Notice

Environmental Protection Act 1994

Environmental Protection Order

This environmental protection order is issued by the administering authority pursuant to section 358 of the Environmental Protection Act 1994.

Australia Pacific LNG Pty Limited
Level 4, 139 Coronation Drive
Milton, QLD 4064

Your reference: C-CPLRC-100022440

Our reference: C-CPLRC-100022440 101/0006140-001(E)

15 December 2021

Dear Directors

Take notice: that under the *Environmental Protection Act 1994* (the Act) this environmental protection order (EPO) is issued to Australia Pacific LNG Pty Limited (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Science (the department).

The EPO is issued in respect to the activities of Australia Pacific LNG Pty Limited at the Ramyard Woleebee Development Area on land described as Lot 25 on FT88 within Petroleum Lease (PL) 470 (the premises), specifically the Ramyard Pilot Pond (the pond).

A. Grounds

This EPO is issued on the following grounds:

1. To secure compliance with condition I2 of environmental authority EPPG00968013 (the EA) pursuant to section 358(d)(iii) of the Act. EA condition I2 states:

   Dams (including low consequence dams) must:
   (a) be decommissioned and rehabilitated to achieve compliance with condition (I9); or
   (b) be left in-situ for a beneficial use provided that:
   i. the dam is decommissioned to no longer accept inflow from the petroleum activities; and
   ii. the contained water quality must be suitable for the intended on-going use(s) by the landholder or overlapping tenure holder.

2. To secure compliance with condition I6 of the EA pursuant to section 358(d)(iii) of the Act. EA condition I6 states:

   a. *Progressive rehabilitation of significantly disturbed land caused by the carrying out of the petroleum activity(ies) (other than constructing pipelines) which is not required for the ongoing*

conduct of the petroleum activity(ies) must commence as soon as practicable, but not longer than nine (9) months following the completion of any construction or operational works associated with the petroleum activity(ies).

3. To secure compliance with section 319 of the Act pursuant to section 358(d)(i) of the Act. Section 319 of the Act states:

    a. *A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the **general environmental duty**).*

The facts and circumstances forming the basis for these grounds are:

Background

1. The EA was issued to you on 7 December 2021 and authorises a number of environmentally relevant activities including:
    - Schedule 3 06: A petroleum activity carried out on a site containing a high hazard dam or a significant hazard dam
2. The Ramyard Pilot Pond is an evaporation pond which previously received coal seam gas (CSG) water from surrounding exploration and appraisal wells.
3. The pond is a petroleum activity (as per the *Petroleum and Gas (Production and Safety) Act 2004* (Qld) (*P&G Act*)) relating to the activity located on PL470 and significant disturbance to land occurred during its construction in 2010.
4. The pond has not received any CSG water inflows since 2017.
5. On 24 August 2020, the landholder notified Australia Pacific LNG Pty Limited (APLNG) of an incident involving the release of CSG water to land from the pond.
6. The release occurred after heavy rains were received in late 2019/early 2020. Rainfall remobilised salts from within the dam and the contaminated water was released intermittently through a tear in the pond liner.
7. Releases continued until rectification works were undertaken by Origin on 27 August 2020 to seal the outlet and lid of the leak detection sump (release point).
8. An estimated 689,000 litres of contaminated water was released to land.
9. Following the cessation of the release, the initial electrical conductivity (EC) of the seepage water was 65,000 µS/cm (in-field test) (as notified to the department on 17 September 2020). Later testing of samples from the sampling pit and analysed at a NATA-accredited laboratory indicated an EC level of 35,000 uS/cm. It is understood that EC levels of seepage water continue to decrease, and latest monitoring results from the sampling pit showed EC values of 13,600 µS/cm.

Condition I2 of EPPG00968013

10. Condition I2 of the EA provides decommissioning options to either decommission and rehabilitate to meet final rehabilitation requirements or decommission and transfer to landholder under the beneficial use requirements.
11. In ‘Origin Report No. 16925129 Ramyard Dam’ the consequence category of the dam was rated on the advice that the dam was decommissioned (advised by Origin on 25 July 2017).
12. On March 2020 the pond was scheduled for rehabilitation works.

13. As of 15 December 2021, progressive rehabilitation of the pond had not commenced, and the pond had not been transferred to the landholder under the beneficial use requirements.

Condition I6 of EPPG00968013

14. Condition I6 of EPPG00968013 requires you to commence progressive rehabilitation of significantly disturbed land which is not required for the ongoing conduct of the petroleum activity, no longer than nine (9) months following completion of works associated with the activity.
15. On March 2020 the pond was scheduled for rehabilitation works.
16. You are actively planning to rehabilitate the Ramyard Pilot Pond. The below correspondence from you to the department (dated 16 December 2020) demonstrates the pond is no longer required for operations and continues to pose an environmental risk.

    "*Planning for the remediation and rehabilitation of the Pond has commenced. AECOM has been engaged to commence development of a remediation and rehabilitation strategy/plan. Remediation and rehabilitation objectives include identification and management of environmental risks inclusive of release of saline impacted soils and residual material from within the Pond.*"

17. Condition I9 of EPPG00968013 sets out the final acceptance criteria for significantly disturbed land rehabilitated under condition I2:

    All significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet the following final acceptance criteria:

    (a) For all land use(s):

    i. all significantly disturbed land is reinstated to the pre-disturbed soil suitability class;
    ii. The landform is safe for humans and fauna;
    iii. The landform is stable with no subsidence or erosion gullies for at least three (3) years;
    iv. All significantly disturbed land is reinstated so that the distribution of vegetation communities represents the analogue site;
    v. the water quality of any residual void or water bodies constructed by the petroleum activity(ies) meets criteria for subsequent uses and does not have potential to cause environmental harm;
    vi. There is no ongoing contamination to waters;
    vii. There is no ongoing contamination to groundwater from dams or monocells (demonstrated via groundwater monitoring and leak detection monitoring systems); and
    viii. The maintenance requirements for rehabilitated land is no greater than that required for the land prior to its disturbance caused by carrying out the petroleum activity(ies).

    (b) Additional requirements for sites that are being reinstated to native ecosystems:

    i. each vegetation community must be re-established so that each of the following rehabilitation parameters are maintained for at least three years;
    ii. The rehabilitated site shows distinct and progressive re-establishment of the various strata which characterise the vegetation community in the analogue site;
    iii. All dominant species within each strata are re-established at densities equivalent to that of the analogue site;
    iv. Notwithstanding (I9)(b)(i) and (I9)(b)(ii), a minimum of 70% species richness and species diversity is observed when compared to the relevant analogue site;

v. a minimum of 50% foliage cover is observed when compared to the relevant analogue site;
vi. Each vegetation community must be rehabilitated and maintained until it can be demonstrated that it is resilient and self-sustaining (demonstrated by reproduction and colonisation); and
vii. Percent organic litter cover, count and density of hollow bearing logs and nest boxes (as replacement for trees with hollows ≥10cm diameter) and fallen woody material (total length of logs ≥ 10 cm diameter per hectare and number of logs ≥ 10cm per hectare) have been installed at numbers and densities no lower than the analogue site.

18. As of 15 December 2021, progressive rehabilitation of the pond had not commenced, and the pond had not been transferred to the landholder under the beneficial use requirements.

Section 319 of the Act (the General Environmental Duty)

19. Section 319 of the Act states:

    - *A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the general environmental duty).*

20. Environmental harm is defined in the act as '*any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and includes environmental nuisance.*'

21. Environmental value is defined in the act as '*a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety*'

22. CSG water (or residues from CSG water) are contaminants, and the released water from the pond contained high salinity concentrations and caused environmental harm through the release of contaminants to land and has the potential to impact groundwater.

23. In the Erosion and Sediment Control Plan for the pond provided by you to the department on 20 October 2021 you stated that the contaminated water release affected a surface area of approximately 1,564 m^2.

24. An inspection conducted by the department on 26 November 2020 confirmed that pasture within the affected area was largely absent and has since been mechanically removed and continues to remain disturbed. Results from soil sampling conducted on 26 November 2020 showed affected topsoils contained elevated salinity (up to 5520 µS/cm).

25. The 2021 AECOM Report detailed that HydraSleeves were used for sample collection during the latest round(s) of groundwater monitoring. HydraSleeves use a no-purge sampling methodology which is still emerging and not recommended within the *Environmental Protection (Water) Policy 2009 - Monitoring and Sampling Manual*. It is unknown how a no-purge sampling methodology will allow a representative sample to be collected, particularly following repeated sampling of the same water bearing unit over time.

26. All current (and newly constructed) monitoring bores intersect the Orallo Formation which is described as a 'regional aquitard containing barriers to vertical flow of groundwater'. There are no current monitoring bores intersecting the alluvium which contains less restrictions to vertical flow and may potentially be affected by groundwater seepage.

B. Requirements

In accordance with this EPO, you are required to do the following:

Requirement 1: Seepage Monitoring Report

a) By 24 December 2021 a Seepage Management System to prevent seepage from all site infrastructure must be installed, operated and maintained until such time as the pond is either decommissioned and rehabilitated to meet final rehabilitation requirements or decommissioned and transferred to the landholder under the beneficial use requirements.

b) The Seepage Management Systems must include, at a minimum:

i. control measures to effectively minimise seepage from all site infrastructure; and

ii. control measures to effectively capture and pump-back seepage sufficient to prevent migration into surface waters; and

iii. control measures to ensure seepage does not report to groundwater in the receiving environment; and

iv. a monitoring program that can determine the effectiveness of all control measures required; and

v. an action plan to implement and/or install any additional control measures that are required; and

vi. a map or figure that depicts the location and type of seepage control measures installed.

Requirement 2: Soil Impact Assessment Report and Remediation Plan

a) By 1 March 2022 you must submit a soil impact assessment report and remediation plan, unless the weather precludes access. If the weather does preclude access (this must be supported by rainfall data) the report must be submitted by 30 June 2022.

i. The report must be developed in accordance with approved soil sampling practices published within the 'National Environmental Protection (Assessment of Site Contamination) Measure (2013)'.

ii. It is appropriate for the report to consider the following documents:

a. Queensland Land Resource Assessment Guidelines, Volume 1: Soil and land resource assessment (Queensland Department of Environment and Science and Department of Resources, 2011)

b. Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2000)

c. Salinity Management Handbook (2nd ed.) (Queensland Department of Environment and Resources Management, 2011)

b) The soil impact assessment report must include:

iii. Remediation Plan for the impacted land at the release point 'sump release area' and

iv. Soil impact assessment report for the impacted land at the release point.

c) The developed Remediation Plan for the sump release area will include:

i. a description and assessment of remediation options;

ii. the process for the development of remediation criteria depending on the results from Requirement 2 above;

iii. site validation process;

iv. final landform description and requirements;

v. revegetation requirements; and

vi. relevant milestone dates.

Requirement 3: Groundwater impact assessment and remediation report

a) Quarterly groundwater monitoring and 6 monthly monitoring reports will be submitted until such time as the pond is either decommissioned and rehabilitated to meet final rehabilitation requirements or decommissioned and transferred to the landholder under the beneficial use requirements.

b) Six monthly reports will be submitted on the following dates:

i. 18 September 2022

ii. 18 March 2023

iii. 28 September 2023

c) Reports must include an assessment of groundwater hydrogeochemical composition over time, including piper plots or ternary diagrams and quantitative comparison of water quality.

d) Considering the release occurred within an area where potential groundwater dependent ecosystems (GDE's) have been mapped, groundwater reports should consider potential risks to GDE's and deep-rooted vegetation.

e) Best practice sampling approaches must be employed. These must be in accordance with the '*Environmental Protection (Water) Policy 2009 - Monitoring and Sampling Manual*' to obtain an adequate representation of the targeted water bearing unit (see https://environment.des.qld.gov.au/__data/assets/pdf_file/0016/90511/physical-and-chemical-assesssment-groundwaters.pdf).

f) The Groundwater report must:

i. provide a hydrogeological conceptual groundwater model;

ii. describe each hydrogeological unit, including hydraulic conductivity, infiltration rate and ionic composition;

iii. identify all potential sources of contamination to groundwater from the activities authorised under this environmental authority;

iv. determine the contaminants of concern for each potential source;

v. compare the ionic composition of contaminated water sources with the groundwater quality;

vi. identify all environmental values that may be impacted;

vii. identify all relevant guideline values and water quality objectives that apply;

viii. detail groundwater levels in all identified hydrogeological units present across and adjacent to the site to identify groundwater flow paths;

ix. determine the spatial extent of contaminants;

x. ensure all potential groundwater impacts due to the activity and rehabilitation activities are identified, monitored and mitigated;

xi. ensure adequate groundwater monitoring and data analysis is undertaken to achieve the following objectives;

xii. determine long term trends in groundwater quality and water level (present data in time series graphs);

xiii. determine any interaction or impact from groundwater on surface water or groundwater dependent ecosystems (groundwater monitoring locations should align with receiving environment surface water quality monitoring locations, if appropriate);

xiv. Provide groundwater quality and standing water levels of all groundwater bores in an electronic format (excel);

xv. document groundwater management and monitoring methodologies undertaken;

xvi. provide an appropriate quality assurance and quality control program; and

xvii. identify remedial measures to reduce contamination concentrations in groundwater.

g) Groundwater quality should be assessed in line with the Groundwater guideline (DES 2021) Using monitoring data to assess groundwater quality and potential environmental impacts. Version 2. Department of Environment and Science (DES), Queensland Government, Brisbane. https://publications.qld.gov.au/dataset/groundwater-quality-assessment-guideline/resource/472cc88a-000a-4bb8-a60d-204cfe7e0238).

h) Monitoring and sampling must be carried out in accordance with the requirements of the latest version of the following documents unless otherwise approved by the administering authority:

i. Monitoring and Sampling Manual: Environmental Protection (Water) Policy, Department of Environment and Science, 2018.

ii. Groundwater Sampling and Analysis – A Field Guide (2009:27 GeoCat#6890.1)

iii. Australian Standard AS/NZS 5667.11:1998 Water quality—Sampling -Part 11: Guidance on sampling of groundwaters.

Requirement 4: Rehabilitation Plan

a) By 31 October 2022 you must prepare and submit a rehabilitation plan for the following:

i. Rehabilitation Plan for the area beneath the pond liner; and

ii. Rehabilitation Plan for the pond.

b) The rehabilitation plan must encompass rehabilitation of affected soils and monitoring and/or remediation of affected groundwater.

c) The Rehabilitation Plan for the area under the pond liner will include:

i. a description and assessment of remediation options;

ii. the process for the development of remediation criteria depending on the results from Requirement 2 above;

iii. site validation process;

iv. final landform description and requirements;

v. revegetation requirements; and

vi. relevant milestone dates.

Requirement 5: Rehabilitation of Land

a) By 31 October 2022 you must rehabilitate the estimated 1,564 m^2 of land affected by the CSG water release in accordance with condition I9 of EA EPPG00968013. Monitoring of the rehabilitation will be conducted for a period of at least three years following the works to ensure that final acceptance criteria for significantly disturbed land are met, as required under Conditions I9 and I11.

Requirement 6: Rehabilitation of Pond

a) Rehabilitation of the pond is required by 31 October 2023. Monitoring of the rehabilitation will be conducted for a period of at least three years following the works, as required under Conditions I9 and I11.

b) Rehabilitation requirements are as follows:

i. Be in accordance with the final acceptance criteria for significantly disturbed land, as per condition I9 of EA EPPG00968013, and in accordance with the timeframes and methodologies detailed within the rehabilitation plan. Rehabilitation must include the removal of contaminants from within the pond and groundwater monitoring and/or remediation of contaminants which have passed through the pond liner.

OR;

i. Leave the pond in-situ for a beneficial use in accordance with condition I2(b) of EPPG00968013; and

ii. Remove all residual brine and/or solid salt from the Ramyard Pilot Pond in accordance with condition H22 of EA EPPG00968013 which states 'Following the completion of the petroleum activity(ies), any residual brine and/or solid salt present in any dam must be removed and transported to a facility that can lawfully reuse, recycle or dispose of such waste under the Environmental Protection Act 1994'.

iii. In accordance with Section 319 of the Act (the General Environmental Duty), you are required to remove the Ramyard Pond liner and conduct soil and groundwater monitoring to check for underlying contamination, as per requirements 2 and 3.

iv. After removing the pond liner, you are required to determine whether any residual soil contamination may interfere with the beneficial use of the pond, as per requirements 2 and 3. Should soil contamination occur, you are required to conduct remediation activities commensurate with the site-specific risk. Please note that Condition I2 (b) requires that "the contained water (within the pond) must be suitable for the intended on-going use(s) by the landholder or overlapping tenure holder."

Definitions

significantly disturbed or significant disturbance or significant has the meaning in Schedule 12, section 4 of the Environmental Protection Regulation 2008.

Land is significantly disturbed if— (a) it is contaminated land; or (b) it has been disturbed and human intervention is needed to rehabilitate it—disturbance to land or areas (i) to a condition required under the relevant environmental authority; or (ii) if the environmental authority does not require the land to be rehabilitated to a particular condition—to the condition it was in immediately before the disturbance.

C. Obligations

If you propose to dispose of the place or business to which the EPO relates, you **must** advise the buyer of the existence of this EPO.

If you cease to carry out the activity to which this EPO relates, you **must** give written notice of ceasing to carry out the activity to the department within 10 days of ceasing the activity.

Take notice:

- the requirements of this order take effect immediately upon service of the order;
- failure to comply with this order is an offence under the Act;
- this order remains in force until further notice from the administering authority.

D. Penalty

Failure to comply with an EPO is an offence.

- The maximum penalty for an individual for wilfully contravening an EPO is 6250 penalty units, totalling $834,062.50 or five years imprisonment.
- The maximum penalty for a corporation for wilfully contravening an EPO is 31,250 penalty units, totalling $4,170,312.50.
- The maximum penalty for an individual for contravening an EPO is 4500 penalty units, totalling $600,525.00.
- The maximum penalty for a corporation for contravening an EPO is 22,500 penalty units, totalling $3,002,625.00.

Failure to provide written notice to the buyer is an offence.

- The maximum penalty for an individual is 50 penalty units, totalling $6,672.50.
- The maximum penalty for a corporation is 250 penalty units, totalling $33,362.50.

Failure to provide written notice within 10 business days of ceasing the activity to the department is an offence.

- The maximum penalty for an individual is 50 penalty units, totalling $6,672.50.
- The maximum penalty for a corporation is 250 penalty units, totalling $33,362.50.

Section 3 of the Penalties and Sentences Regulation 2015 prescribes the monetary value of a penalty unit.

E. Reviews and appeals

The provisions regarding reviews of decisions and appeals are found in sections 519 to 539 of the EP Act.

A person who is dissatisfied with an original decision made by the Department of Environment and Science (the department) may apply to have that decision internally reviewed.

Information about initiating an appeal in relation to this notice is contained within the Internal Reviews and Appeals Information Sheet (available at www.qld.gov.au using the publication number ESR /2015/1742 as a search term)

A request for review or appeal is to be made using the approved form 'Application for review of original decision' (available at www.qld.gov.au using the publication number ESR/2015/1573 as a search term.

Applications for reviews are to be sent to Permit and Licence Management, Department of Environment and Science: via email at palm@des.qld.gov.au , or by mail to the following address: GPO. Box 2454, Brisbane, QLD, 4001.

Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able to appeal against that decision to the relevant court within 22 business days after receiving notice of the review decision.

A person whose interests are or would be adversely affected by a decision of the department may be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

You may have other legal rights or obligations and should seek your own legal advice.

Pursuant to section 540 of the Act, the department is required to maintain a register of certain documents and information authorised under the Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the Act. There is no general discretion allowing the department to withhold documents or information required to be kept on the public register. For more information on the department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Should you have any queries in relation to the notice, please contact Dr Ben Jones on telephone number 07 4529 8304.



Signature

15 December 2021

Date

Kate Grayson

Manager (Compliance)

Delegate of the Chief Executive

Department of Environment and Science

Environmental Protection Act 1994

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