

Approval notice and statement of reasons


Petroleum (Environment) Regulations 2016 (NT) (Regulations)

Interest holder	Origin Energy B2 Pty Ltd ABN 42 105 431 525
Environment management plan (EMP) title	Beetaloo Sub-basin Kalala S Environment Management Plan EP 98
EMP document reference	Beetaloo Sub-basin Kalala S, dated 20 January 2022 (ORI9-2)
Regulated activity	<ul style="list-style-type: none"> • civil maintenance of Kalala S site including erosion and sediment controls (ESC) on the access tracks, lease pad and camp pad • operation of a temporary camp, offices and equipment storage areas • construction of up to four groundwater monitoring/extraction bores to facilitate future exploration activities • maintenance and monitoring of infrastructure on the Kalala S site, including well interventions, work overs, completion and general well maintenance and diagnostic activities • routine reservoir testing and data acquisition using reservoir evaluation tools (and other methods) • suspension and/or abandonment of the Kalala S-1 well • rehabilitation of the site upon completion of exploration activities
Is the EMP a new plan submitted under reg 6 or a revision of a current plan submitted in accordance with reg 18, or regs 15 and 17?	This is a new plan submitted under reg 6.
Was the regulated activity referred ¹ for consideration whether environmental impact assessment was required?	No
Was environmental impact assessment ² required?	N/A
Has an environmental approval ³ been issued for the regulated activity?	N/A
Has an Authority Certificate under the <i>Northern Territory Aboriginal Sacred Sites Act 1989</i> been issued for the regulated activity?	Yes Authority Certificate C2014/184
Date an EMP compliant with reg 8 was first submitted under reg 6	22 November 2021
Date within which the EMP was published for comment under reg 8A, if applicable	N/A

¹ This means a referral under the *Environment Protection Act 2019* (NT) (EP Act) and/or the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

² This means a requirement for an environmental impact assessment to be conducted under the EP Act and/or the EPBC Act.

³ This means an approval granted under the EP Act and/or the EPBC Act.

Date further information was required and submitted under reg 10, if applicable	22 December 2021 required 20 January 2022 submitted
Date of resubmission notice under reg 11(2)(b), if applicable	N/A
Date EMP was resubmitted under reg 11(3), if applicable	N/A
Date a notice setting out a proposed timetable for consideration of the EMP was issued under reg 11(2A), or reg 11(3)(c), if applicable	N/A
Proposed timetable given in notice under reg 11(2A), or reg 11(3)(c), if applicable	N/A
Where provided under s29B of the <i>Northern Territory Environment Protection Authority Act 2012</i> (NT) (NT EPA Act), the dates the Northern Territory Environment Protection Authority (NT EPA) was requested to, and provided, advice on EMP	Date of Minister's request for advice: 25 February 2019 Date of NT EPA Advice: 3 February 2022
Date of decision	21 / 2 / 2022
Decision maker	 Signature Hon Eva Dina Lawler MLA, Minister for Environment

1 Approval notice

1. I approve the EMP under reg 11(2)(a)(i).
2. The approval is subject to the following conditions:

Condition 1: The interest holder must provide an annual report to the Department of Environment, Parks and Water Security (the Department), via Onshoregas.DEPWS@nt.gov.au, on its environmental performance, in accordance with item 11(1)(b) in schedule 1 of the Petroleum (Environment) Regulations 2016 (NT). With respect to the reports required to be submitted in accordance with item 11(1)(b) in schedule 1 of the Petroleum (Environment) Regulations 2016 (NT):

- i. the first report must cover the 12 month period from the date of the approval, and be provided within 3 calendar months of the end of the reporting period.
- ii. the annual environment performance report must align with the template and Guideline prepared by the Department for this purpose and be provided each year until such time a notification is made to the Minister under regulation 14 that the activity is complete, or until the EMP is revised and re-approved.

2 Material considered

1. The following material has been taken into account in making this decision:
 - a. Beetaloo Sub-basin Kalala S EP98 EMP, 20 January 2022 (ORI9-2)
 - b. The principles of ecologically sustainable development referenced in reg 5A and the approval criteria set out in reg 9(1).
 - c. The NT EPA advice provided at my request under s29B of the NT EPA Act.
 - d. The Authority Certificate issued under the *Northern Territory Aboriginal Sacred Sites Act 1989 (NT)*.
 - e. The **Code of Practice: Onshore Petroleum Activities in the Northern Territory** (Code) as set out in reg 4A.

3 Statement of reasons

1. The EMP meets the approval criterion in reg 9(1)(a), because it contains all the information required by Schedule 1 of the Regulations. reg 9(1)(a)
2. I have taken into account the approval criterion in reg 9(1)(b) by noting the nature and scale of the regulated activity and bearing it in mind during my consideration of the impacts and risks. In particular, I note that: reg 9(1)(b)
 - a. The nature of the regulated activity is as follows:
 - i. civil maintenance of Kalala S site including erosion and sediment controls (ESC) on the access tracks, lease pad and camp pad
 - ii. operation of a temporary camp, offices and equipment storage areas
 - iii. construction of up to four groundwater monitoring/extraction bores to facilitate future exploration activities
 - iv. maintenance and monitoring of infrastructure on the Kalala S site, including well interventions, work overs, completion and general well maintenance and diagnostic activities
 - v. routine reservoir testing and data acquisition using reservoir evaluation tools (and other methods)
 - vi. suspension and/or abandonment of the Kalala S-1 well
 - vii. rehabilitation of the site upon completion of exploration activities.
 - b. The scale of the regulated activity is as follows:
 - i. the total footprint for the regulated activity is 4.65 ha, consisting of a pre-existing lease pad, camp pad, and access tracks. There is no additional land clearing proposed in the EMP.
 - ii. the estimated groundwater usage is < 0.5 ML/year.
 - iii. peak traffic movements for the regulated activity is less than 10 vehicles per day, peaking during mobilisation and demobilisation.
 - iv. peak workforce will be 20 persons on site during operations where required.
 - v. Generation of approximately 46 tonnes of carbon dioxide equivalent (tCO₂-e) comprising approximately 43 tCO₂-e from diesel combustion from

transport activities and 3 tCO₂-e from diesel combustion from well maintenance

- vi. Rehabilitation will be completed within 12 months of completion of petroleum activities.

3. The approval criteria in reg 9(1)(c) requires that I be satisfied that the activity will be carried out in a manner by which the environmental impacts and environmental risks of the activity will be reduced to a level that is both: (i) as low as reasonably practicable; and (ii) acceptable. In assessing whether the EMP meets the approval criteria, I note that my decision is a prescribed decision (under reg 5A) for s 6A of the Act, and as such requires me to consider and apply the principles of ecologically sustainable development. In accordance with reg 12(3), I provide the following information about how the EMP meets the approval criteria, and the manner in which I have taken into account the principles of ecologically sustainable development when considering whether or not the plan meets the approval criteria. reg 9(1)(c)
4. The principles of ecologically sustainable development are defined at section 18-24 of the *Environment Protection Act 2019*, and I address each in turn:
 - a. The decision-making principle (s 18 *Environment Protection Act 2019*) requires effective integration of long-term and short-term environmental and equitable considerations, and for processes to provide for community involvement in relation to decisions and actions that affect the community. Related to this, I note the following:
 - i. The regulated activity is low impact and forms one component of a broader onshore petroleum exploration program in the region. The regulated activity will inform decision-making about longer-term petroleum activities.
 - ii. The EMP does not involve drilling of hydrocarbon wells and hydraulic fracturing, however the public was made aware that the EMP was under assessment via the Department's website.
 - iii. Next, I have considered short-term and long-term environmental impacts of carrying out the regulated activity. Environmental impacts include direct and indirect effects on the physical, biological, economic, cultural and social aspects of the environment, and may include cumulative impacts or occur over time.
 - iv. The information before me suggests short-term environmental impacts are manageable with the proposed mitigations in place.
 - v. The information before me suggests long-term environmental impacts are negligible.
 - vi. There is no particular contest between economic, social and environmental considerations that requires further mention.
 - vii. Taking an integrated view of long-term and short-term environmental and equitable considerations, I am satisfied that the considerations on balance and taken together support approval of the EMP.
 - b. The precautionary principle (s 19 *Environment Protection Act 2019*) applies when there are threats of serious or irreversible environmental damage, and requires that lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. I am satisfied that the regulated activity does not pose a threat of serious or irreversible environmental damage.

The interest holder has proposed wet season contingencies and controls to mitigate potential erosion and sediment impacts associated with runoff from disturbed areas, off-site wastewater release, or transport of chemicals and

wastewater. These controls have been assessed by NT Government agencies and deemed adequate.

- i. I have carefully evaluated the proposed precautionary measures against the risk-weighted consequences of impacts given the options available, and with a view to avoiding serious or irreversible damage to the environment wherever practicable. The EMP combined with the conditions I have imposed mitigates risks of serious or irreversible damage due to lack of full scientific certainty to a level that is both as low as reasonably practicable and acceptable.
- c. The principle of evidence-based decision-making (s 20 *Environment Protection Act 2019*) requires decisions to be made on the best available evidence in the circumstances that is relevant and reliable. I am of the view that the evidence before me satisfies this requirement for the following reasons: I am satisfied that the best available evidence has been obtained because:
- i. The EMP was developed by an ecologist, archaeologist and environmental consultants, with experience in the Beetaloo Sub-basin.
 - ii. The interest holder employed a comprehensive process to obtain relevant information including a baseline assessment, archaeological assessment, stakeholder engagement and consultation with relevant NT Government agencies.
 - iii. The EMP has undergone review and assessment by a multi-disciplinary team in the Department and NT Government agencies, which has informed my decision on the EMP.
 - iv. The interest holder has amended the EMP to address areas of uncertainty or requiring clarification.
 - v. No concerns regarding the sufficiency of information to support the EMP are apparent from the comments of stakeholders, interested persons, or the internal assessments. On the contrary, they indicate and I am satisfied that the information before me is comprehensive.
 - vi. I believe the information regarding the proposed regulated activity adequately provides the best available evidence in the circumstances that is relevant and reliable to the evidence-based decision-making process.
- d. The principle of intergenerational and intra-generational equity (s 21 *Environment Protection Act 2019*) requires that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of present and future generations. I have given consideration to the impact on present and future generations as follows:
- i. This criterion requires me to turn my mind to whether the benefits of the proposal disproportionately burden present or future generations, or particular groups or communities of present or future generations.
 - ii. I have considered whether the health, diversity and productivity of the environment is maintained or enhanced for the benefit of each of these relevant groups.
 - iii. The environmental burdens of the regulated activity will not disproportionately affect particular stakeholders.
 - iv. The GHG emissions from the activity is approximately 46 tonnes of carbon dioxide equivalent (tCO₂-e), generated, comprising approximately 43 tCO₂-e from diesel combustion from transportation activities and 3 tCO₂-e from diesel combustions from well maintenance. I consider that cumulative

emissions are not significant when considered in context of 2019 Northern Territory and Australian emissions, which were approximately 20 million and 519 million tonnes respectively.

- v. Cultural values relating to sacred sites will be protected through the application of Authority Certificates issued to the interest holder under the *Northern Territory Aboriginal Sacred Sites Act 1989* and measures for reporting on discovery of archaeological sites during civil maintenance activities. No new ground disturbance is planned to occur.
- vi. Accordingly I do not believe that the carrying out of the regulated activity in accordance with the EMP would have an effect contrary to the principle of inter or intra-generational equity.
- e. The principle of sustainable use (s 22 *Environment Protection Act 2019*) requires that natural resources should be used in a manner that is sustainable, prudent, rational, wise and appropriate. In applying this principle, I have considered the following:
 - i. I note the findings of the Scientific Inquiry into Hydraulic Fracturing (HFI) in the NT that states: "... in the short to medium term, the Australian National Energy Market is likely to require higher levels of flexible, gas-fired generation, which can provide a reliable, low emissions substitute for ageing coal-fired generation, and essential security services to complement variable renewable electricity generation."⁴
 - ii. I note the NT Government's commitment to implementing all the recommendations of the HFI, including working with the Australian government to seek to ensure that there is no net increase in lifecycle GHG emitted in Australia from any onshore petroleum produced in the NT.
 - iii. I note that the EMP has assessed the cumulative impact associated with current and future groundwater takes – addressed in the Water Extraction Licence (WEL) GRF 10285 statement of reason, which was assessed to be well within the sustainable yield of the Gum Ridge Formation (1,412,800 to 2,825,600 GL).
 - iv. Accordingly, I am satisfied that the concept of sustainable use of natural resources has been taken into account.
- f. The principle of biological diversity and ecological integrity (s 23 *Environment Protection Act 2019*) requires that biological diversity and ecological integrity should be conserved and maintained. I have applied this principle as follows:
 - i. I believe the information I have regarding the existing biodiversity and ecosystems that are to be affected by the regulated activity; the effects that are likely; and the mitigation measures reasonably available, is sufficient.
 - ii. The regulated activity is not proposed to be conducted in Petroleum Reserved Blocks.
 - iii. The Land Condition Assessment has been informed by a previous baseline field survey of the Kalala S site. This survey is supplemented by field assessments, a detailed desktop analysis and anecdotal evidence.
 - iv. No threatened vegetation communities were listed or likely to occur within the area of the activity.

⁴ Refer section 9.7.4 of the *Scientific Inquiry into Hydraulic Fracturing in the Northern Territory*; p 233. Available at: <https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286>

- v. The EMP identifies 12 fauna species listed as threatened under the Australian Government *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and/or the NT *Territory Parks and Wildlife Conservation Act 1976* (TPWC Act). No core habitat for these species was identified at the Kalala S site (lease pad, camp pad and access tracks). An assessment of the likelihood of occurrence indicates five listed threatened species that may possibly occur in the wider landscape based on habitat suitability and previous records. These include the Gouldian Finch *Erythrura gouldiae* (Endangered EPBC Act, Vulnerable TPWC Act); Grey Falcon *Falco hypoleucos* (Vulnerable TPWC Act); Crested Shrike-tit (northern) *Falcunculus frontatus whitei* (Vulnerable EPBC Act, Near Threatened TPWC Act); Plains Death Adder (*Acanthopsis hawkei*) (Vulnerable EPBC Act, Vulnerable TPWC Act); and the Yellow-spotted Monitor (*Varanus panoptes*) (Vulnerable TPWC Act).
- vi. The Department Flora and Fauna Division is satisfied that the regulated activity does not pose a significant risk to threatened species, important habitats or significant vegetation types. Further, the mitigation controls identified in the EMP are adequate to reduce risks associated with potential impacts on biodiversity, such as noise, vehicle strike, dust, erosion and spills to be as low as reasonably practicable.
- vii. The EMP outlines measures to minimise impacts on affected environmental values, including the management of threatening processes such as weeds and fire. Where relevant, management measures for the threatening process are consistent with the requirements of the Code, NT Land Clearing Guidelines and Weed Management Planning Guideline: Onshore Petroleum Projects. Specific examples of mitigation controls include constructing fire breaks around the Kalala S lease and camp pads; six-monthly monitoring around infrastructure to detect the spread/introduction of weed species; and ensuring that all vehicles and equipment are cleaned and have valid weed hygiene declarations prior to accessing the site. The conservation of biological diversity and ecological integrity is vital to the achievement of ecologically sustainable development. Given the fundamental nature of this consideration, I have given central importance to the conservation of biodiversity and ecological integrity in weighing whether I am satisfied the approval criterion in reg 9(1)(c) has been met
- viii. It is often the case that the conservation of biological diversity and ecological integrity is vital to the achievement of ecologically sustainable development. By their nature, ecosystems are complex and interdependent systems and relationships; this needs to be considered in relation to what preserves their integrity. Biological diversity also represents a wealth of potential natural resources that may provide options for present and future generations. I have borne this in mind when considering the weight to be given to the evidence before me regarding the potential impacts of the regulated activity on biodiversity and ecological integrity.
- ix. The measures to conserve and maintain biological diversity and ecological integrity in the EMP are appropriate, given the nature and scale of the regulated activity.
- x. If carried out in accordance with the EMP, the risks of the regulated activity to the conservation of biological diversity and ecological integrity are considered to be mitigated to an acceptable level.
- g. The principle of improved valuation, pricing and incentive mechanisms (s 24 *Environment Protection Act 2019*) requires that environmental factors should be included in the valuation of assets and services, through application of the

'polluter pays' principles, consideration of full life cycle costs of providing goods and services, and pursuing environmental goals in the most cost-effective way. I have applied the principle as follows:

- i. The pollution and waste that will be generated by the regulated activity in the general course of its operation includes water generated from dust suppression and camp activities. Flowback or drilling wastewater will not be generated from the proposed activities in the EMP. Minor volumes (~ 0.1 ML) of ancillary wastewater generated through well intervention activities (such as completion fluids used for well control/ maintenance) will be managed in accordance with the Code and *Waste Management and Pollution Control 1998 Act* (NT) (WMPC Act).
 - ii. I am satisfied that both hazardous and non-hazardous waste will be disposed of in accordance with the requirements of the WMPC Act and the *Radiation Protection Act 2004* (NT) by the interest holder at its own cost, as outlined in the Wastewater Management Plan (Appendix H).
 - iii. In relation to the risks of a pollution event that may occur unintentionally during the operations of the regulated activity, I consider that the following measures are in place to ensure the interest holder bears the costs of containment, avoidance, and abatement. This includes:
5. impacts and risks associated with contamination of soil, surface water and groundwater, which are managed through meeting mandated requirements for well integrity and clean-up of spills and leaks and remediation of impacted soil
6. impacts and risks associated with loss of containment of wastewater, which are managed through containment measures.
 - i. In relation to full life cycle costs, it is expected that the regulated activity will have a life cycle of five years, and at the end of this cycle the interest holder will take action to remove any residual pollution and waste as detailed by the EMP.
 - ii. In addition, the interest holder is required to provide an environmental security sufficient to allow third party intervention for rehabilitation and remediation should it be required, ensuring the interest holder bears the costs of pollution.
 - iii. The Spill Management Plan (Appendix I) includes commitments to immediately remediate spills and leaks, so as to reduce the risk of long-term contamination of the environment and avoid environmental impact legacies.
 - iv. A rehabilitation plan (Appendix C) has been developed for the activity, to minimise the risk of site erosion and return the disturbed land to the original conditions long term, in accordance with clause A.3.5 of the Code.
 - v. With these measures in place, I am satisfied that the EMP ensures that environmental costs are not left as externalities to be paid for by Territory taxpayers or the local community. They will be fairly paid for by those who stand to benefit from the regulated activity, such as the interest holder, and consumers who choose to purchase the interest holder's products. To the extent there are some costs to the Territory, I am satisfied that this is appropriate given the broader economic benefits.
 - vi. I believe approval of the EMP with the conditions I have imposed is consistent with the principle of improved valuation, pricing and incentive mechanisms.

- b. The NT EPA did not require the EMP to be referred under the *Environment Protection Act 2019*, as the regulated activity does not have the potential to cause a significant impact on the environment. reg 9(3)
 - i. The NT EPA reviewed the EMP for the regulated activity against the approval criteria in regulations 9(3)(a) and 9(3)(c) of the Regulations and other matters the NT EPA considered relevant, and has provided advice about the EMP.
- c. The NT EPA has provided the following in relation to the regulated activity and the EMP:
 - i. In accordance with my request under s 29B of the NT EPA Act, the NT EPA reviewed the EMP against the approval criteria in regulation 9(1) of the Regulations and other matters the NT EPA considered relevant, and has provided advice about the EMP. Relevantly:
 - (1) The NT EPA recommended that should the EMP be approved, it be subject to one condition. The NT EPA's recommendations have informed the condition of this approval. The condition is outlined in section 1 (2) of this Approval Notice.
 - (2) The NT EPA concluded that the EMP for the regulated activity, subject to the recommended approval condition, is appropriate for the nature and scale of the regulated activity and demonstrates that the regulated activity can be carried out in a manner that environmental impacts and environmental risks of the activity will be reduced to a level that is as low as reasonably practical and acceptable.
 - ii. I have considered the NT EPA's advice and recommendations and these have been incorporated where relevant into this statement of reasons and the conditions in the Approval Notice.
- d. The existing environment along with its particular values and sensitivities is appropriately identified in section 4 of the EMP, and to the extent I do not agree or there is some uncertainty, I have imposed conditions to address the relevant risk or risks. reg 9(1)(c)
- e. I agree with the risk assessment set out in section 6 of the EMP, and to the extent I do not agree I have imposed a condition or conditions to address the relevant risk or risks.
- f. The interest holder's risk assessment is applicable to activities in all seasons and the outcomes are reflected in the EMP that includes a weed management plan (Appendix B); bushfire management plan (Appendix A); spill management plan (Appendix I); wastewater management plan (Appendix H); methane emission management plan (Appendix E); rehabilitation plan (Appendix C); emergency response plan (Appendix K); and stakeholder engagement (Appendix G). The EMP also includes the required elements for the ongoing management of erosion and sediments in accordance with the erosion and sediment control plan (Appendix D). This is consistent with the requirements of the Code that allows for the regulated activities to occur in the wet season months when contingency planning is provided and minimum freeboard in wastewater infrastructure is maintained.
- g. The anticipated environmental impacts are appropriately identified in section 6 and Appendix F of the EMP. The regulated activity are a continuation of current activities and cumulative effects have been identified and assessed. In EMPs for subsequent stages (if they proceed) the interest holder will need to continue to address cumulative effects.

- h. The EMP demonstrates how the interest holder will comply with relevant requirements of the Code in undertaking these regulated activity. This includes reference to applicable Australian and international standards that have been adopted for regulated activity, as applicable. The EMP cross references relevant sections of the Code that apply to the mitigation and management measures to enable the reviewer to identify and confirm that the proposed activities comply with the Code, as applicable. The EMP provides water management commitments and management plans that meet the requirements of the Code.
- i. I am satisfied that the interest holder has conducted ongoing stakeholder engagement in accordance with the Regulations. The EMP provides details of stakeholder engagement that meets Regulation 7 and Schedule 1, Clause 9 of the Regulations (Section 5 and Appendix G). Stakeholder engagement records (Appendix G) demonstrate that stakeholders did not raise objections about environmental impacts of the proposed activity that required specific changes from the interest holder. The EMP provides details of written feedback and input from stakeholders as part of the stakeholder engagement records. The risk assessment in the EMP details the potential environmental impacts of the activity and proposed environmental outcomes to manage impacts on social and cultural surroundings.
- j. There are no environmental impacts or environmental risks relating to the proposed regulated activity that I consider to be unacceptable.
- k. Overall, having regard to the above, I am satisfied that the EMP is appropriate for the nature and scale of the activity, and demonstrates that the regulated activity is to be carried out in manner by which the environmental impacts and environmental risks are reduced to a level that is:
 - i. as low as reasonably practicable; and
 - ii. acceptable.