Pluto LNG Annual Compliance Report 2022

Ministerial Statement 757 as Amended by Ministerial Statement 850

Production Environment

31 March 2023

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1. INTRODUCTION

This Annual Compliance Report (ACR) is provided to the Department of Water and Environmental Regulation (DWER) for the Pluto Liquefied Natural Gas (LNG) Development as approved under Ministerial Statement 757 and amended by Ministerial Statement 850. The ACR covers the reporting period from 1 January 2022 to 31 December 2022.

The Pluto LNG Plant processes hydrocarbon gas and liquids piped onshore from the offshore Pluto riser platform to produce LNG and condensate. Ministerial Statement 757 provides approval for the construction and operation of two LNG trains, with Train 1 currently in operation. In May 2021, DWER granted the Works Approval for the construction, commissioning and (time-limited) operation of a second LNG train (Pluto Train 2), Domgas Plant and common utilities and general facilities associated with the Premises with site civil works associated with Train 2 construction commencing in June 2022. In progressing approvals associated with Pluto Train 2, Woodside revised several management plans, the status of which is provided in this report.

Licensed operation continued through the reporting period in accordance with DWER (EP Act Part V) Licence L8752/2013/2.

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. Appendix 1 describes the status of key actions contained within Environmental Management Plans. The ACR reports on commitments and actions applicable to the reporting period.

This document is provided in accordance with the requirements of the Annual Audit Program approved by the Department of Environment and Conservation (DEC), now DWER, on 30 June 2008.

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AUDIT TABLE

Pluto LNG
Ministerial Statement 757 as amended by Ministerial Statement 850 Annual Compliance Report 2022

Key
C = Compliant
CLD = Closed
NR = Not relevant for this reported period

2. MINISTERIAL CONDITIONS AND COMMENTS

TABLE 1

• 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	• Project phase • When action to be taken • Where it is to be taken	• To requirements of • On advice from *	Reporting period 1 January 2022 to 31 December 2022
757:M1.1 Proposal Implementation	**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. **Objective** To minimise environmental impact of the project. **Evidence** Confirmed in Pluto LNG Project Ministerial Statement 757 Compliance Report.	Overall Ongoing	Minister for Environment	**C** The proposal is being implemented as documented in Schedule 1. In May 2021, DWER granted the Works Approval for a wide range of infrastructure, and includes the construction, commissioning and (time-limited) operation of a second LNG train (Pluto Train 2), with site works for Train 2 commencing in June 2022. The plant was in licensed operation for the entire period under Licence L8752/2013/2.
757:M2.1 Proponent Nomination and Contact Details	**Action** The proponent for the time being nominated by the Minister for the Environment under sections 38(6) or 38(7) of the Environmental Protection Act 1986 (the Act) is responsible for the implementation of the proposal. **Objective** To ensure legal responsibility for the project rests with a nominated proponent. **Evidence** Confirmed in Pluto LNG Project Ministerial Statement 757 Compliance Report.	Overall Ongoing	Minister for Environment	**C** Woodside Energy Ltd remains responsible for implementation of Ministerial Statement 757 as nominated by the Minister for Environment.
757:M2.2 Proponent Nomination and Contact Details	**Action** Notify the Chief Executive Officer (CEO) of the DEC of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change. **How** In the event of change in address, notify DEC within 30 days of change. **Objective** To ensure that the DEC is able to maintain contact with the proponent. **Evidence** Details of change of name/and or address.	Overall Ongoing	Director general of DWER	**C** No changes in the reporting period
757:M3.1 Time Limit of Authorisation	**Action** The proposal must be substantially commenced within five years of the date of publication of this statement.	Overall Within five years	Minister for Environment	**CLD** Construction commenced on 15 October 2007. Proposal has been substantially commenced, as demonstrated in Pluto LNG Project Ministerial Statement 757 - 2008 Annual Compliance Report (2008 ACR).

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	Objective To ensure that the project is implemented using the most recent information and technology available. **Evidence** Pluto LNG Project Ministerial Statement 757 Compliance Report.			
757:M3.2 Time Limit of Authorisation	**Action** Provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement. **Objective** To ensure that the project is implemented using the most recent information and technology available. **Evidence** Confirmed in Pluto LNG Project Ministerial Statement 757 Compliance Report.	Overall Within five years	Minister for Environment	**CLD** Pluto LNG Project Ministerial Statement 757 - 2008 ACR provided evidence which demonstrated the substantial commencement of the Project.
757:M4.1 Compliance Reporting	**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. **Objective** To provide evidence that the proposal is being implemented as approved, and the relevant conditions and commitments are being met. **Evidence** Pluto LNG Project Ministerial Statement 757 Compliance Report to be submitted for the period of 15 October 2012 to end 31 December 2013 (and then calendar years). Content to include the "Evidence" listed in this audit table against each Ministerial Condition plus internal audit results. Report to be submitted by 31 March each year.	Overall Annually Reported	Director general of DWER	**C** This ACR fulfils this requirement for the period of reporting.
757:M4.2 Compliance Reporting	**Action** 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. **Objective** To provide evidence that the proposal is being implemented as approved, and the relevant conditions and commitments are being met. **Evidence** Audit Program.	Overall	Director general of DWER	**C** 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.
757:M4.3 Compliance Reporting	**Action** 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	Overall	DWER Compliance	**C** This ACR fulfils the requirements of 757:M4.3

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	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. **Objective** To demonstrate compliance with Ministerial Conditions. **Evidence** See condition M4.1.			
757:M4.4 Compliance Reporting	**Action** Make the environmental compliance reports required by Condition 4-1 publicly available in a manner approved by the CEO. **How** Environmental compliance reports to be made available in accordance with the Office of the Environmental Protection Authority (OEPA) Post Assessment Guideline for Making Information Publicly Available (PAG 4) published August 2012. **Objective** To ensure the public is kept informed. **Evidence** Report available on the Woodside website or upon request.	Overall Annually	DWER Compliance	**C** Pluto ACR's from 2008 to 2021 are publicly available on the Woodside website: https://www.woodside.com.au/our-business/pluto-lng/pluto-lng-environmental-compliance-reporting This 2022 ACR will be published on the Woodside website following submission to DWER.
757:M5.1 Performance Review	**Action** 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	Operation Every five years	DWER Compliance	**C** The first Performance Review Report for the Pluto LNG Project was provided to the OEPA on 14 January 2013 for the 2007- October 2012 five-year period. The second Performance Review Report for the Pluto LNG Project was submitted to DWER on 28 December 2017 for the November 2012 - October 2017 five-year period. The third Performance Review Report for the Pluto LNG Project is being prepared for the November 2017 – December 2022 five-year period. To be submitted to DWER by 31 March 2023.

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	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. **How** 5-yearly report will be submitted following commencement of operations. **Objective** To demonstrate compliance with Ministerial Conditions. **Evidence** Submit five-yearly Performance Review report to the EPA.			
757:M5.2 Performance Review	**Action** Make the Performance Review reports required by condition 5-1 publicly available in a manner approved by the CEO. **How** Performance Review Reports to be made available in accordance with OEPA Post Assessment Guideline for Making Information Publicly Available (PAG 4) published August 2012. **Objective** To ensure the public is kept informed. **Evidence** Report available on the Woodside website or upon request.	Operation Every 5 years	DWER Compliance	**C** The Performance Review Reports were made publicly available following acceptance by the Office of the Environmental Protection Authority. The reports are available on the Woodside website: https://www.woodside.com.au/our-business/pluto-lng/pluto-lng-environmental-compliance-reporting
757:M6.1 Marine Impacts	**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. **How** - 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. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Ongoing provision of Water Quality Reports and Coral Health Reports to the Pluto	Construction During Construction	Minister for Environment	**CLD** This condition was met during the 2010 reporting period and no further action is required. Dredging was completed on 21 May 2010.

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	Dredge Environmental Management Group on a timely basis for review and overview of status. Results of the above captured in Dredging Environmental Management Group (DEMG) minutes; Compliance reports to the DEC Compliance Monitoring Section if Level 1, 2 or 3 trigger levels are exceeded.			
757:M6.2 Compliance Reporting	**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 affecting that site; and within 24 hours of the criterion being exceeded, implement management actions to keep impacts within approved limits specified in schedule 2. **How** 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. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Compliance reports to the DEC CEO in the event of a Schedule 3 exceedance; DEMG minutes outlining actions taken and assessment of adequacy.	Construction	Director general of DWER	**CLD** This condition was met during the 2010 reporting period and no further action is required.
757:M6.3 Compliance Reporting	**Action** If any Level 2 Coral Condition Management Trigger Criterion referred to in schedule 3 is exceeded at any monitoring site,; 1. Immediately suspend all dredging and dredge spoil activities that contributed to the exceedance; 2. Provide a report to the CEO on the measures to be implemented to keep impacts below the limits in schedule 2, prior to recommencing any dredging and dredge spoil activities that contributed to the exceedance which could affect that site; and 3. Provide a report, on advice of the Dredge Environmental Management Group, defining marine water quality conditions which will be met for the endorsement of the Minister for the Environment on advice of the CEO to allow for the recommencement of dredging ensuring that mortality and / or impacts will not exceed the limits specified in schedule 2.	Construction	Director general of DWER	**CLD** This condition was met during the 2010 reporting period and no further action is required.

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	How The Coral Health Monitoring Program will be maintained with the results made immediately available to the Dredging Environmental Coordinator and Dredging Senior Environmental Advisor. Should an exceedance be identified, the process specified by MC6-3 will be implemented. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Notification reports to the CEO in the event of a Schedule 3 exceedance; Investigation reports analysing the exceedance; Reports required by 2 and 3 of MSt: 6.3.			
757:M6.4 Compliance Reporting	**Action** If any Level 3 Coral Condition Management Trigger Criterion referred to in schedule 3 is exceeded at any monitoring site, 1. Immediately suspend all dredging and dredge spoil activities that contributed to the exceedance; and 2. Provide a report to the Minister for the Environment regarding the non-compliance with condition 6-1. **How** As per Ministerial Condition 6.3 above. **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.	Construction	Minister for Environment	**CLD** This condition was met during the 2010 reporting period and no further action is required.
757:M6.5 Marine Impacts	**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 employed 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** Dredge and Spoil Disposal Management Plan (DSDMP) (DIMP) developed in consultation	Design	Minister for Environment EPA	**CLD** DSDMP was approved by DEC on 20 March 2008 (DEC ref: 4610). The DSDMP was revised in August 2009 (Revision 9) to incorporate minor operational changes to the Water Quality Exceedance Investigation Protocol approved by DEC on 10 August 2009. The DSDMP was re-submitted to DEC with these approved changes incorporated on 25 November 2009 (Woodside ref: PLU/GOV/00422).

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	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.			
757:M6.6 Marine Impacts	**Action** Implement the Dredge Impact Management Plan required by Condition 6-5. **How** 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. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Internal audit schedule, audit criteria, and evidence of completion. DEMG minutes.	Construction	Minister for Environment	**CLD** This condition was met during the 2010 reporting period and no further action is required.
757:M6.7 Marine Impacts	**Action** Make the Dredge Impact Management Plan required by condition 6-5 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 Perth (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). **Objective** To ensure that the public is kept informed.	Construction	Director general of DWER	**CLD** This condition was met during the 2008 reporting period. Since dredging and the dredge monitoring programme are now complete, the DSDMP has been removed from the Woodside website.

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	Evidence Evidence of advertisement of Dredge Impact Management Plan.			
757:M6.8 Marine Impacts	**Action** Resource a DEMG for the duration of the marine works and for such time before and after the marine works so as to carry out its function, to the requirements of the Minister for the Environment. **How** The role of the DEMG 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 independent chair appointed by the Minister for the Environment on advice from the CEO, and experts appointed by the Minister for the Environment, and the following may nominate one member each; the Department of Fisheries; the Dampier Port Authority; the Department of Environment and Conservation; and the proponent. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Letters of appointment for the DEMG Chair and members from the Minister for the Environment. DEMG minutes.	Overall For the duration of the Marine Works and for such time before and after the marine works so as to carry out its function.	Minister for Environment	**CLD** The final DEMG Meeting was held on 12 May 2010. Following this a DEMG Conclusion and Recommendations Workshop was held on 31 August 2010. The intention of this workshop was for DEMG members to summarise valuable information and experience gained during the Pluto dredging program. A final DEMG dredging report and recommendations has been provided to the OEPA. The Minister for Environment and Water acknowledged that the DEMG has completed its function.
757:M6.9 Marine Impacts	**Action** Prepare and submit to the Department of Environment and Conservation, a scope of Baseline Marine Habitat Survey document to the requirements of the Minister for the Environment. The objective of this document is to specify procedures to quantitatively determine the pre-development baseline distribution, community composition and health of benthic marine habitats (see note below) within the area which may be affected by any works associated with the proposal. Note: "Marine habitats" includes hard and soft coral communities, sponge communities, seagrass and macro-algal communities. **How** Address the following: 1. survey methods; 2. location and establishment of survey sites; 3.	Design Prior to commencement of marine works	Minister for Environment Director general of DWER	**CLD** This condition was met during the 2008 reporting period and no further action is required.

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	timing and frequency of surveys; 4. habitat classification schemes; 5. treatment of survey data; and 6. mapping methodologies. **Objective** To determine the baseline distribution, community composition and health of benthic marine habitats within the area. **Evidence** DEC approval/endorsement of the Scope of Baseline Marine Habitat Survey document.			
757:M6.10 Compliance Reporting	**Action** 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. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Initial report on detailed survey of coral habitat and communities and map showing general distribution of other benthic habitat types.	Design One month prior to dredging construction	Director general of DWER	**CLD** This condition was met during the 2008 reporting period and no further action is required.
757:M6.11 Compliance Reporting	**Action 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. **How** This report shall 1. contain spatially accurate (e.g. rectified and geographically referenced) maps showing the locations and spatial extent of the different marine habitat types and percentage cover of each component of their associated benthic communities including corals, macro algae, non-coral macro-invertebrates and seagrass: 2. record the existing hard and soft corals, macro-algae, non-coral benthic macro invertebrates, seagrass and demersal fish observed within the communities; 3. record the population structure, as size class frequency distributions, and other population statistics, such as recruitment, survival and growth, of key hard coral species; 4. evaluate baseline pre-	Construction Within 12 months of commencement of dredging works	Director general of DWER	**CLD** The final report to address specific requirements of Condition 6-11 was submitted to DEC on 21 November 2008 (WBPL ref: PLU/GOV/00154). DEC acknowledged receipt of the report on 25 November 2008 (DEC reference: DEC0652-04).

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	development health of the benthic communities at representative survey sites; and 5. include data provided in an appropriate GIS data set format. **Objective** To minimise impact of dredging on the marine environment. **Evidence** Report on the results of the comprehensive field survey that is consistent with the Scope of Baseline Marine Habitat Survey document.			
757 as amended by 850:M6.12 Compliance Reporting	**Action** Within three months following completion of the marine works, repeat evaluation of the health of benthic communities, at the representative survey sites established by conditions 6-11(4) and 6-11(5), to the requirements of the OEPA. **Objective** To minimise impact of dredging on the marine environment. **Evidence** See M6.14.	Post-construction Within three months of dredging completion	Director general of DWER	**CLD** Marine works were completed in mid-July 2010 and post benthic habitat surveys commenced in mid-October 2010.
757 as amended by 850:M6.13 Marine Impacts	**Action** Repeat 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.	Post-construction At the same time of the year annually for three years, or until such time as determined by the Minister for Environment	Minister for Environment	**CLD** Marine works were completed in mid-July 2010 and post benthic habitat surveys commenced in mid-October 2010. The findings of the post benthic habitat surveys show no pattern of change consistent with a dredging impact. Based on the post benthic habitat survey results and comprehensive monitoring program during the marine works, advice from the DEC, Department of Fisheries and OEPA is that further post dredging surveys under Condition 6-13 are no longer required. The General Manager of the OEPA has acknowledged that this condition has been met and future surveys are no longer required; correspondence received 8 September 2011 (OEPA2011/000104).
757 as amended by 850:M6.14 Compliance Reporting	**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.	Post-construction Within three months of dredging completion and annually for a following three years	Director general of DWER	**CLD** The post benthic habitat survey results were submitted to DEC, Department of Fisheries and the OEPA as required by this condition.

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757:M7.1 Deepwater Marine Outfall	**Action** If a marine waste water discharge is required by the proponent, the proponent shall construct the associated infrastructure so that waste water is discharged into water of depth greater than 30 meters outside the Dampier Archipelago, unless otherwise determined by the CEO under Part V of the Act. **How** A Marine Treated Waste Water Discharge Management Plan will be developed and the appropriate infrastructure constructed to accommodate waste water discharge. **Objective** To minimise the environmental impact associated with waste water discharge. **Evidence** DEC Works Approval - if Marine waste water discharge is required, evidence that waste water discharge structure is discharging into water of depth greater than 30 metres.	Overall	Minister for Environment	**CLD** Works Approval W4466/2008/1 for the Pluto LNG Project effluent treatment plant was issued on 3 September 2009 which provides approval to Woodside to construct the effluent treatment plant and a tie-in from this facility to the Water Corporation's Multi-User Brine Reuse Line (MUBRL) for the purpose of disposing of water. The construction of the effluent treatment plant and the tie-in to the MUBRL is complete. Commissioning of the effluent treatment plant was carried out in the 2011-2012 reporting period with discharges to the MUBRL managed in line with the approved Marine Treated Waste Water Discharge Management Plan (MTWDMP) (Refer 757:M7.2) and effluent treatment commissioning plans approved under Works Approval W4466/2008/1. A construction compliance document was issued to DEC on 21 March 2011 in line with the Pluto Effluent Treatment Plan Works Approval W4466/2008/1 and DEC provided a compliance statement on 1 April 2011. The effluent treatment plant is Licensed under the Environmental Protection Act 1986, Part V Operating Licence L8752/2013/1 from 1 August 2013. Management of marine discharges continues in line with the framework outlined in the MTWDMP (Refer to 757:M7.2)
757:M7.2 Deepwater Marine Outfall	**Action** Prior to construction of the waste water 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 Waste Water 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 waste water flow 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 values, 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 waste water, consistent with ANZECC requirements, and addressing the items in schedule 5 (attached); 5. redesign and incorporation of a new diffuser, including timelines, in the event that the WET testing results show that the original waste water diffuser is not achieving sufficient dilutions to meet a high level of ecological protection at the edge of	Design	Minister for Environment EPA, Director general of DWER	**CLD** The Marine Treated Waste Water Discharge Management Plan was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). Woodside undertook an update to the MTWDMP during 2013/2014 (Revision 4) to incorporate 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 DWER Operating Licence revisions L8752/2013/1 and L8752/2013/2.

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	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 waste water 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 Objectives (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 Waste Water Discharge Management Plan.			
757:M7.3 Deepwater Marine Outfall	**Action** Implement the Marine Treated Waste Water Discharge Management Plan (MTWDMP) 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 DWER Compliance	**C** Implementation continued under licensed operation during the reporting period in accordance with the management framework outlined in the MTWDMP. 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 MTWDMP was prepared in 2014 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 DWER Operating Licence revision L8752/2013/2.

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757:M7.4 Deepwater Marine Outfall	**Action** Make the MTWDMP required by condition 7-2 publicly available. **How** MTWMP to be made available in accordance with OEPA Post Assessment Guideline for Making Information Publicly Available (PAG 4) published August 2012. **Objective** To ensure the public is kept informed. **Evidence** Management Plan available on the Woodside website or upon request.	Construction Construction	Minister for Environment	**C** The MTWDMP (Rev 4) is publicly available on the Woodside website: https://www.woodside.com/what-we-do/australian-operations/pluto-lng/pluto-lng-environmental-compliance-reporting Any future revisions to the plan will also be published on the Woodside website.
757:M7.5 Deepwater Marine Outfall	**Action** Prior to submitting a Works Approval application for the waste water treatment plant 1. characterise in detail the physical and chemical composition and flow rates of all waste water streams within the site and, using the toxicity of mixtures principles, predict the theoretical toxicity of the combined waste water after treatment; 2. Determine, for all contaminants and nutrients, the total annual loads of contaminants and nutrients in the waste water discharge exiting the site; and 3. Determine, for normal and worst-case conditions, the concentrations of contaminants and nutrients (for agreed averaging periods) in the waste water discharge exiting the site. **Objective** To minimise the environmental impact associated with waste water discharge. **Evidence** Approval from DEC of MTWDMP.	Design Prior to submitting a Works Approval application for the waste water treatment plant	Minister for Environment	**CLD** These aspects were covered in the MTWDMP, which was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). OEPA approved the revised MTWDMP on 1 July 2011.
757:M7.6 Deepwater Marine Outfall	**Action** Prior to submitting a Works Approval application for the waste water treatment plant, demonstrate that the waste water discharge will meet "best 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 MTWDMP. **Objective** To demonstrate best practice in waste water treatment and discharge. **Evidence** Approval from DEC of MTWDMP, Works Approval granted from DEC.	Design Prior to submitting a Works Approval Application for the waste water Treatment Plant.	Minister for Environment	**CLD** These aspects were covered in the MTWDMP, which was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). OEPA approved the revised MTWDMP on 1 July 2011.
757:M7.7:1 Deepwater Marine Outfall	**Action** Prior to submitting a Works Approval application for the waste water treatment plant, design, and subsequently operate, plant and equipment on the site such that: 1. the	Design	Director general of DWER	**CLD** These aspects were covered in the MTWDMP, which was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). OEPA approved the revised MTWDMP on 1 July 2011.

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	contaminant concentrations in the waste water effluent from the site, just prior to entry to the waste water 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 waste water effluent which can potentially bio-accumulate/bio-concentrate meet the ANZECC/ARMCANZ (2000) 80% species protection trigger levels just prior to entry into the waste water 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 7-7 via modelling. This will be outlined in the MTWDMP. **Objective** To minimise the environmental impact associated with waste water discharge. **Evidence** Approval from DEC of MTWDMP.			
757:M7.7:2 Deepwater Marine Outfall	**Action** Operate the waste water Treatment Plant such that: 1. the contaminant concentrations in the waste water effluent from the site, just prior to entry to the waste water 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 waste water effluent which can potentially bio-accumulate/bio-concentrate meet the ANZECC/ARMCANZ (2000) 80% species protection trigger levels just prior to entry into the waste water 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.	Operation	DWER Compliance	**C** Discharges to the MUBRL commenced in October 2011. Monitoring during start-up and commissioning and proving phase was conducted as detailed in Section 6.1 of Revision 4 of the MTWDMP. The MTWDMP (Ref 757:M7.2) outlines the operational monitoring, management framework, and contingency measures to meet the Environmental Quality Objectives defined by the Minister in Ministerial Statement No.757. The MTWDMP was implemented under licensed operation during the reporting period. Monitoring and reporting were undertaken in accordance with the DWER Operating Licence revision L8752/2013/2. Please refer to Appendix 1 for the status of key management actions in the MTWDMP.
757:M7.8 Compliance Reporting	**Action** Within three months following commissioning and stabilising 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.	Operation Within three months following commissioning	Director general of DWER	**CLD** Woodside provided the Pluto Effluent Treatment Plant (ETP) Commissioning Closeout Report 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

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	How A Report will be prepared on the analysis of effluent properties and contaminant concentrations in consultation with DEC. **Objective** To demonstrate that Woodside waste water concentrations are substantially consistent with predictions. **Evidence** Effluent characterisation report.			licensing process through the DER. The DWER Operating Licence L8752/2013/1 was issued 1 August 2013.
757:M7.9 Deepwater Marine Outfall	**Action** Develop a Contingency Waste Water Management Plan which considers alternate options for waste water disposal in the event that the Environmental Quality Objectives are not met as determined through Whole Effluent Toxicity testing, diffuser performance monitoring or environmental quality monitoring, to the requirements of the Minister for the Environment. **How** Alternative waste management plan will be designed. **Objective** To anticipate impacts and manage those which are unforeseen. **Evidence** Contingency Waste Water Management Plan.	Construction During Construction	Minister for Environment	**CLD** The framework for the Contingency Waste Water Management Plan was included within the Marine Treated Waste Water Discharge Management Plan, which was approved by the DEC on 18 March 2009 (DEC reference: DEC 4776). Additional detail has been provided in the 2011 revision to the Marine Treated Waste Water Discharge Management Plan 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. Minor revisions to contingency measures have been provided in an update to the Treated Waste Water 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 Waste Water Management Plan was prepared to incorporate minor amendments made based on operating experience (including testing results) during the commissioning, proving and operations phases.
757:M7.10 Deepwater Marine Outfall	**Action** In the event that the treatment plant malfunctions or goes off-line, the proponent shall include within the Contingency Waste Water Management Plan required by condition 7-9 alternative options for waste water disposal to the timing and other requirements of the Minister for the Environment. **How** Practices will be changed to the methods of the Contingency Waste Water Management Plan. **Objective** Preparation for contingency events. **Evidence** Contingency Waste Water Management Plan.	Construction During Construction	Minister for Environment	**CLD** The Contingency Waste Water Management Plan forms part of the Marine Treated Waste Water Discharge Management Plan.
757:M7.11 Deepwater Marine Outfall	**Action** In the event that the Environmental Quality Objectives are not being met, the proponent shall implement the Contingency Waste Water Management Plan required by condition 7-9. **How** Action will be taken from Contingency Waste Water Management Plan. **Objective** Preparation for contingency events.	Operation	Minister for Environment	**NR** The Environmental Quality Objectives were met in accordance with the MTWDMP, and DWER Operating Licence revision L8752/2013/2 for the reporting period.

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	Evidence Pluto LNG Project Ministerial Statement 757 Compliance Report - Report on alternate action to the DEC.			
757:M7.12 Deepwater Marine Outfall	**Action** Review and revise the Contingency Waste Water Management Plan required by condition 7-9, as and when directed by the CEO. **Objective** Preparation for contingency events. **Evidence** Revised Contingency Waste water Management Plan (if required).	Operation	DWER Compliance	**NR** No direction was received by Woodside to review and revise the Contingency Waste Water Management Plan in the reporting period.
757:M7.13 Deepwater Marine Outfall	**Action** Make any revisions of the Contingency Waste Water Management Plan, as required by condition 7-12, publicly available in a manner approved by the CEO. **How** Revisions of the Contingency Waste Water 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 website or upon request.	Operation Ongoing	DWER Compliance	**C** The Contingency Waste Water Management Plan forms part of the MTWDMP and is publicly available on the Woodside website: https://www.woodside.com.au/our-business/pluto-lng/pluto-lng-environmental-compliance-reporting Any future revisions to the plan will also be published on the Woodside website.
757:M8.1 Marine Quarantine	**Action** Prior to commencement of dredging, prepare and implement a Marine Quarantine Management Plan, to the requirements of the Minister for the Environment. **Objective** To prevent marine pest introduction to the waters adjacent to the proposal. **Evidence** Marine Quarantine Management Plan developed in consultation with DoF and DEC.	Design Before dredging	Minister for Environment EPA	**CLD** The Marine Quarantine Management Plan for the Construction Phase was approved on 21 November 2007. This plan was implemented for all dredge vessels and dredging related vessels and equipment associated with the Pluto LNG Project during the dredging program, which ceased on 21 May 2010. Refer to 757:M8:3 for details of quarantine management during operations.
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	Construction	Minister for Environment Director general of DWER	**CLD** Condition is not applicable during the reporting period as dredging was completed in a previous reporting period, on 21 May 2010. ACR 2010 demonstrates that Woodside has conducted Marine Invasive Species Inspections in accordance with this condition.

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	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.			
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	DWER Compliance	**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 12 October 2011. A letter was received from the OEPA on 11 January 2012 approving the Woodside IMSMP and its implementation at the Pluto facilities. Implementation of the Invasive Marine Species Management Plan is ongoing. During the reporting period, no introductions of Invasive Marine Species (IMS) were identified in association with Pluto operations.
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 reported to DEC within 48h through the process specified in the Marine Quarantine Management Plan. **Objective** To prevent marine pest introduction. **Evidence** Inspection report.	Design Prior to commencement of dredging	DEC, Primary Industries and Regional Development, AQIS	**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, Primary Industries and Regional Development	**CLD** Please refer to 757:M8.2 and 2010 ACR.

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757:M8.6 Marine Quarantine	**Action** If 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. **Objective** To prevent pest contamination of other Australian Ports. **Evidence** If 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.	Construction	Minister for Environment, Primary Industries and Regional Development, AQIS	**CLD** Please refer to 757:M8.2 and 2010 ACR.
757:M8.7 Compliance Reporting	**Action** In the event that any introduced marine pests are detected (see condition 8-5), the proponent shall put in place a Marine Pests 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. **Evidence** If required, Marine Pest Management Strategy specified in the Marine Quarantine Management Plan.	Construction	Minister for Environment, 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 (DEC), the Department of Fisheries (DoF) and the Dampier Port Authority (DPA) 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.	Overall Within 24 hours of detection	DWER, DEC, DoF, DPA	**NR** No new introduced marine pests have been detected in waters adjacent to the Project by Woodside to date.

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	Evidence Notification reports of any non-indigenous species detected in waters adjacent to the project			
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 new introduced marine pests have been detected in waters adjacent to the Project by Woodside to date.
757:M9.1 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	Design Prior to commencement of works	Minister for Environment DEC	**C** The Sea Turtle Management Plan was originally approved on 7 November 2008 (DOC68526), along with the Environmental Specification Lighting revision (2 October 2008), which is included as part of the Sea Turtle Management Plan. The 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. Various updates have since been completed. The latest revision (11) of the Plan was approved in November 2022.

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	light glow interfering with nesting female turtles and hatchlings. **Evidence** Sea Turtle Management Plan.			
757:M9.2 Turtle Management and Monitoring	**Action** Implement the Turtle Management Plan required by condition 9-1. **Objective** To 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. **Evidence** Refer to Appendix 1 of the Annual Compliance Report.	Overall	DWER Compliance	**C** Woodside minimised light emissions while complying with health, security, and safety considerations, by implementing the Pluto Light Management Plan (LMP) during the reporting period. Compliance against the LMP was verified by carrying out the 5 yearly lighting audit on 25 October 2022. The survey recognised the work Pluto operations team have done on the facility to reduce artificial light and identified an overall reduction in artificial light impact on Holden Beach since the last audit in 2017. Opportunities to further reduce artificial light impact have been raised, these will be assessed and planned for execution in 2023. 2021/2022 turtle nesting period. Records were maintained and submitted to the Department of Agriculture, Water and Environment (DAWE) on 19 April 2022. Please refer to Appendix 1 for the status of key management actions in the Sea Turtle Management Plan.
757:M9.3 Turtle Management and Monitoring	**Action** Make the Turtle Management Plan required by condition 9-1 publicly available in a manner approved by the CEO. **How** Turtle 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 public is kept informed. **Evidence** Management Plan available on the Woodside website or upon request.	Construction	Director general of DWER	**C** The latest approved version of the Sea Turtle Management Plan is publicly available on the Woodside website: https://www.woodside.com.au/our-business/pluto-lng/pluto-lng-environmental-compliance-reporting Any future revisions to the plan will be published on the Woodside website.
757:M9.4 Turtle Management and Monitoring	**Action** Review the Turtle Management Plan required by condition 9-1 annually to the requirements of the Minister for the Environment. **Objective** To minimise environmental impacts on turtles. **Evidence** Report outcomes of review in Annual Compliance Report.	Overall Annually	Minister for Environment	**C** The sixth revision of the STMP was developed with input from the Department of Biodiversity and Attractions and was approved by DWER on 6 September 2018. Various updates have since been completed. Revision 11 of the Plan was approved by the OEPA in November 2022 and was updated to incorporate proposed activities associated with Pluto expansion.
757:M9.5 Compliance Reporting	**Action** 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. **Objective** To keep DEC informed on project progress and issues.	Overall Within 24 hours of an incident	DWER Compliance	**C** No mortality of marine turtles or other threatened or specially protected marine fauna occurred as a result of the Project in 2022.

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	Evidence Incident reports as per Appendix D of the STMP.			
757:M10.1 Indigenous Heritage	**Action** 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. **How** This Plan shall address: 1. the inclusion of cultural heritage awareness training in the workforce induction; 2. the signposting and fencing of nearby heritage sites to prevent unauthorised access; 3. the monitoring of ground-disturbing activities by an anthropologist/archaeologist and representatives of the Traditional Custodians; and 4. the retrieval and relocation of heritage material which lies within the disturbance footprint in consultation with the Traditional Custodians. **Objective** To minimise impact on cultural heritage. **Evidence** Cultural Heritage Management Plan. (CHMP) Correspondence seeking Department of Indigenous Affairs advice.	Design (Prior to ground-disturbing activities) Overall	DEC DIA	**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 superseded by the *Pluto LNG Aboriginal Cultural Heritage Management Plan - Commissioning and Operations Phase (XA0000AG1002)* 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	**Action** Implement the Cultural Heritage Management Plan required by Condition 10-1. **How** Implementation will take place through inductions and management of access to non-disturbance areas. **Objective** To prevent unnecessary impacts. **Evidence** Annual report to the DIA under Section 18 Permit for Site B, outlining if any site/object as been disturbed	Overall	DWER Compliance	**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 Planning, Lands and Heritage (DPLH) may be used to show effectiveness of implementation of the CHMP. On 15 December 2022 Woodside submitted to the DPLH the Site A and Site B 2022 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.	Construction	DWER Compliance	**C** The Cultural Heritage Management Plan is publicly available on the Woodside website: https://files.woodside/docs/default-source/our-business---documents-and-files/pluto---documents-and-files/pluto-construction-phase-cultural-heritage-management-plan.pdf?sfvrsn=640af3c5_8 pluto-construction-phase-cultural-heritage-management-plan.pdf (woodside.com) Any future revisions to the plan will be published on the Woodside website.

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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. **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** Front End Engineering Design Report.	Design Prior to submitting a Works Approval Application for the plant.	Minister for Environment EPA	**CLD** Front End Engineering Design Report was submitted to DEC on 31 April 2008. This report demonstrated that the proposed works undertake the best practice pollution control measures, minimising emissions on the plan. A second Front End Engineering Design report demonstrating the adoption of best practice pollution control measures to minimise emissions from the proposed second train was approved by the Minister on 3 January 2020.
757:M11.2 Air Emissions	**Action** At least three months prior to commencement of operations prepare an 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, butene, 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. **Evidence** Air Quality Management Plan.	Construction At least three months prior to the commencement of operations	Minister for Environment	**C** 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). Revision 4 of the Air Quality Management Plan was accepted by the OEPA on 2 April 2020. This update was to incorporate proposed activities associated with Pluto expansion.
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.	Operation	DWER Compliance	**C** Implementation continued under licensed operation during the reporting period in accordance with the management framework outlined in the approved Air Quality Management Plan. Routine monitoring including stack emissions testing continued during the reporting period for the gas turbines and regenerative thermal oxidiser (RTO). Emissions monitoring results, smoke monitoring and RTO operation reporting to the DWER was undertaken in accordance with conditions outlined in the DWER Licence L8752/2013/2. In advance of potential changes to industrial air emissions on the Burrup, Woodside recommenced ambient air monitoring in 2019 to further baseline understanding of ambient air quality in the region. The program is expected to further extend the historical dataset and complement air monitoring proposed under the State Murujuga Rock Art Strategy. The ambient air quality monitoring program identified no substance exceedances of NEPM standards in 2022.

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				Please refer to Appendix 1 for the status of key management actions 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. **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.	Construction	DWER Compliance	**C** The Air Quality Management Plan is publicly available on the Woodside website: https://www.woodside.com.au/our-business/pluto-lng/pluto-lng-environmental-compliance-reporting. Any future revisions to the plan will also be published on the Woodside website.
757:M12.1 Greenhouse Gas Abatement	**Action** Develop a Greenhouse Gas Abatement Program (GGAP): 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 the elements outlined in 1 – 11 of this condition. Further detail is outlined in Appendix A, status of key management conditions of the GGAP. **Objective** To minimise environmental impacts associated with greenhouse gas emissions. **Evidence** Greenhouse Gas Abatement program.	Design Prior to commencement of construction of plant	Minister for Environment EPA	**C** This condition was initially met during the 2008 reporting period. A revised Greenhouse Gas Abatement Program was submitted on 19 January 2021 A response from the OEPA on 4 June 2021 stated that "*The (revised) Greenhouse Gas Abatement Program satisfies the key components required by Condition 12-1 of Ministerial Statement 757.*"

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757:M12.2 Greenhouse Gas Abatement	**Action** For the life of the project, the proponent shall provide a greenhouse gas offset package which, as a minimum, offsets the reservoir carbon dioxide released to the atmosphere. **Objective** To minimise greenhouse gas emissions. **Evidence** Formal agreement to provide offsets.	Overall Ongoing	Minister for Environment	**C** Provision of the approved greenhouse gas offset package continued during 2022, via a contract with CO_2 Australia, and the purchase and retirement of voluntary offsets. The current Pluto GGAP allows for eligible offset units to be used for the reservoir emission commitments. Eligible offset units includes both Australian Carbon Credit Units (ACCUs) and International Offsets (Section 4). Previous ACRs and communication with DWER demonstrated compliance with this condition, and the abatement of reservoir emissions with retirement of offsets up to the end of 2021. In 2022 reservoir emissions were 348,993 tCO_{2e}. This amount has been offset by the purchase and retirement of 348,993 offset units[1] in Q1 2023. As per the GGAP, details of the retired offsets including serial numbers are provided in Appendix 2. Reconciliation of reservoir emission volumes and the volume of retired Eligible Offset Units, for the purposes of Condition 12 of MS757, will occur on a maximum five-yearly basis (i.e. 2021 – 2025), with Woodside endeavouring to reconcile volumes on a more frequent basis where possible, as aligned with the revision period of the Pluto GGAP. Pluto has retired a total of 3,362,317 offset units[1], resulting in all emissions to date[2] under Condition 12-2 of MS757 being offset and therefore reconciled. [1]WEL and JV equity abatement [2]Obligation up to and inclusive of 31st December 2022
757:M12.3 Greenhouse Gas Abatement	**Action** Implement the Greenhouse Gas Abatement Program required by condition 12-1. **Objective** To minimise Greenhouse gas emissions. **Evidence** Refer to Appendix 1 of the ACR.	Construction Ongoing	Minister for Environment	**C** The revised GGAP (Rev 3a), accepted by the OEPA on 4 June 2021 details the design and operational aspects of the Project related to minimisation of the overall greenhouse footprint and was active during the reporting period. Please refer to Appendix 1 for the status of key management actions specified in the GGAP.
757:M12.4 Greenhouse Gas Abatement	**Action** Prior to commencement of construction of plant, make the GGAP required by condition 12-1 publicly available in a manner approved by the CEO. **How** GGAP 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** Program available on the Woodside internet site or upon request.	Design Ongoing	Director general of DWER	**C** The approved GGAP is publicly available on the Woodside website: https://www.woodside.com.au/our-business/pluto-lng/pluto-lng-environmental-compliance-reporting. Any future revisions to the plan will also be published on the Woodside website.
757:M13.1 Offsets	**Action** Implement the offset package set out in Schedule 6 (Ministerial Statement 757) to the requirements of the Minister for the Environment on advice of the Department of Environment and Conservation. **Objective** To minimise environmental impacts associated with greenhouse gas emissions.	Overall Ongoing	Minister for Environment DEC	**CLD** Schedule 6 specifies 7 offset components. Status of each component is as follows: **Offset A:** Site A Management and Monitoring **CLD -** A revised *Site A Vegetation Management Plan* was submitted to the DEC for review and comment on 21 October 2011. The DEC responded on 6 February 2012 that '*the revised plan and proposed outcomes have been confirmed as satisfactory by the Department of Environment and Conservation's Pilbara Regional Leader Nature Conservation*'.

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	Evidence Details contained in ACR.			The Site A Vegetation Management Plan is implemented, with weed management and flora survey activities undertaken during the reporting period. **Offset B:** Rehabilitation/Restoration Outside Lease **CLD** - A funding agreement was executed between Woodside and the Department of Parks and Wildlife (DPaW) on 16 October 2013, which included concurrence by the DER. The funding agreement supports DPaW's implementation of a program to rehabilitate and restore degraded areas on the Burrup Peninsula, with a focus on the Murujuga National Park and adjacent areas. Woodside received confirmation that it had completed its obligations under Offset B from the Office of the Environmental Protection Authority (OEPA) on 24 March 2014. **Offset C:** Taxonomic studies of 37 Flora spp **CLD** – Minister for Environment and Water has confirmed that Woodside has met its obligations and has satisfied the requirements for this Offset. **Offset D:** Research and Monitoring Dampier Archipelago Marine Park **CLD**– Minister for Environment and Water has confirmed that Woodside has met its obligations and has satisfied the requirements for this Offset. **Offset E:** Managing Dredging Impacts **CLD** – Minister for Environment and Water has confirmed that Woodside has met its obligations and has satisfied the requirements for this Offset. **Offset F:** Genetic Work To Resolve Taxonomic Uncertainties – *Rhagada Sp* 12. **CLD** – Minister for Environment and Water has confirmed that Woodside has met its obligations and has satisfied the requirements for this Offset. **Offset G:** Ethno-Botanical Study **CLD** A letter to the General Manager of the OEPA was sent on the 7 October 2011 to seek closure of this Offset. On 7 February 2012 the OEPA responded with a letter to confirm that the Burrup Peninsula Ethno-Botanical Study (December 2009) '*meets the requirements of Schedule 6, Offset G of Statement 757*'
757: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.	DEC	**CLD** 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 - DOC 115002).
757:M14.2 Decommissioning	**Action** Submit a final decommissioning plan, for approval of the CEO.	Operation At least 6 months before the date of	Director general of DWER	**NR** Final decommissioning plan shall be developed closer to decommissioning date.

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	How The final decommissioning plan shall set out procedures and measures for: 1. removal or, if appropriate, retention of plant and infrastructure agreed in consultation with relevant stakeholders; 2. rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s); and 3. identification of contaminated areas, including provision of evidence of notification and proposed management measures to relevant statutory authorities. **Objective** To ensure that the site is suitable for future land uses. **Evidence** Final decommissioning plan.	closure or at a time approved by the CEO		
757:M14.3 Decommissioning	**Action** Implement the final decommissioning plan required by condition 14-2 until such time as the Minister for the Environment determines, on advice of the CEO, that the proponent's decommissioning responsibilities have been fulfilled. **Objective** To fulfil decommissioning responsibilities **Evidence** Close-out report for the final decommissioning plan.	Closure Until such time as the Minister for Environment determines on advice of the CEO that the proponent's decommissioning responsibilities have been fulfilled.	Minister for Environment Director general of DWER	**NR** Final decommissioning plan shall be developed closer to decommissioning date.
757:M14.4 Decommissioning	**Action** Make the final decommissioning plan required by condition 14-2 publicly available in a manner approved by the CEO. **How** Final decommissioning 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 the public is kept informed **Evidence** Plan available on the Woodside internet site or upon request.	Closure	Director general of DWER	**NR** Final decommissioning plan shall be developed closer to decommissioning date.

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APPENDIX 1 – PLUTO LNG 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.

Key Management Action	Source Ref/ Chap	Status/Evidence 2022
Marine Treated Waste Water Discharge Management Plan (Condition 7- 2) (Rev 4, March 2014 - XA0000AH0029)		
Review Management Plan as required – triggers for review may include a significant change to the waste water 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.	1.4	**C** 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 updated the Marine Treated Waste Water 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 DWER Operating Licence revision L8752/2013/2.
Monitoring during start-up and commissioning of effluent treatment plant as detailed in the *Pluto LNG Project Effluent Treatment Plant Commissioning Plan, Woodside Doc. XA0000AR0875* approved by the DEC under Works Approval W4466/2008/1.	6.1	**CLD** Woodside provided the Pluto Effluent Treatment Plant (ETP) Commissioning Closeout Report XA0000RH8753228 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 Marine Treated Waste Water Discharge Management Plan. Commissioning closeout reporting and Licence application supporting documentation informed the licencing process through the DER. The DWER Operating Licence L8752/2013/1 was issued 1 August 2013.
Ongoing monitoring of water quality as per Table 6.1 of the Management Plan, including installed analysers and field laboratory tests.	6.2	**C** Monitoring was undertaken in accordance with the Marine Treated Waste Water Discharge Management Plan and DWER Operating Licence L8752/2013/2. Monitoring data is included in DWER licence Annual Environment Report (AER). The 2021-22 Licence period AER was provided to DWER during the reporting period.
Amend table 6.1 if required, depending on results from Whole Effluent Toxicity (WET) testing. To be managed as part of Licensing process with DEC.	6.2	**C** WET testing was conducted during the reported period and the results have not required further amendments to the MTWDMP Table 6.1.
Whole Effluent Toxicity (WET) testing to be carried out on treated water from final inspection tanks in accordance with ANZECC/ARMCANZ (2000). Initial WET test to be conducted within three months following commissioning & stabilisation of the ETP as per the *Pluto LNG Project Effluent Treatment Plant Commissioning Plan.* Ongoing WET testing within one month following the anniversary of the initial WET test, annually, or immediately (within two months) following any significant, sustained increase in the levels of contaminants of concern within treated waste water.	6.4	**CLD for commissioning and stabilisation** **C for ongoing operations** Woodside conducted annual WET testing for the reporting period in November 2022. In the absence of any significant increase in the levels of contaminants of concern within the treated waste water, there was no requirement for further testing to be undertaken within the reporting period.
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*.	7.1	**CLD** Woodside provided the Pluto Effluent Treatment Plant (ETP) Commissioning Closeout Report XA0000RH8753228 to the DEC on 5 April 2013. Commissioning closeout reporting and Licence application supporting documentation informed the licencing process through the DER. The DWER Operating Licence L8752/2013/1 was issued 1 August 2013.
Operating performance data to be provided to DEC (Manager, Pilbara Region) within an Annual Licence Report.	7.1	**C** 2021-2022 Operating performance data was included in DWER Annual Environmental Licence Reporting. The 2021-2022 Licence period Annual Environment Report was submitted to DWER on 28 June 2022.
Notification of DEC where effluent is discharged to ocean from the MUBRL not in accordance with either the approved discharge specifications or the Contingency Waste Water Management Plan (detailed in Section 8).	7.3	**NR** Treated Effluent was discharged within approved discharge specifications. Implementation of the Contingency Waste Water Management Plan was not required during the reported period.

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Key Management Action	Source Ref/ Chap	Status/Evidence 2022
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.	8.1	**NR** Implementation of the Contingency Waste Water Management Plan was not required during the reported period.
Dredge Impact Management Plan (Condition 6-6)		
Coral Condition Assessments		
Refer to 2010 ACR for details.		**CLD** Dredging ceased on 21 May 2010. Results were presented in the ACR 2010.
Water Quality and Sediment Condition Assessments		
Refer to 2010 ACR for details.		**CLD** Dredging ceased on 21 May 2010. Results were presented in the ACR 2010.
BEP Techniques		
Refer to 2010 ACR for details.		**CLD** Dredging ceased on 21 May 2010. Results were presented in the ACR 2010.
Marine Quarantaine Management Plan (Condition 8-1)		
Refer to 2010 ACR for details.		**CLD** Dredging ceased on 21 May 2010. Results were presented in the ACR 2010.
Sea Turtle Management Plan (Condition 9-2) (Rev 11, August 2022 – XB0005AH0006)		
OS 1 – Implementation of the Pluto Light Management Plan	Table 13	**C** Construction of design elements of the Operational Environmental Lighting Specification were completed during the 2012 reporting period following completion of plant construction. The five-yearly turtle lighting survey was completed on 25 October 2022 to ensure compliance with the Pluto Light Management Plan. Opportunities to reduce light intensity and impact at low impact areas were identified. These opportunities are being tracked, and remediation planned for 2023.
OS 2 – In the event of a hydrocarbon spill, management measures contained within the Nearshore Pipelines Oil Pollution Response Plan and Pluto Facilities Oil Spill Response Plan shall be implemented.	Table 13	**C** The Pluto Oil Spill/Pollution Response plans were implemented as required during the reported period. The hydrocarbon release to ocean was identified and managed in a timely manner consistent with the Pluto Oil Spill/Pollution Response plans, with no detectable or lasting impact to surrounding environment observed or recorded following post-discharge monitoring.
OS 3 – Access to Holden Beach is restricted to key personnel, including staff involved in monitoring programs, security, health and safety, environmental and cultural heritage staff.	Table 13	**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 to control access via the Heritage and disturbance footprint approval system (refer to the Cultural Heritage Management Plan for details). Access to the beach by sea is restricted by a Dampier Port Authority Boating Safety Exclusion Zone: https://www.pilbaraports.com.au/Port-of-Dampier/Community/Recreational-boating

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Key Management Action	Source Ref/ Chap	Status/Evidence 2022
OS 3 – No vehicle access is permitted on Holden Beach.	Table 13	**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: https://www.pilbaraports.com.au/Port-of-Dampier/Community/Recreational-boating
OS 3 – All relevant personnel receive an induction regarding fauna interaction and sensitive habitat locations.	Table 13	**C** A training pack is presented to key personnel who require access to Holden Beach.
OS 4– 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.	Table 13	**NR** No dredging or spoil disposal activities occurred during the reporting period.
OS 5 - Operational flaring from the main Site B flare is minimised and kept to a level that is as low as reasonably practicable.	Table 13	**C** Flaring is essential for safe operation of an LNG plant. Where possible Woodside aims to minimise flaring to a level that is as low as reasonably practicable.
OS 6 – Maintenance vessel activities (excluding LNG vessels, condensate tankers and tugs) comply with: • EPBC Regulations 2000 – Part 8 Division 8.1 (Regulation 8.05 and 8.06) Interacting with cetaceans and Woodside's Marine Charterers Instructions.	Table 13	**C** No breaches of the EPBC Regulations 2000 – Part 8 Division 8.1 were reported by vessels executing activities associated with Pluto LNG during the reported period.
CS1 – CS5 – Management measures for construction.	Table 14	**NR** No significant expansion construction activities occurred during the reporting period.
Monitoring at Holden Beach – 'Morning After' beach surveys are undertaken fortnightly from 1 September, until the first turtle activity is recorded. Following this, beach surveys are undertaken once per week. Weekly monitoring will continue until 1 March, or until the incubation period of the last potential nest has exceeded 70 days, or the nest has hatched, whichever is later. 'Hatchling Emergence' monitoring frequency is conducted in line with 'Morning After' beach survey, until the last potential nest has hatched, or until incubation period of the last potential nest has exceeded 70 days.	Table 15	**C** Sea turtle monitoring at Holden Beach continued during the reporting period and monitoring logs were maintained to record activity.
Five yearly Audit by a specialist lighting consultant on the implementation of the Light Management Plan.	Table 15	**C** An audit of the Pluto LNG Plant lighting to determine compliance with the Pluto Light Management Plan and a survey of spectral characteristics, intensity, and sources of light spill visible from Holden Beach was undertaken by a specialist consultant in October 2022.

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Key Management Action	Source Ref/ Chap	Status/Evidence 2022
Reporting – Turtle observation data will be compiled by the Woodside Environmental Adviser and reports sent on a yearly basis in a Turtle Monitoring Report, within one month of the end of the turtle nesting season to the DBCA and DAWE. In the event of a turtle or marine mammal injury/death associated with Pluto LNG, it will be reported to the Woodside HSE advisor who will report the incident to DBCA and DAWE (refer to the Management Plan for details).	6.1	**C** The annual turtle observation data for the 2021/2022 nesting/hatching period was submitted on 19 April 2022. Monitoring results for the 2022/2023 nesting/hatching period will be provided following conclusion of the season. No construction or operation incidents occurred involving injury or mortality of sea turtles or marine mammals.
Air Quality Management Plan (Condition 11-2) (Rev 4, December 2019 – X0000AH0002)		
Conduct Point Source Emissions Monitoring for NOx via stack testing on the mixed refrigerant compressor, propane compressor, gas turbines and Regenerative Thermal Oxidiser (RTO).	7.1	**C** Stack emissions testing for NOx was undertaken during the reporting period. In Q3 2022, a full suite of stack emissions tests was taken for the mixed refrigerant compressor, propane compressor, gas turbines and RTO.
For the first year of stable operations for Pluto Train 2, stack emissions testing will be undertaken quarterly. Following the first year, annual stack emission testing will align with that of existing operations and/or on an as needed basis to ensure ongoing confidence and verification to support operational surveillance monitoring.	7.1	**NR** Pluto Train 2 is yet to be constructed and therefore operations did not commence during the reported period.
Report summarising results of point source emissions from stack sampling points stated within the AQMP to be provided to DWER as a part of the annual compliance reporting.	7.1	**C** Stack sampling results were provided to DWER in section 6.1 of the Annual Environmental Report as required by DWER Operating Licence L8752/2013/2, during the reporting period.
Any expected or actual dark smoke emissions of a shade Ringelmann 3 or greater emitted for a period of 30 minutes or more shall be reported to the DWER as soon as practicable, but no later than 5 pm of the next usual working day.	7.2	**C** There were no dark smoke events in the reporting period of shade Ringelmann 3 or greater for a period of 30 minutes or more.
Actual and expected flare smoke emissions are reported as part of the Licence (L8752/2013/2) start-up and upset notifications, in case of any limit exceedances, and summarised in the AER.	7.2	**C** During the reported period, expected or actual dark smoke in excess of target notifications were provided to DWER in the Quarterly Shutdown Reports and in section 6.2 of the Annual Environmental Report as required by DWER Operating Licence L8752/2013/2.
Woodside will notify DWER of thermal oxidiser outages in a quarterly shutdown report, in accordance with Operating Licence L8752/2013/2	7.3	**C** RTO operation reporting to DWER was undertaken in accordance with arrangements outlined in the DWER Operating Licence L8752/2013/2. This consists of quarterly reports, which were submitted to the DWER throughout 2022
Implement the Pluto program of ambient air monitoring	8	**C** In December 2014, Woodside proposed the cessation of monitoring of NOx and ozone associated with the Pluto LNG Development, and that the ambient air program prepared in accordance with MS757 Ambient Air Monitoring Condition 11-2, point 4 be confirmed as completed. In advance of potential changes to industrial air emissions on the Burrup, Woodside recommenced ambient air monitoring in 2019 to further baseline understanding of ambient air quality in the region. The program is expected to further extend the historical dataset and complement air monitoring proposed under the State Murujuga Rock Art Strategy. It is Woodside's intention to continue the in-place ambient air monitoring program until a coordinated approach established under the State Murujuga Rock Art Strategy is operational. The ambient air quality monitoring program continued in 2022. No substance exceedances of NEPM standards were identified. Refer to 757:M11.2 in Table 1 for further information.

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In order to ensure that the Pluto MS 757 ambient air monitoring program requirement is met, if the State Murujuga Rock Art Monitoring Program is not operational by Train 2 start-up, a 24-month program will be undertaken, followed by independent review.	8	**NR** Pluto Train 2 is yet to be constructed and therefore did not start operations during the reported period.
Beyond the initial 24-month ambient program to meet MS 757 Condition 11-2(4) post Train 2 start-up, Woodside will continue to undertake annual objective-based ambient monitoring programs (with scope and objectives to be agreed with the EPA), or via appropriate support/contribution to the State Murujuga Rock Art Monitoring Program.	8	**NR** Pluto Train 2 is yet to be constructed and therefore did not start operations during the reported period.
Should the State Murujuga Rock Art Strategy and proposed Murujuga nitrogen deposition monitoring program not be operational by Train 2 start-up, Woodside in consultation with relevant stakeholders would look to establish a 24-month Pluto Train 2 deposition program to ensure that the requirements of Pluto LNG MS 757 are met.	9	**NR** Pluto Train 2 is yet to be constructed and therefore did not start operations during the reported period.
Following the 24-month nitrogen deposition monitoring period a review of the data will be conducted.	9	**NR** Independent peer review of the nitrogen deposition monitoring program 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 program. These documents demonstrate that risk assessments outlined in approvals documentation are consistent with measured results, and that any nitrogen deposition due to Pluto LNG emissions is insignificant. Woodside proposed the cessation of the monitoring program and that this component of the program 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 NO_x 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.
Regular review of ongoing emissions monitoring and ambient air monitoring programs. Results will be compared with previously completed sampling in accordance with the AQMP and Operating Licence L8752/2013/2.	10	**C** Reviews of operational monitoring results were undertaken and compared against previously completed sampling results. Stack sampling results and analysis was provided to the DWER in section 6.1 of the Annual Environment Report as required by DWER Operating Licence L8752/2013/2, during the reporting period. The ambient air quality monitoring program identified no substance exceedances of NEPM standards in 2022.

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<table>
<tr><th>Key Management Action</th><th>Source Ref/ Chap</th><th>Status/Evidence 2022</th></tr>
<tr><td colspan="3">Greenhouse Gas Abatement Program (Condition 12-2) (Rev 3a, August 2021 – XA0005AH0010)</td></tr>
<tr><td>Woodside will continue to implement the ongoing GHG Improvement Plan described in Section 7.2, to achieve the following interim emission reduction targets by 2025:
1. A 5% GHG intensity improvement, resulting in a cumulative carbon equivalent reduction of up to 250,000 t CO2-e indicatively over the five years.

2. Where sufficient GHG intensity improvements cannot be achieved onsite to reach this target, the shortfall will be voluntarily offset to achieve the equivalent carbon reduction from a 5% GHG intensity improvement. The resulting emissions reduction is shown in Figure 2 and is based on the forecast production rates.

3. Offsetting 100% of reservoir CO2 emissions equating to abatement of approximately 2 million tonnes of CO2-e over the five years.</td><td>2.1.4</td><td>1, 2 – C
For the 2022 reporting period, performance as a contribution to the five yearly interim emissions target progressed in compliance with these commitments. Intensity performance, together with progressive retirement of offsets ensures net emissions remain on target to achieve a 5% reduction improvement.
Final performance against the 2025 interim target and retirement details will be provided in the 2021-2025 five yearly summary report as described in Section 9 of the GGAP.

3 – C
Refer M 12.2.
2022 reservoir emissions have been fully abated. Appendix 2 lists the offset retirements relevant to 2022 emissions.
Pluto has retired a total of 3,362,317 offset units[1], resulting in all emissions to date[2] under Condition 12-2 of MS757 being offset and therefore reconciled.

[1]WEL and JV equity abatement
[2]Obligation up to and inclusive of 31st December 2022</td></tr>
<tr><td>The Pluto ACR will provide a summary of the most recent NGERs reporting period, including:
• Total emissions (reservoir and non-reservoir emissions).
• Total emission intensity and non-reservoir emission intensity.
• Volume of gas processed at the facility.</td><td>2.1.5 and 9</td><td>C
Data for the most recent 2022 calendar year, as aligned with the ACR reporting period is shown.

<table><tr><th></th><th>2022 Calendar Year^</th></tr><tr><td>Total emissions t CO2-e (reservoir + non-reservoir)</td><td>1,968,453</td></tr><tr><td>Total emission intensity t CO_2e/t LNG</td><td>0.38</td></tr><tr><td>Emissions Intensity t CO_2e/t LNG (non-reservoir)</td><td>0.33</td></tr><tr><td>Gas produced (LNG) t LNG</td><td>5,137,618</td></tr><tr><td>Total Reservoir CO2 (Includes Pluto & Interconnector)</td><td>348,993</td></tr></table>
^Data includes six months of NGER FY2022 reporting period as well as interim H2 2022 as per ACR reporting period. Note 2H 2022 data incorporated into this total is subject to 2022/23 NGER assurance</td></tr>
<tr><td>Reconciliation of reservoir emission volumes and the volume of retired Eligible Offset Units, for the purposes of Condition 12 of MS757, will occur on a five-yearly basis, as aligned with the revision period of the Pluto GGAP. Retirements will be detailed in the Pluto ACRs following the retirement date.</td><td>4.1</td><td>C
Refer to M 12.2 providing information relating to 2022.
Pluto has retired a total of 3,362,317 offset units[1], resulting in all emissions to date[2] under Condition 12-2 of MS757 being offset and therefore reconciled.

[1]WEL and JV equity abatement
[2]Obligation up to and inclusive of 31st December 2022</td></tr>
<tr><td>Woodside will continue to report annual reservoir emission volumes and retired offset units (including serial numbers) in the Pluto ACRs, which are publicly available on Woodside’s website.</td><td>4.2.1</td><td>C
Refer to 12.2 for information on reservoir emissions and associated retired offsets for the 2022 period. Serial numbers of retired offsets for this period are provided in Appendix 2 below:</td></tr>
</table>

*These reflect current regulatory organisation names and positions relevant to original positions

Key Management Action	Source Ref/ Chap	Status/Evidence 2022
Where carbon offset units are purchased from existing projects to offset Pluto LNG Facility emissions, Woodside will only purchase Eligible Offset Units as defined in the Climate Active Carbon Neutral Standard for Organisations.	4.2.1	**NR** Offset units retired[1] to date[2] against Pluto Condition 12 of MS757 have met the criteria for Eligible Offset Units as defined in the Climate Active Carbon Neutral Standard for Organisations at the time of each retirement. An overview of each retirement against the corresponding standard criteria at the time of retirement will be outlined in the 2021-2025 five yearly report, if relevant. [1]WEL and JV equity abatement [2]Obligation up to and inclusive of 31st December 2022
Periodic public reporting will also be undertaken as part of the five-yearly revisions of this GGAP, which will be supported with a summary report detailing information from the preceding five years, including: • The quantity of total GHG emissions and net GHG emissions from the facility • The type, quantity, identification or serial number, and date of retirement or cancellation of any authorised offset which have been retired or cancelled and which have been used to calculate net GHG emissions • GHG emission reduction measures that have been implemented to avoid and reduce GHG emissions • A graphical comparison of emission reduction commitments with actual emissions for compliance periods • Performance against benchmarked facilities • GHG emissions intensity of the facility • A statement whether interim targets have been achieved	9	**NR**
Pluto ACRs, the approved revision of the Pluto GGAP and supporting summary report will be made publicly available on the Woodside website woodside.com.au	9	**C** Pluto LNG Annual Environmental Compliance Reports and other supporting documents are available on the Woodside website: Pluto LNG Environmental Compliance Reporting - Woodside Energy
Calculation of the “greenhouse gas” emissions associated with the proposal as advised by the EPA.	Table 11-1	**C** The GGAP outlines how Pluto’s greenhouse gas emissions profile is determined (Section 3), benchmarking against other projects (Section 5) and sets out targets, monitoring, auditing, and reporting (Section 9). Annual reporting of emissions is performed in accordance with the National Greenhouse and Energy Reporting Act 2007 (NGER Act). A summary of reservoir emissions, non-reservoir emissions and associated Pluto LNG Facility emissions intensity is provided in this ACR as described in section 9 of the GGAP.
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.	Table 11-1	**C** Demonstrated in the current version of the GGAP (Section 5 and 6). Specific measures implemented to minimise GHG emissions over the previous 5 years will be included in the subsequent Pluto GGAP revision and summary report as described in Section 9 of the GGAP.
The implementation and ongoing review of “greenhouse gas” offset strategies with such offsets to remain in place for the life of the proposal.	Table 11-1	**C** Retirement of all eligible offset units in relation to the Pluto LNG Facility will occur on a minimum five yearly basis as aligned with the revision period of the Pluto GGAP. In practice, retirement of eligible offset units in relation reservoir emissions will occur on a year -on-year basis and retirement of eligible offset units in relation GHG intensity improvements will occur on a minimum five yearly basis. Summary of retired Eligible Offset Units over the previous 5 years will be included in the subsequent Pluto GGAP and summary report. As described in section 9.

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Key Management Action	Source Ref/ Chap	Status/Evidence 2022
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.	Table 11-1	**C** Demonstrated in the current version of the GGAP (Section 4.2).
Implementation of thermal efficiency design and operating goals consistent with the Australian Greenhouse Office Technical Efficiency Guidelines in design and operational management.	Table 11-1	**C** Demonstrated in the current version of the GGAP (Section 5).
Actions for the monitoring, regular auditing and annual reporting of GHG emissions and emission reduction strategies.	Table 11-1	**C** The GGAP outlines how Pluto's greenhouse gas emissions profile is determined (Section 3), benchmarking against other projects (Section 5) and sets out targets, monitoring, auditing, and reporting (Section 9). Opportunities for mitigation and ongoing improvement are also identified in Section 7. Annual reporting of emissions is performed in accordance with the NGER Act and section 9 of the Pluto GGAP.
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.	Table 11-1	**C** Interim targets are outlined in the GGAP, as below: • 2025 interim target of 5% GHG intensity improvement, as outlined in section 2.1.4. • 2030 interim target of 30% emissions reduction from 4.1 Mtpa CO2e, as outlined in section 2.1.4. • Subsequent interim targets established in future revisions of this Pluto GGAP. Annual reporting of emissions is performed in accordance with the NGER Act and section 9 of the Pluto GGAP. A summary of progress against the 2025 interim target is provided in this ACR (refer emissions target section above).
A program to achieve reduction in "greenhouse gas" emissions consistent with the target referred to in (7) above.	Table 11-1	**C** Optimisation and opportunity management processes are implemented to identify and prioritise enhancement opportunities including improving energy efficiency, reducing fuel use and intensity and minimising flaring. Identified opportunities are tracked in the relevant optimisation reference plan. A summary of delivered opportunities will be presented in the 2021-2025 five yearly summary report as described in section 9 of the GGAP.
Entry whether on a project - specific basis, company-wide arrangement or within an industrial grouping as appropriate, in the Commonwealth governments" Greenhouse Challenge" voluntary cooperative agreement program.	Table 11-1	**CLD** Woodside was a member of the Greenhouse Challenge up until the cessation of the program in July 2009.
Review of practices and available technology.	Table 11-1	**C** Demonstrated in the current version of the GGAP (Section 6). Optimisation and opportunity management processes are implemented to identify and prioritise enhancement opportunities including improving energy efficiency, reducing fuel use and intensity and minimising flaring. Identified opportunities tracked in the relevant optimisation reference plan. A summary of delivered opportunities will be presented in the five yearly summary report as described in section 9.
Continuous improvement approach so that advance in technology and potential operational improvements of plant performance are adopted.	Table 11-1	**C** Optimisation and opportunity management processes are implemented to identify and prioritise enhancement opportunities including improving energy efficiency, reducing fuel use and intensity and minimising flaring.
Woodside Energy Limited Invasive Marine Species Management Plan (Condition 8-3) (Rev 7, June 2018 – A3000AH4345570)		
Risk Assessment Process detailed in Section 4 of the Management Plan is to be applied to all vessels, rigs and immersible equipment under Woodside contract that plan to enter and operate within the identified Invasive Marine Species Management Area (IMSMA), other than those exceptions identified in Section 1.4 of the Management Plan.	4	**C** 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, Vessel Risk Assessment Score Sheet (VRASS) are carried out for support vessels to prevent the introduction of invasive species.

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Key Management Action	Source Ref/ Chap	Status/Evidence 2022
Ensure that management options following the risk assessment process comply with Section 5.1 of the Management Plan	5	**C** Management options implemented following the risk assessment process may for example include information confirmation, application of the limit of three entrants into the IMSMA, treatment of vessel internal seawater systems, or inspection.
Preliminary Decommissioning Plan		
Ensure a preliminary decommissioning plan is approved, in accordance with the requirements of condition 14-1.		**CLD** A revised preliminary decommissioning plan was submitted to DEC for approval on 8 January 2010 and was approved on 1 February 2010.
Final Decommissioning Plan		
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 the plan has been approved.		**NR** Not required during the 2022 reporting period.

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APPENDIX 2 – PURCHASED AND RETIRED OFFSET PACKAGE – 2022 RESERVOIR EMISSIONS

Quantity	Project ID	Project Name	Vintage	Serial Number
8175	1477	Katingan Peatland Restoration and Conservation Project	01/01/2018-31/12/2018	10717-243565876-243574050-VCS-VCU-263-VER-ID-14-1477-01012018-31122018-1
3785	786	Hyundai Steel Waste Energy Cogeneration Project	01/01/2017-30/06/2017	9146-70706032-70709816-VCS-VCU-260-VER-KR-1-786-01012017-30062017-0
8175	1477	Katingan Peatland Restoration and Conservation Project	01/01/2018-31/12/2018	10717-243557701-243565875-VCS-VCU-263-VER-ID-14-1477-01012018-31122018-1
3785	786	Hyundai Steel Waste Energy Cogeneration Project	01/01/2017-30/06/2017	9146-70702247-70706031-VCS-VCU-260-VER-KR-1-786-01012017-30062017-0
147151	1477	Katingan Peatland Restoration and Conservation Project	01/01/2018-31/12/2018	10717-243410550-243557700-VCS-VCU-263-VER-ID-14-1477-01012018-31122018-1
29421	786	Hyundai Steel Waste Energy Cogeneration Project	01/01/2017-30/06/2017	9146-70672826-70702246-VCS-VCU-260-VER-KR-1-786-01012017-30062017-0
38711	786	Hyundai Steel Waste Energy Cogeneration Project	01/01/2017-30/06/2017	9032-62544051-62582761-VCS-VCU-260-VER-KR-1-786-01012017-30062017-0
26311	1477	Katingan Peatland Restoration and Conservation Project	01/01/2018-31/12/2018	10717-243384239-243410549-VCS-VCU-263-VER-ID-14-1477-01012018-31122018-1
13750	786	Hyundai Steel Waste Energy Cogeneration Project	01/01/2017-30/06/2017	9146-70659076-70672825-VCS-VCU-260-VER-KR-1-786-01012017-30062017-0
3385	1987	GENNEIA WIND PROJECTS IN ARGENTINA	12/11/2018-31/12/2018	11452-331383539-331386923-VCS-VCU-1323-VER-AR-1-1987-12112018-31122018-1
50532	605	Antai Group Waste Gas Recovery for Power Generation Project (300303)	2017	GS1-1-CN-GS605-15-2017-20918-66114-116645
10198	605	Antai Group Waste Gas Recovery for Power Generation Project (300303)	2017	GS1-1-CN-GS605-15-2017-20918-55916-66113
2807	605	Antai Group Waste Gas Recovery for Power Generation Project (300303)	2017	GS1-1-CN-GS605-15-2017-20918-53109-55915
2807	605	Antai Group Waste Gas Recovery for Power Generation Project (300303)	2017	GS1-1-CN-GS605-15-2017-20918-50302-53108
348,993				

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