMP was prepared to incorporate minor amendments made based on operating experience (including testing results) during the commissioning, proving and operations phases.

Revision 4 of the plan was provided to the OEPA for information on 20 March 2014. Revision 4 remains in line with the management framework and revision process outlined in the approved Revision 3 of the plan, and DER Operating Licence revision L8752/2013/2.

The Wastewater Treatment Plant was operated to meet Environmental Quality Objectives in accordance with the Marine Treated Wastewater Discharge Management Plan, and DER Operating Licence revision L8752/2013/2.

The Marine Quarantine Management Plan was approved by the OEPA on 1 July 2011. Commissioning discharges and contingencies, prior to WET testing and subsequent effluent treatment plant Licensing, were covered under the effluent treatment plant commissioning plan required as a condition of Works Approval W4466/2008/1 and approved by DEC.
### 757.M8.2 Marine Quarantine

**Action:** Within 48 hours following entry of dredging equipment and/or other vessels associated with dredging into the Port of Dampier, the proponent shall:
- 1. for vessels originating from Ports outside of State waters, arrange for an inspection and clearance by an appropriately qualified marine scientist;
- 2. for vessels originating from Ports within State waters, provide evidence of: a) the vessel being fully cleaned of fouling organisms and sediments immediately prior to departure for the Port of Dampier; or b) inspection of the vessel at the point of departure for the Port of Dampier immediately prior to departure; or c) a risk assessment based on the history of the vessel, its characteristics and use during the implementation of the proposal, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

**Objective:** To prevent marine pest introduction.

**Evidence:** See condition 8.4.

**Prior to commencement of operation:**
- DEC

**Design:**
- Prior to commencement of dredging
- DEC, DoF, AQIS

**Construction:**
- Minister for Environment
- DoF

**Operational Phase:**
- C for implementation

**Condition:** CLD for development of protocol, C for implementation

Woodside manages marine quarantine during the operation of the Pluto LNG Project using Woodside’s Invasive Marine Species Management Plan (IMSMP). Woodside submitted this plan to the DEC on 24 June 2010 with a revision submitted on the 12 October 2011. A letter was received from the OEPA 11 January 2012 approving the Woodside Invasive Marine Species Management Plan and its implementation at the Pluto facilities.

This IMSMP is reviewed internally as required to ensure inclusion and compliance with future international, Commonwealth and State legislation and associated guidelines applicable to IMS. Implementation of the Management Plan is ongoing. During the 2015 reporting period, no introductions of IMS were identified in association with Pluto operations.

### 757.M8.3 Marine Quarantine

**Action:** Prior to commencement of operations develop and implement an appropriate protocol for inspection and clearance of vessels during the operational phase of the proposal.

**Objective:** To prevent marine pest introduction.

**Evidence:** An Invasive Marine Species Management Plan developed in consultation with and approved by DoF and DEC.

**Prior to commencement of operation:**
- DEC

**Design:**
- Prior to commencement of dredging
- DEC, DoF, AQIS

**Construction:**
- Minister for Environment
- DoF

**Operational Phase:**
- C for implementation

**Condition:** CLD for development of protocol, C for implementation

### 757.M8.4 Compliance Reporting

**Action:** Prior to the commencement of dredging, the proponent shall report to the Department of Environment and Conservation on the results of the inspection referred to in Condition 8.2.

**How inspections of vessels originating from outside of State waters will be prioritised to DEC within 48 through the process specified in the Marine Quarantine Management Plan:**

**Objective:** To prevent marine pest introduction.

**Evidence:** Inspection report.

**Prior to commencement of dredging:**
- DEC, DoF, AQIS

**Construction:**
- Minister for Environment
- DoF

**Operational Phase:**
- C for implementation

**Condition:** CLD Please refer to 757.M8.2 and 2010 ACR.

### 757.M8.5 Marine Quarantine

**Action:** Manage any sediment or fouling organisms found as a consequence of the inspection required by condition 8.2, to the timing and other requirements of the Minister for the Environment.

**How the Marine Pest Management Strategy (Contingency) specified in the Marine Quarantine Management Plan will be implemented in the event that a Marine Species of Concern is identified during an arrival inspection:**

**Objective:** Minimise environmental impacts associated with potential marine pest introduction.

**Evidence:** Marine Pest Management Strategy specified in the Marine Quarantine Management Plan approved by DoF and DEC. Communication with DoF and DEC in the event a marine species of concern is identified. Infestation survey plans approved by DoF.

**Construction:**
- Minister for Environment
- DoF

**Operational Phase:**
- C for implementation

**Condition:** CLD Please refer to 757.M8.2 and 2010 ACR.

### 757.M8.6 Marine Quarantine

**Action:** Following the completion of dredging and disposal activities, the dredging equipment is to be transferred to another location within Western Australia's territorial waters, undertake an investigation employing an appropriately qualified marine scientist to identify the presence of the potential for introduced marine pests, to the requirements of the Minister for the Environment.

**Prior to commencement of dredging:**
- DoF

**Construction:**
- Minister for Environment
- DoF, AQIS

**Operational Phase:**
- C for implementation

**Condition:** CLD Please refer to 757.M8.2 and 2010 ACR.
Ministerial Statement 757 as amended by Ministerial Statement 8

Objective: To prevent pest contamination of other Australian Ports.
Evidence: Required. Investigation reports prepared by a suitably qualified marine scientist for all dredging related vessels and equipment that are to be transferred to another location within WA territorial waters.

757:M8.7 Compliance Reporting
Action: In the event that any introduced marine pests are detected (see condition 8.6), the proponent shall put in place a Marine Pest Management Strategy to ensure that introduced marine pests are not transferred to other locations within Western Australia’s territorial waters, to the requirements of the Minister for the Environment. Note: In the preparation of the report required by condition 8.4, and in the development of any actions required by conditions 8.4 to 8.6, the Environmental Protection Authority expects that advice of the following agencies will be obtained: Department of Fisheries, and Australian Quarantine Inspection Service.

Objective: Minimise environmental impacts associated with potential marine pest introduction to other locations in Western Australia’s territorial waters.

Construction
Minister for Environment
DoF, AQIS

CLD
Please refer to 757:M8.2 and 2010 ACR.

757:M8.8 Compliance Reporting
Action: For the life of the project, notify the Department of Environment and Conservation, the Department of Fisheries and the Dampier Port Authority of any non-indigenous species detected in the waters adjacent to the project within 24 hours following detection.

Objective: To keep DEC, DPA and DoF informed.
Evidence: Notification reports of any non-indigenous species detected in waters adjacent to the project.

Overall
Within 24 hours of detection
DEC, DoF, DPA

NR
No introduced marine pests have been detected in waters adjacent to the Project by Woodside to date.

757:M8.9.1 Marine Quarantine
Action: In the event that non-indigenous species introduced by the proponent are detected during dredging, the proponent shall take immediate action to prevent establishment and proliferation and shall take action to control and eradicate them to the requirements of the Minister for the Environment.

Objective: To prevent infestation of pest species.
Evidence: Immediate notifications to DoF, DEC and DPA. Report actions to prevent establishment and proliferation of non-indigenous species and action to control and eradicate them.

Construction
Minister for Environment

CLD
No introduced marine pests were detected during the dredging program. Dredging was completed on 21 May 2010.

757:M8.9.2 Marine Quarantine
Action: In the event that non-indigenous species introduced by the proponent are detected during operation, the proponent shall take immediate action to prevent establishment and proliferation and shall take action to control and eradicate them to the requirements of the Minister for the Environment.

Objective: To prevent infestation of pest species.
Evidence: Immediate notifications to DoF, DEC and DPA. Report actions to prevent establishment and proliferation of non-indigenous species and action to control and eradicate them.

Operation
Minister for Environment

NR
No introduced marine pests have been detected in waters adjacent to the Project by Woodside to date.

757:M8.1 Turtle Management and Monitoring
Action: Prepare a Turtle Management Plan.

How: This Plan shall: 1. Identify project-related stressors, causes of environmental impacts and potential consequences for marine turtles (including impact of noise, vibration, light overspill and glow, vessel strike, and changes to coastal processes); and 2. Identify and demonstrate the effectiveness of proposed management measures to mitigate (as defined in Environmental Protection Authority Guidance Statement 9) project-related impacts and consequences for marine turtles.

Objective: To provide a management framework to enable the proponent to manage the project so as to detect and mitigate as necessary “mitigate” as defined in Environmental Protection Authority Guidance Statement 9 any impact upon marine turtles from the project and to identify darkness strategies to reduce as far as possible lights or light glow interfering with nesting female turtles and hatchlings.

Design
Prior to commencement of works
Minister for Environment

DoE

Letter dated 7 November 2008 (DOC68526), confirming that the Sea Turtle Management Plan was considered to be substantially complete. The letter also approves the Environmental Specification Lighting revision 2 October 2008, which is included as part of the Sea Turtle Management Plan.

The Sea Turtle Management Plan was revised for the operations phase and was submitted on 1 August 2011 to the OEPA for approval. OEPA approval received 30 March 2012.

Revision 2 of the operations phase Sea Turtle Management Plan was provided to the OEPA for information on 20 August 2013 following 2012 and 2013 internal reviews.

Revision 3 of the Plan was provided to the OEPA for information on 19 August 2014 following internal review.
**Audit Code** | **Subject** | **What action must be taken** | **Objective** | **Evidence that action has been taken** | **Project phase** | **When action to be taken** | **To requirements of** | **Status**: January 2015 – December 2015

---|---|---|---|---|---|---|---|---
757:M9.2 | Turtle Management and Monitoring | Implement the Turtle Management Plan required by condition 9-1. | Communicate Legal and Other Requirements to responsible parties (training); Implement an internal audit program involving six monthly audits and Verification Plans for application/review of contractors. | Overall | Minister for Environment | C | Woodside implemented the Sea Turtle Management Plan for the operations phase accordingly during the reporting period.


757:M9.4 | Turtle Management and Monitoring | Review the Turtle Management Plan required by condition 9-1 annually to the requirements of the Minister for the Environment. | To ensure public is kept informed. | Overall Annually | Minister for Environment | C | The Sea Turtle Management Plan was revised for the operations phase and was submitted on 1 August 2011 to the OEPA for approval. OEPA approval received 30 March 2012. Revision 4 of the Plan was provided to the OEPA for information on 21 July 2015 following internal review.

757:M9.5 | Compliance Reporting | Report any mortality of marine turtles or other threatened or specially protected marine fauna to the Department of Environment and Conservation within 24 hours following observation. | To keep DEC informed on project progress and issues. | Overall | DEC | NR | No mortality of marine turtles has occurred as a result of the project.

**Audit Code** | **Subject** | **What action must be taken** | **Objective** | **Evidence that action has been taken** | **Project phase** | **When action to be taken** | **To requirements of** | **Status**: January 2015 – December 2015

---|---|---|---|---|---|---|---|---
757:M10.1 | Indigenous Heritage | Prior to ground-disturbing activities, prepare, in liaison with the Department of Indigenous Affairs, and submit to the Department of Environment and Conservation, a Cultural Heritage Management Plan. | To minimise impact on cultural heritage. | Design (Prior to ground-disturbing activities) | Overall | DEC | CLD | Numerous versions of the Pluto Aboriginal Cultural Heritage Management Plan (CHMP) have been prepared to meet requirements throughout the various stages of the project. Plans such as the Aboriginal Cultural Heritage Management Plan - Pluto LNG Project Construction Phase, Cultural Heritage Management Plan – Industrial Site B and Cultural Heritage Management Plan - Industrial Site A Coastal Dunes have now been surpassed by the Pluto LNG Aboriginal Cultural Heritage Management Plan - Commissioning and Operations Phase (A900243) issued 15 April 2012.

The updated Pluto LNG Aboriginal Cultural Heritage Management Plan - Commissioning and Operations Phase was reviewed by Woodside in consultation with the Traditional Custodian groups and DIA. On 18 December 2012 a letter was received from the DIA (in response to submission of the updated CHMP and Section 18 Site B 2012 Report) stating that the report meets the requirements of Condition 6 of the Ministers Consent issued on 26 February 2007 for Woodside’s Pluto LNG project on Industrial Site B”. Condition 6 of the Consent requires a Cultural Heritage Management Plan.

757:M10.2 | Indigenous Heritage | Implement the Cultural Heritage Management Plan required by Condition 10-1. | To prevent unnecessary impacts. | Annual report to the DIA under Section 18 Permit for Site B, submitting if any site object as been disturbed. | Overall | Minister for Environment | C | Under Condition 13 of the Minister for Indigenous Affairs’ consent under Section 18 of the Aboriginal Heritage Act 1972 (WA) Woodside must report to the registrar on the extent to which works have impacted sites or objects located on the land. This commitment is also a requirement in the Pluto LNG Aboriginal Cultural Heritage Management Plan - Commissioning and Operations Phase (Section 7 ‘Background’), therefore annual reports under Section 18 consent to the Department of Aboriginal Affairs (DAA) may be used to show effectiveness of implementation of the CHMP.

On 23 Feb 2016 Woodside submitted to the DAA the Site B 2014 Compliance Report, as required by Condition 13 of the Minister for Indigenous Affairs’ consent under Section 18 of the Aboriginal Heritage Act 1972 (WA).
757.M10.3 Indigenous Heritage

**Action:** Make the Cultural Heritage Management Plan required by condition 10/1 publicly available.

**How:** Cultural Heritage Management Plan to be made available in accordance with OEPA Post Assessment Guideline for Making Information Publicly Available (PAG 4) published August 2012.

**Objective:** To ensure that the public is kept informed.

**Evidence:** Management Plan available on the Woodside internet site or upon request.

**Evidence:** To ensure that the public is kept informed.

**On advice from:** OEPA

**Status:** 0


Any future revisions to the plan will be published on the Woodside internet site.

757.M11.1 Compliance Reporting

**Action:** Prior to submitting a Works Approval application for the plant, submit a detailed Front End Engineering Design Report demonstrating that the proposed works adopt best practice pollution control measures to minimise emissions from the plant.

**Evidence:** Air Emissions

**How:** This report shall: 1. set out the base emissions rates for major sources for the plant and the design emission targets; and 2. address normal operations, shut-down, start-up, and equipment failure conditions.

**Objective:** To ensure best practice is applied to minimising air emissions.

**Evidence:** Design

**Design Prior to submitting a Works Approval Application for the plant.**

**On advice from:** Minister for Environment

**Status:** EP A

This condition was met during the 2008 reporting period and no further action is required.

757.M11.2 Air Emissions

**Action:** At least three months prior to commencement of operations prepare an Air Quality Management Plan.

**Evidence:** Air Quality Management Plan

**How:** This plan shall include: 1. cumulative air quality modelling which uses data from the Front End Engineering Design Report and includes emissions from approved industrial sources at Cape Preston and Barrow Island; 2. proposed targets and standards; 3. an emissions monitoring programme, which includes nitrogen compounds, butane, toluene, ethylene, xylene, ozone, acrylene and hydrogen sulphide emissions from the plant; 4. an ambient air monitoring programme and a nitrogen deposition monitoring programme; and 5. annual reporting.

**Objective:** To ensure the public is kept informed.

**Evidence:** Air Quality Management Plan

**Evidence:** To keep public informed.

**On advice from:** Minister for Environment

**Status:** CLD

The Air Quality Management Plan was submitted on 29 September 2010. The plan was approved by the OEPA on 10 October 2011 (EPA reference: A337424: OEPA2010/000682-1). Following submission of two third party reports which reviewed the Air Quality Management Plan NOx and ozone, and nitrogen deposition monitoring (submitted on 24 and 30 December 2014 respectively), the OEPA on 2 July 2015 endorsed a pause in this monitoring until such a time as OEPA requests that it be recommenced.

757.M11.3 Air emissions

**Action:** Implement the Air Quality Management Plan required by Condition 11/2.

**Objective:** To minimise environmental impacts associated with air emissions.

**Evidence:** Refer to Appendix 1 of the Annual Compliance Report.

**Evidence:** To keep public informed.

**Evidence:** Air Quality Management Plan available on the Woodside internet site or upon request.

**On advice from:** Minister for Environment

**Status:** C

Implementation continued under Licensed operation during the reporting period in accordance with the management framework outlined in the Air Quality Management Plan.

Routine monitoring including stack emissions testing continued during the 2015 reporting period for the gas turbines and regenerative thermal oxidiser. Emissions monitoring results, smoke monitoring and RTO operation reporting to the DER was undertaken in accordance with conditions outlined in the DER Licence revision L8752/2013/2.

Please refer to Appendix 1 for specific information against commitments in the Air Quality Management Plan.

757.M11.4 Air Emissions

**Action:** Make the Air Quality Management Plan required by condition 11/2 publicly available.

**Evidence:** Air Quality Management Plan

**How:** Air Quality Management Plan to be made available in accordance with OEPA Post Assessment Guideline for Making Information Publicly Available (PAG 4) published August 2012.

**Objective:** To keep public informed.

**Evidence:** Management Plan available on the Woodside internet site or upon request.

**On advice from:** OEPA

**Status:** C


Any future revisions to the plan will also be published on the Woodside internet site.

757.M12.1 Greenhouse Gas Abatement

**Action:** Develop a greenhouse gas Abatement Program; to ensure that the plant is designed and operated in a manner which achieves reductions in "greenhouse gas" emissions as far as practicable; to provide for ongoing "greenhouse gas" emissions reductions over time; to ensure that through the use of best practice, the total net "greenhouse gas" emissions and/or "greenhouse gas" emissions per unit of product from the project are minimised; and to manage "greenhouse gas" emissions in accordance with the Framework Convention on Climate Change 1992; and consistent with the National Greenhouse Strategy.

**How:** This Program shall include: 1. calculation of the "greenhouse gas" emissions from major sources of the plant.

**Evidence:** Greenhouse Gas Abatement Program

**Design Prior to commencement of construction of plant.**

**On advice from:** Minister for Environment

**Status:** CLD

This condition was initially met during the 2008 reporting period. A revision to the plan was submitted to OEPA for approval on 22 August 2011. A response from the OEPA on 17 January 2012 stated that “The (revised) Greenhouse Gas Abatement Program satisfies the key components required by Condition 12/1 of Ministerial Statement 757.”
<table>
<thead>
<tr>
<th>Audit Code</th>
<th>Subject</th>
<th>Objective</th>
<th>Evidence that action has been taken</th>
<th>Project phase</th>
<th>When action to be taken</th>
<th>Where it is to be taken</th>
<th>To requirements of</th>
<th>Status: January 2015 – December 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>757M12.2</td>
<td>Greenhouse Gas Abatement</td>
<td>Action: For the life of the project, the proponent shall provide a greenhouse gas offset package which, as a minimum, offsets the reserve carbon dioxide released to the atmosphere.</td>
<td>Overall: Ongoing</td>
<td>Minister for Environment</td>
<td>C</td>
<td>Provision of the approved greenhouse emissions abatement package continued during 2015, via a contract with CO2 Australia. Under this CO2 Australia, on behalf of Pluto LNG, implements and manages over the life of the project, bio-sequestration of more than an estimated 5.1Mt CO2e (being equivalent to the quantity of reservoir CO2 emissions released to the atmosphere). Establishment of the tree plantings committed for delivery under the contract commenced in 2008 and was completed during 2012. CO2 Australia continues to provide ongoing management and carbon accounting services under the contract and the programme continued to plan during 2015.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>757M12.3</td>
<td>Greenhouse Gas Abatement</td>
<td>Action: Implement the Greenhouse Gas Abatement Program required by condition 12-1.</td>
<td>Construction: Ongoing</td>
<td>Minister for Environment</td>
<td>CLD for construction phase, C for operations phase</td>
<td>The Construction Phase component of the Program was completed during the 2010-2011 period of reporting. The Greenhouse Gas Abatement Program details the design and operational aspects of the project related to minimisation of the overall greenhouse footprint, and was active during the 2015 reporting period. Progress against individual activities specified in the Greenhouse Gas Abatement Plan is summarised in Appendix 1.</td>
<td></td>
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</tbody>
</table>

Emissions associated with the proposal, as advised by the Environmental Protection Authority; Note: The current requirements of the Environmental Protection Authority are set out in: Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No 12 published by the Environmental Protection Authority (October 2002). This document may be updated or replaced from time to time. 2. Specific measures to minimise the total net “greenhouse gas” emissions and/or the “greenhouse gas” emissions per unit of product associated with the proposal using a combination of “no regrets” and “beyond no regrets” measures; 3. The implementation and ongoing review of “greenhouse gas” offset strategies with such offsets to remain in place for the life of the proposal; 4. Estimation of the “greenhouse gas” efficiency of the project (per unit of product and/or other agreed performance indicators) and comparison with the efficiencies of other comparable projects producing a similar product, both within Australia and overseas; 5. Implementation of thermal efficiency design and operating goals consistent with the Australian Greenhouse Office Technical Efficiency guidelines in design and operational management; 6. Actions for the monitoring, regular auditing and annual reporting of “greenhouse gas” emissions and emission reduction strategies; 7. a target set by the proponent for the progressive reduction of total net “greenhouse gas” emissions and/or “greenhouse gas” emissions per unit of product and as a percentage of total emissions over time, and annual reporting of progress made in achieving this target. Consideration should be given to the use of renewable energy sources such as solar, wind or hydro power. 8. A program to achieve reduction in “greenhouse gas” emissions, consistent with the target referred to in (7) above, 9. entry, whether on a project specific basis, company-wide arrangement or within an industrial grouping, as appropriate, into the Commonwealth Government’s “Greenhouse Challenge” voluntary cooperative agreement program. Components of the agreement program include: 1. an inventory of emissions; 2. opportunities for abating “greenhouse gas” emissions in the organisation; 3. a “greenhouse gas” mitigation action plan; 4. regular monitoring and reporting of performance; and 5. independent verification. 10. Review of practices and available technology; and 11. “Continuous improvement approach” so that advances in technology and potential operational improvements of plant performances are adopted. Note: In (2) above, the following definitions apply: 1. “no regrets” measures are those which can be implemented by a proponent and which are effectively cost-neutral and 2. “beyond no regrets” measures are those which can be implemented by a proponent and which involve additional costs which are not expected to be recovered. Objective: To minimise environmental impacts associated with greenhouse gas emissions. Evidence: Greenhouse Gas Abatement program. |
### 775: M14.1 Decommissioning

**Action**
- Prepare a Preliminary Decommissioning Plan for approval by the CEO, which describes the framework and strategies to ensure that the site is suitable for future land uses, and provides: 1. the rationale for the siting and design of plant and infrastructure as relevant to environmental protection; 2. a conceptual description of the final landform at closure; 3. a plan for a care and maintenance phase; and 4. initial plans for the management of noxious materials.

**Objective**
- To outline a plan for decommissioning.

**Evidence**
- Preliminary Decommissioning Plan.

**Design**
- Prior to submitting a Works Approval application for the plant.

**Operation**
- At least 6 months before the date of closure or at a time approved by the CEO.

**Status**: A revised Preliminary Decommissioning Plan was submitted to the Office of the EPA on 8 January 2010 (PLU/GOV/00429) and subsequently approved on 1 February 2010 (DEC7069-02 - DOC11502).

### 775: M14.2 Decommissioning

**Action**
- Submit a Final Decommissioning Plan, for approval of the CEO.

**Evidence**
- Final Decommissioning Plan shall be developed closer to decommissioning date.

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<table>
<thead>
<tr>
<th>Audit Code</th>
<th>Subject</th>
<th>What action must be taken</th>
<th>How action must be taken and/or objective of action</th>
<th>Objective</th>
<th>Evidence that action has been taken</th>
<th>Project phase</th>
<th>When action to be taken</th>
<th>Where it is to be taken</th>
<th>To requirements of</th>
<th>Status: January 2015 – December 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>757:M14.3</td>
<td>Decommissioning</td>
<td>provision of evidence of notification and proposed management measures to relevant statutory authorities.</td>
<td>Final Decommissioning Plan.</td>
<td>To ensure that the site is suitable for future land uses.</td>
<td>Final Decommissioning Plan.</td>
<td>14.2</td>
<td>Until such time as the Minister for Environment determines on advice of the CEO, that the proponent's decommissioning responsibilities have been fulfilled.</td>
<td>Minister for Environment</td>
<td>NR</td>
<td>Final Decommissioning Plan shall be developed closer to decommissioning date.</td>
</tr>
<tr>
<td>757:M14.4</td>
<td>Decommissioning</td>
<td>Make the Final Decommissioning Plan required by condition 14-2 publicly available in a manner approved by the CEO.</td>
<td>Final Decommissioning Plan to be made available in accordance with CEPA Post Assessment Guideline for Making Information Publicly Available (PAG 4) published August 2012.</td>
<td>To ensure the public is kept informed</td>
<td>Final Decommissioning Plan shall be developed closer to decommissioning date.</td>
<td>14-2</td>
<td>Until such time as the Minister for Environment determines on advice of the CEO, that the proponent's decommissioning responsibilities have been fulfilled.</td>
<td>CEPA</td>
<td>NR</td>
<td>Final Decommissioning Plan shall be developed closer to decommissioning date.</td>
</tr>
</tbody>
</table>
### APPENDIX 1 – PLUTO LNG PROJECT MANAGEMENT PLAN KEY ACTIONS

The table below provides evidence of the status of key management actions contained within the Environmental Management Plans and programs required by Ministerial Statement 757.

<table>
<thead>
<tr>
<th>Key Management Action</th>
<th>Source Ref/ Chap</th>
<th>Status/Evidence 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Treated Wastewater Discharge Management Plan (Condition 7-2) (Rev 4, March 2014 - XA00004AH00029)</td>
<td></td>
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</tr>
<tr>
<td>Review Management Plan as required – triggers for review may include a significant change to the wastewater system, results from WET testing and Water Corporation analysis, change in regulations, or at the request of the OEPA. Minor revisions may be undertaken to ensure the plan remains current. If changes are required to be made to the plan that are material to the risk presented by the operation of the facilities, a revised plan will be provided to the OEPA and DoE for approval. Approval will be obtained prior to implementation of the revised plan and the revised plan will be made publicly available to the prescribed requirements of the CEO of OEPA. Submit revised plan to OEPA and DoE for information or approval.</td>
<td>1.4</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In order for the plan to reflect the most up to date information regarding the management of the waste water treatment and disposal facilities during the operational phase, Woodside undertook an update to the Treated Wastewater Discharge Management Plan during 2013/2014 (Revision 4). This version incorporates minor amendments made based on operating experience (including testing results) during the commissioning and proving phase. Revision 4 of the plan was provided to the OEPA for information on 20 March 2014. Revision 4 remains in line with the management framework and revision process outlined in the approved Revision 3 of the plan, and DER Operating Licence L8752/2013/2.</td>
</tr>
<tr>
<td>Monitoring during start-up and commissioning of effluent treatment plant as detailed in the Pluto LNG Project Effluent Treatment Plant Commissioning Plan, Woodside Doc. XA00004AH00075 approved by the DEC under Works Approval WA4466/2008/1.</td>
<td>6.1</td>
<td>CLD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Woodside provided the Pluto Effluent Treatment Plant (ETP) Commissioning Closeout Report XA00004RH8753228 to the DEC on 5 April 2013. The report was prepared in accordance with the reporting commitments outlined in Table 5.1 of the DEC approved Pluto LNG Project ETP Commissioning Plan (Commissioning Plan), and Section 7.1 of the Pluto LNG Project Treated Waste Water Marine Discharge Management Plan. Commissioning closeout reporting and Licence application supporting documentation informed the licensing process through the DER. The DER Operating Licence L8752/2013/1 was issued 1 August 2013.</td>
</tr>
<tr>
<td>Ongoing monitoring of water quality as per Table 6.1 of the Management Plan, including installed analysers and field laboratory tests.</td>
<td>6.2</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitoring was undertaken in accordance with the Treated Wastewater Discharge Management Plan and DER Operating Licence L8752/2013/2. Monitoring data is included in DER Licence Annual Environmental Reporting. The 2014-2015 Licence period environmental report was provided to DER on 23 June 2015.</td>
</tr>
<tr>
<td>Amend table 6.1 if required, depending on results from Whole Effluent Toxicity testing. To be managed as part of Licensing process with Department of Environment and Conservation.</td>
<td>6.2</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Table 6.1 has been amended in Revision 4 of the Treated Waste Water Management Plan to reflect the most up to date information regarding the management of the waste water treatment and disposal facilities during the operational phase incorporating minor amendments made based on operating experience (including testing results) during the commissioning and proving phase. Revision 4 of the plan was provided to the OEPA for information on 20 March 2014. Revision 4 remains in line with the management framework and revision process outlined in the approved Revision 3 of the plan, and Department of Environment Regulation Operating Licence L8752/2013/2. Results of Whole Effluent Toxicity (WET) testing conducted in the reporting period have not required further amendments to the TWMP Table 6.1.</td>
</tr>
<tr>
<td>Whole Effluent Toxicity (WET) testing to be carried out on treated water from final inspection tanks in accordance with ANZEC/ARMCAZ (2000). Initial WET test to be conducted within three months following commissioning &amp; stabilisation of the ETP as per the Pluto LNG Project Effluent Treatment Plant Commissioning Plan. Ongoing WET testing within 1 month following the anniversary of the initial WET test, annually, or immediately (within 2 months) following any significant, sustained increase in the levels of contaminants of concern within treated wastewater.</td>
<td>6.4</td>
<td>CLD for commissioning and stabilisation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C for ongoing operations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Woodside conducted a fourth suite of WET testing sampling on 16 September 2015 In the absence of any sustained increase in the levels of contaminants of concern within treated wastewater, there has been no requirement for further additional testing to be undertaken within the reporting period. Woodside undertook an update to the Treated Wastewater Management Plan during 2013/2014 (Revision 4) to incorporate minor amendments based on operating experience (including 2013 WET testing information) during the commissioning, stabilisation and early operational phases. Results of Whole Effluent Toxicity (WET) testing conducted in the reporting period have not required further amendments to the TWMP Table 6.1.</td>
</tr>
<tr>
<td>Commissioning Compliance Report to be completed as part of an application for a Part V Licence under the Environmental Protection Act 1986 (WA). Reporting will be in accordance with Pluto LNG Project Effluent Treatment Plant Commissioning Plan.</td>
<td>7.1</td>
<td>CLD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Woodside provided the Pluto Effluent Treatment Plant (ETP) Commissioning Closeout Report XA00004RH8753228 to the DEC on 5 April 2013. Commissioning closeout reporting and Licence application supporting documentation informed the licensing process through the DER. The DER Operating Licence L8752/2013/1 was issued 1 August 2013.</td>
</tr>
<tr>
<td>Operating performance data to be provided to DEC (Manager, Pilbara Region) within an Annual Licence Report.</td>
<td>7.1</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2014-2015 Operating performance data was included in DER licence Annual Environmental Reporting. The 2014-2015 Licence period environmental report was provided to DER on 23 June 2015.</td>
</tr>
<tr>
<td>Notification of DEC where effluent is discharged to ocean from the MUBRL not in accordance with either the approved discharge specifications or the Contingency Wastewater Management Plan (detailed in Section 8).</td>
<td>7.3</td>
<td>NR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No effluent was discharged to the ocean that was not in accordance with the approved discharge specifications or Contingency Wastewater Management Plan during the reporting period.</td>
</tr>
</tbody>
</table>
Implement contingency management options in Section 8.1 of the Management Plan in the event that effluent in the final inspection tanks does not meet the approved discharge specification for whatever reason.

<table>
<thead>
<tr>
<th>Key Management Action</th>
<th>Source Ref/ Chap</th>
<th>Status/Evidence 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS 1 – Implement the existing Pluto Operational Environmental Lighting Specification</td>
<td>Table 8</td>
<td>C Implementation of the Operational Environmental Lighting Specification was completed during the 2012 reporting period following completion of plant construction. No changes to plant lighting with the potential to impact Holden Beach were observed during opportunistic lighting reviews through the reporting period.</td>
</tr>
<tr>
<td>OS 1 – Audits of lighting during operations against the Operational Lighting Protocol (Environmental Specification Lighting XA0005AH0003) shall be conducted during the first turtle nesting season of operations. Additional audits shall be conducted every 5 years during the operational life of the Pluto Offshore Facility.</td>
<td>Table 8</td>
<td>NR Not required in the 2015 reporting period. The next survey will be undertaken in the 2017 reporting period.</td>
</tr>
<tr>
<td>OS 2 – In the event of a hydrocarbon spill, management measures contained within the Woodside Dampier Sub-basin Oil Spill Contingency Plan shall be implemented.</td>
<td>Table 8</td>
<td>NR There were no Pluto offshore/nearshore hydrocarbon spills to sea with the potential to impact on turtles and marine mammals during the 2015 reporting period.</td>
</tr>
<tr>
<td>OS 3 – Implement Waste Management Plan &amp; Marine Discharge Management Plan (water quality to meet ANZECC / ARMCANZ (2000)).</td>
<td>Table 8</td>
<td>C There were no Pluto waste discharges with the potential to impact on turtles and marine mammals during the reporting period. Marine discharges are managed in accordance with 757:M7.3.</td>
</tr>
<tr>
<td>OS 4 – Access to Holden Beach is restricted to key personnel.</td>
<td>Table 8</td>
<td>C Access to Holden Beach through the Woodside lease is protected by a fence which surrounds the Pluto LNG facilities, and restricts access through locked and security controlled gates. Procedural controls are also in place via the Heritage and disturbance footprint approval system (refer to the Cultural Heritage Management Plan for details). To ensure access by key personnel only, a work permit system is also in place. Access to the beach by sea is restricted by a Dampier Port Authority Boating Safety Exclusion Zone: <a href="http://www.dpa.wa.gov.au/Boating-Safety.aspx">http://www.dpa.wa.gov.au/Boating-Safety.aspx</a>.</td>
</tr>
<tr>
<td>OS 4 – No vehicle access is permitted on the beach, with protocols in place for human movement along the beach to avoid nest disturbance and visual movement of human activity to approaching sea turtles.</td>
<td>Table 8</td>
<td>C Access to Holden Beach through the Woodside lease is protected by a fence which surrounds the Pluto LNG facilities, and restricts access through locked and security controlled gates. Procedural controls are also in place via the Heritage and disturbance footprint approval system (refer to the Cultural Heritage Management Plan for details). To ensure access by key personnel only, a work permit system is also in place. Access to the beach by sea is restricted by a Dampier Port Authority Boating Safety Exclusion Zone: <a href="http://www.dpa.wa.gov.au/Boating-Safety.aspx">http://www.dpa.wa.gov.au/Boating-Safety.aspx</a>.</td>
</tr>
<tr>
<td>OS 5 – Evaluate future timeframes of maintenance dredging to avoid coinciding with turtle nesting and breeding season. Refer to management plan for further actions regarding dredging and soil disposal.</td>
<td>Table 8</td>
<td>C See evidence listed above.</td>
</tr>
<tr>
<td>No dredging or spoil disposal activities during the reporting period</td>
<td>Table 8</td>
<td>NR</td>
</tr>
<tr>
<td>Key Management Action</td>
<td>Source Ref/ Chap</td>
<td>Status/Evidence 2014</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Table 8</td>
<td>NR</td>
<td>No expansion construction activities occurred during the reporting period.</td>
</tr>
<tr>
<td>C</td>
<td>Monitoring logs are maintained to record when observations have taken place and associated outcomes.</td>
<td>Monitoring under the Sea Turtle Management Plan concluded following five years of monitoring, at the end of 2016. Ongoing turtle monitoring on Holden Beach will be undertaken on a voluntary basis.</td>
</tr>
<tr>
<td>C</td>
<td>The annual turtle observation report for the 2014/2015 nesting/hatching period was provided to the DER and DOE on 29 April 2015.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
<tr>
<td>C</td>
<td>Woodside undertook commissioning stack emissions tests to validate performance of installed equipment during November 2012, December 2012, and February 2013. Performance reporting permitted commissioning closeout reporting, validation of design emissions estimates, and an application for an operating licence was submitted to DER (formerly DEC).</td>
<td>A Stack Emissions Monitoring Verification Report was provided to the DEC on 7 March 2013.</td>
</tr>
<tr>
<td>C</td>
<td>Routine monitoring including stack emissions testing was undertaken during the reporting period, with a full suite of tests for gas turbines and the RTO during August 2015.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
<tr>
<td>C</td>
<td>Stack sampling results were provided to the DER in section 6.1 of the Annual Licence Report as required by DER Operating Licence L8752/2013/1, on 25 June 2015. Results for the 2015 stack emissions testing will be submitted to the DER in the Annual Licence Report under L8752/2013/1 prior to 28 June 2016.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
<tr>
<td>C</td>
<td>Dark smoke observations were provided to the DER in section 6.2 of the Annual Licence Report as required by DER Operating Licence L8752/2013/1, on 23 June 2015.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
<tr>
<td>C</td>
<td>RTO operation reporting to the DER was undertaken in accordance with arrangements outlined in the DER (EP Act Part V) Licence L8752/2013/2. This consists of quarterly reports, which were submitted to the DER on 1 April, 20 July and 26 October 2015, and 27 January 2016.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
<tr>
<td>C</td>
<td>The ambient air monitoring programme progressed during the reporting period with the development and delivery of 12 month review of Benzene, Toluene, Xylene (BTX), Particulate matter (PM2.5) monitoring data, and a 24 month review of Oxides of Nitrogen (NOx) and Ozone monitoring data both reported to the OEEA. Woodside received a letter from the OEEA on 2 October 2014 following OEEA review of the 12 Month ambient air programme for BTX and PM2.5 confirming that no further monitoring of BTX and PM2.5 is required, and that Woodside are considered compliant with Condition 11-3 for this component of the programme. In December 2014, Woodside proposed the cessation of monitoring of NOx and Ozone associated with the Pluto LNG Development, and that the ambient air programme prepared in accordance with MS757 Ambient Air Monitoring Condition 11-2, point 4 be confirmed as Completed. Following submission of two third party reports which reviewed the Air Quality Management Plan NOx and ozone, and nitrogen deposition monitoring (submitted on 24 and 30 December 2014 respectively), the OEEA on 2 July 2015 endorsed a pause in this monitoring until such a time as OEEA requests that it be recommenced. Ambient monitoring and reporting continued during 2015 in accordance with DER Operating Licence L8752/2013/2.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
<tr>
<td>C</td>
<td>Calibration and maintenance of monitoring stations is undertaken as required, and is managed through Woodside’s contract with a specialist third party. Ambient Air Monitoring Programme and Review reports provided to OEEA during the reporting period include calibration and maintenance aspects.</td>
<td>No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.</td>
</tr>
</tbody>
</table>
Woodside will implement a nitrogen deposition monitoring programme for a period of 24 months of data collection between end 2011 and end 2013. Monthly samples of TSP and NOx will be collected and weekly size resolved particulate samples will be collected at one location for three weeks during the 2012-2013 calendar years. Upon completion of the data collection phase, a report will be prepared and provided to EPA.

Independent peer review of the nitrogen deposition monitoring programme prepared in accordance with MS757 Condition 11-2 point 4 be confirmed as Completed.

Following submission of two third party reports which reviewed the Air Quality Management Plan NOx and ozone, and nitrogen deposition monitoring (submitted on 24 and 30 December 2014 respectively), the OEPA on 2 July 2015 endorsed a pause in this monitoring until such a time as OEPA requests that it be recommenced.

Ambient air monitoring review – 12 month review of PM2.5 and BTX monitoring data and 24 month review of NOx and ozone monitoring data using independent peer reviewer. 12 month review period 1 Jan 2012 – 31 Dec 2012; 24 month review period 1 Jan 2012 – 31 Dec 2013. Decision to be made on continuation of monitoring following review periods.

Independent peer review of 12 months of PM2.5 and BTX monitoring was completed during 2014 and reported to the OEPA on 31 July 2014.

Independent peer review of 24 months of NOx and Ozone monitoring was completed during 2014 and reported to the OEPA on 29 December 2014.

Woodside received a letter from the OEPA on 2 October 2014 following OEPA review of the 12 Month ambient air programme for BTX and PM2.5. The letter confirmed that no further monitoring of BTX and PM2.5 is required, and that Woodside are considered compliant with Condition 11-3 for this component of the programme.

In December 2014, with consideration of programme results, Woodside proposed the cessation of monitoring of NOx and Ozone associated with the Pluto LNG Development, and that the ambient air programme prepared in accordance with MS757 Ambient Air Monitoring Condition 11-2, point 4 be confirmed as Completed.

Following submission of two third party reports which reviewed the Air Quality Management Plan NOx and ozone, and nitrogen deposition monitoring (submitted on 24 and 30 December 2014 respectively), the OEPA on 2 July 2015 endorsed a pause in this monitoring until such a time as OEPA requests that it be recommenced.

Following the 24 month nitrogen deposition monitoring period a review of the data will be conducted.

Independent peer review of the nitrogen deposition monitoring programme was completed during 2014. Woodside provided reports to the OEPA on 30 December 2014 which included data analysis, reporting and independent review findings of the nitrogen deposition monitoring programme.

If actual emission levels are found to be significantly higher than predicted, this difference will be communicated concurrently with Part V Licence requirements.

Reviews of operational monitoring results were undertaken and compared against previously completed sampling results and risk/impact assessments. Stack sampling results and analysis was provided to the OER in section 6.1 of the Annual Licence Report as required by DER Operating Licence L8752/2013/1, on 26 June 2014.

Greenhouse Gas Abatement Program (Condition 12-2) (Rev 2, July 2011 – XA0005AH0010)

Offset reservoir CO2 emissions for the life of the project using allocation from the Woodside market abatement portfolio, to meet the environmental approval abatement conditions.

A contract with CO2 Australia to bio-sequester carbon dioxide is in place as the mechanism by which the Pluto LNG Project will discharge offset obligations. Refer to 757/M12.2 in the earlier content of this report.

Reporting in accordance with the National Greenhouse and Energy Reporting Act 2007 (Cth).

Annual reporting to the Clean Energy Regulator occurred as required.
Greenhouse Gas Improvement Plan Action 1 – Monitor atmospheric emissions, energy consumption and LNG production.

<table>
<thead>
<tr>
<th>Table 11-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Monitoring of atmospheric emissions, energy consumption and LNG production was undertaken during the reporting period. A baseline emissions intensity of 0.40 tCO2e/tLNG produced was established during a period which included the first year of steady state licensed operations (August 2013 to end October 2014). For the second year of steady state operation, from November 2014 to November 2015, the Pluto LNG plant achieved an average emissions intensity of 0.43 tCO2e per tLNG product. If emissions associated with the major shutdown are omitted, an intensity of 0.40 would have been achieved. The major shutdown is a one in four year event and does not represent typical operating conditions. The emissions intensity has reduced to an average of 0.34 following the major shutdown and implementation of the emissions intensity reduction initiatives. Periods of lower efficiency are associated with short term unplanned LNG plant trips and associated flaring during restart in the months of December 2014 and January 2015. The planned maintenance shutdown in May 2015 had a higher emissions intensity due to LNG process train shutdown and requirement to maintain base electrical power generation, as well as the flaring associated with re-starting the plant following the shutdown. As a comparison, for the first period of steady state operations from August 2013 to end of October 2014, the Pluto LNG plant achieved an average Emissions Intensity of 0.40 tCO2e/tLNG product.</td>
</tr>
</tbody>
</table>

Greenhouse Gas Improvement Plan Action 2 – Undertake a Leak Detection and Repair Program.

<table>
<thead>
<tr>
<th>Table 11-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLD A leak detection and repair program was undertaken during November 2013. This supplemented the designed instrumentation and operational leak detection processes. The detection survey was undertaken by a specialist contractor, with identified emissions addressed immediately where practicable, and through maintenance systems with due consideration of safe access, planning, isolation and shutdown requirements.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Table 11-1</th>
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</thead>
<tbody>
<tr>
<td>CLD As part of the facility Energy Efficiency Opportunity (EEO) study undertaken during 2014, investigation included analysis of flaring sources, known vulnerabilities causing flaring, and potential rectification options. These opportunities were raised in the EEO process for screening. One opportunity was the evaluation a flare gas recovery system (FGRS) on the warm-wet flare (initially based on the available 2013 flare flow data). Review of the study in late 2014 identified substantial reduction in continuous flare flows, reducing the feasibility of pursuing a recovery system. Further, potential process safety stability impacts, combined with capital costs, construction safety risks and low value return resulted in the FGRS not being carried for further detailed study.</td>
</tr>
</tbody>
</table>

Greenhouse Gas Improvement Plan Action 4 – Undertake an energy efficiency review of the plant.

<table>
<thead>
<tr>
<th>Table 11-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLD An Energy Efficiency Opportunity Review was undertaken during March 2014, in accordance with the Energy Efficiency Opportunities Act 2006. A suite of background material, trends, prompts and register of existing opportunities was expanded on during the workshop to compile a register of recommended opportunities for further screening. A total of 35 opportunities were presented, grouped for assessment as opportunities for efficiency gains, flaring reduction, and both efficiency and flaring improvement. Analysis of opportunities continues for a number of opportunities in line with Woodside's Opportunities and Reliability Improvement Process (ORIP) and Technical Change Management System (TCMS) processes. Woodside uses ORIP to support plant optimisation and long term sustainability. The process includes the use of an electronic database to document issues, vulnerabilities and opportunities to optimise plant reliability and performance. Once suitably assessed in ORIP, project plans are developed and progressed through TCMS.</td>
</tr>
</tbody>
</table>

Greenhouse Gas Improvement Plan Action 5 – Identify energy efficiency gains and improved greenhouse emissions intensity by integrating systems for future expansion.

<table>
<thead>
<tr>
<th>Table 11-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR Expansion plans were not substantially progressed during the reporting period.</td>
</tr>
</tbody>
</table>

Greenhouse Gas Improvement Plan Action 6 – Continue to monitor market abatement opportunities.

<table>
<thead>
<tr>
<th>Table 11-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Woodside continues to monitor market greenhouse gas abatement opportunities, and continues to assess the applicability of offsets for Pluto LNG emissions as part of broader consideration of emerging federal government greenhouse policy and framework.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Table 11-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLD The Pluto LNG facility improvement plan targets opportunities to continually optimise reliability, and minimise emissions intensity. This improvement plan is achieved through normal business of monitoring, maintenance execution and the identification, analysis and implementation of plant opportunities in accordance with Woodside's processes, which provide a &quot;live plan&quot;. The improvement plan was reviewed following the EEO process during 2014. A number of opportunities have been substantially progressed, with numerous improvements implemented during 2014, implementation commenced, or planned for implementation. As part of this analysis and consideration of benchmark performance, a reduction (below baseline of 0.40 tCO2e/tLNG) emissions intensity of 0.37 tCO2e/tLNG is defined as a long term target for periods of stable operation.</td>
</tr>
</tbody>
</table>

Table 11-1

<table>
<thead>
<tr>
<th>Action</th>
<th>Note</th>
</tr>
</thead>
</table>
| Greenhouse Gas Improvement Plan Action 8 – Review and update the Greenhouse Gas Abatement Program. | Table 11-1
| Updated Greenhouse Gas Abatement Program will be completed 5 years from achieving steady state operations (i.e. by 1 August 2018), or prior to commissioning of new trains. |

Woodside Energy Limited Invasive Marine Species Management Plan (Condition 8-3) (Rev 2, October 2011 – A3000AH4345570)

<table>
<thead>
<tr>
<th>Risk Assessment Process</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Invasive Marine Species Management Plan is implemented for Pluto vessel operations, including provision of Tankers and Carrier Guidelines during vessel contracting processes. Where required by the plan, risk assessments (VRASS) are carried out for support vessels to prevent the introduction of invasive species.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ensure that management options following the risk assessment process comply with Section 5.1 of the Management Plan</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management options implemented following the risk assessment process may include information confirmation, application of the limit of three entrants into the IMSMA, treatment of vessel internal seawater systems or inspection (for example).</td>
<td></td>
</tr>
</tbody>
</table>

Preliminary Decommissioning Plan

<table>
<thead>
<tr>
<th>Ensure a preliminary decommissioning plan is approved, in accordance with the requirements of condition 14-1.</th>
<th>CLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A revised preliminary decommissioning plan was submitted to DEC for approval on 8 January 2010 and was approved on 1 February 2010.</td>
<td></td>
</tr>
</tbody>
</table>

Final Decommissioning Plan

<table>
<thead>
<tr>
<th>Not applicable at this stage. The Final Decommissioning Plan will be developed closer to decommissioning date. Key actions to satisfy this commitment will be identified once plan has been approved.</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not required during the 2015 reporting period.</td>
<td></td>
</tr>
</tbody>
</table>

* Note: Wording of actions here may not be representative of the exact wording in the relevant management plan