Environment Plan Beehive-1 Exploration Drilling WA-488-P

Key matters report

# Purpose of this report

NOPSEMA has accepted the Environment Plan Beehive-1 Exploration Drilling WA-488-P (the EP) submitted by EOG Resources Australia Block WA-488 Pty Ltd (the titleholder) for an exploratory drilling activity in the Joseph Bonaparte Gulf within the period of 2024 to 2025.

As required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (the Environment Regulations), the public was provided with an opportunity to comment on the EP. After this period, EOG Resources Australia Block WA-488 Pty Ltd took into account public comments and prepared a Report on Public Comment which is published on NOPSEMA’s website[[1]](#footnote-1).

Following the public comment period, the titleholder submitted the EP for assessment by NOPSEMA on 23/02/2024. NOPSEMA has since completed its assessment of the EP and has determined that it is satisfied that the EP meets the criteria for acceptance[[2]](#footnote-2) on 10/06/2024.

This report explains how NOPSEMA took into account comments received from the public during the public comment period in making its decision[[3]](#footnote-3). Comments have been grouped into ‘key matters’ that capture the key issues, concerns or new information provided during the public comment process.

This report accompanies the accepted Environment Plan Beehive-1 Exploration Drilling WA-488-P (Document No. 996161-2022-Beehive#1-Drilling-EP-Rev6, dated 17 May 2024) submitted by EOG Resources Australia Block WA-488 Pty Ltd, which is available on the NOPSEMA website and should be referred to for further information.

## Information relevant to NOPSEMA’s decision:

In making the decision to accept this EP, NOPSEMA took into account:

* the Environment Regulations;
* NOPSEMA Assessment Policy (PL0050), Environment Plan Assessment Policy (PL1347), Environment Plan Decision Making Guidelines (GL1721) and Consultation in the course of preparing an Environment Plan guideline (N-04750-GL2086);
* the Environment Plan Beehive-1 Exploration Drilling WA-488-P which includes the titleholder’s Oil Spill Emergency Plan and Operational and Scientific Monitoring Plan;
* the information raised by relevant persons, government departments and agencies that is relevant to making a decision;
* the information raised through public comment that is relevant to making a decision;
* There were two public comment submissions received during the public comment period with issues raised predominantly in relation to the key matters outlined in the below report;
* relevant plans of management and threatened species recovery plans developed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and relevant guidance published by the Department of the Environment and Energy.

# Next steps

Responsibility for the ongoing environmental performance of the exploratory drilling activity remains, at all times, with EOG Resources Australia Block WA-488 Pty Ltd.

NOPSEMA has legislated responsibilities to inspect and investigate offshore petroleum and greenhouse gas storage activities, and to enforce compliance with environmental law. These functions will be applied to this activity in accordance with NOPSEMA’s policies.

# Sensitive Information

Sensitive information received during the public comment period, such as the names and contact details of commenters and specific information identified by the commenter or relevant person as ‘sensitive’, is not published in this report. Sensitive information is contained in a sensitive information part of the EP which has been considered by NOPSEMA during its assessment process.

# Further information

If you would like further information about the activity, please contact the titleholder’s nominated liaison person specified in the EP and on NOPSEMA’s webpage for the Beehive-1 Exploration Drilling WA-488-P.

If you would like to be notified of regulatory information on the activity, such as start and end dates and enforcement actions (if any), please subscribe to updates from the [Industry environment plans - Beehive-1 Exploration Drilling WA-488-P (nopsema.gov.au)](https://info.nopsema.gov.au/activities/483/show_public) on NOPSEMA’s website.

How NOPSEMA has taken into account key matters raised during public comments and the assessment and decision making process for Environment Plan Beehive-1 Exploration Drilling WA-488-P

| # | Issues raised for public comment | Titleholder response | NOPSEMA’s assessment and decision |
| --- | --- | --- | --- |
| 1 | **Marine Parks**  Claim that Marine Parks of immense conservation, recreation, and tourism value are at risk, particularly the following key environmental receptors:   * The Joseph Bonaparte Gulf Australian Marine Park (AMP); * The North Kimberley Marine Park; * The Ord River Floodplain Ramsar site; * King Shoals Sanctuary Zone; and * Cape Domett Special Purpose Zone.   Request that the risks to marine life from the occurrence of an oil spill be thoroughly considered by NOPSEMA.  Claim that the Proposal has the potential to produce indirect and direct impacts to critical ecosystems through noise and lighting emissions, ship movements, discharge of drill cuttings and muds, discharge of cement, and hydrocarbon spills. These impacts could affect critical ecosystems such as coral reefs, seagrass communities, mangroves, migratory birds, sea turtles, dugongs, Australian snubfin dolphins, diverse finfish communities, all reliant on a healthy marine ecosystem.  Request that the location of the Proposal be changed to avoid such severe impacts to highly valued and biologically diverse Marine Parks and receptors. | EOG reviewed the information provided by the commenter and Appendix 11 of the EP (Description of the Existing Environment). The following management plans were also reviewed:   * Australian Marine Park North Marine Parks Network Management Plan 2018 (Director of National Parks, 2018) (includes the Joseph Bonaparte Gulf AMP). * Ord River and Parry Lagoons nature reserves management plan 77 2012 (Department of Environment and Conservation 2012) (includes the Ord River Floodplain Ramsar Site). * North Kimberley Marine Park Joint Management Plan 2016 Uunguu, Balanggaarra, Miriuwung Gajerrong, and Wilinggin management areas management plan 89 (WA Department of Parks and Wildlife, 2016) (includes the King Shoals Sanctuary Zone and the Cape Domett Special Purpose Zone).   These management plans were referenced in Appendix 11 of the EP in sections 5.4.1, 5.4.4 and 5.4.9, respectively. No changes have been made to Appendix 11 as a result of these comments because a review of Appendix 11 by EOG found that the identified ecological and cultural receptors within the spill EMBA had been adequately described.  The impacts and risks that may influence water and sediment quality in the North Kimberley Marine Park were reviewed (Chapters 7 and 8 of the EP). The risks that could have an impact relate to unplanned events, these being oil spills and spill response activities.  Appendix 13 (Assessment of the risk of a LoWC on the management actions of protected areas) provides detail on the key environmental receptors’ probability of exposure to an oil spill (using the stochastic modelling results). Appendix 13 also includes an assessment of EOG’s compliance with these management plans, and provides information on the actions that would be taken in the event of a spill.  Section 8.7 of the EP (RISK 7 – Loss of Well Containment and Major Oil Spill) provides a clear explanation of how the modelling is interpreted for the risk assessment. The risk assessment methodology is described in detail in Chapter 6 of the EP.  Section 8.7.1 outlines how the risk assessment is based on the consequences arising from a worst-case spill scenario, where oil freely flows for 77 days (i.e., until a relief well is drilled and the well killed). This scenario assumes multiple failures of control systems (as described in Sections 8.7.6) and that no spill response activities are implemented (as described in Section 8.8 of the EP and in detail in the OPEP).  Section 8.7.4 explains that the modelling (Appendix 12) for these worst-case scenarios is based on stochastic modelling whereby 100 individual spill scenarios (for each season) are combined to provide an overall area, known as the environment that may be affected (EMBA), where impacts may potentially occur in the event of any particular oil spill. It should be noted that no individual spill would cover the entire EMBA.  Deterministic modelling was used to track individual scenarios to give an indication of what may actually occur in the event of an oil spill. Figure 8.11 of the EP shows the individual scenario that resulted in the largest volume of oil ashore. For oil spill planning purposes (see the OPEP and OSMIP), the cumulative, stochastic area (EMBA) is used to determine the overall area for which oil spill response planning is required, while the deterministic trajectories are used to determine worst-case resourcing requirements.  Section 8.7.1 presents data showing that the frequency of a blowout was 3.1 x 10-4 (0.00031, or 0.031%) per exploration well drilled between 1980 and 2004 (OGP, 2010 in DNV, 2011). More recent data will be included in a revision of the EP, which indicates that the frequency of a blowout for deep, normal oil exploration wells drilled using the North Sea standard from 1980 to 2014 is 1.2 x 10-4 (0.00012, or 0.012%) (IOGP, 2019), which is less than the frequency currently provided in the EP. The inherent likelihood of a blowout occurring was assessed as ‘rare’ in Section 8.7.6. The likelihood was further reduced to ‘remote’ with additional controls and mitigation measures for well control incorporated into the activity, including learnings from the Macondo and Montara blowouts.  The evaluation of environmental risks (Section 8.7.5 of the EP) was reviewed. The existing evaluations were found to adequately identify and assess potential impacts on significant environmental receptors.  The risk assessment (Section 8.7.6) was reviewed. The environmental performance outcomes (EPOs), environmental performance standards (EPS’) and their measurement criteria were reviewed. No additional controls were considered to be practicable. With the proposed controls implemented, the risk was found to be reduced to as low as reasonably practicable (ALARP).  In considering whether the risk is acceptable, EOG considered a number of factors, including the concerns raised by this commenter. With the additional responses detailed in the Oil Pollution Emergency Plan (OPEP) and the Operational and Scientific Monitoring Implementation Plan (OSMIP), EOG considered the following in evaluating the risk of a spill resulting from a LoWC:   * The residual risk ratings are as low as can be achieved; * The activity will be conducted in accordance with the company’s Safety and Environmental Policy which will ensure EPOs and EPS’ are achieved; * An Implementation Strategy (described in Chapter 9) is in place to ensure the EPOs and EPS’ are achieved. * Input from engagement with relevant persons has been considered and incorporated into the risk assessment; * Relevant legislation and industry best practice has been identified and will be complied with; * In the unlikely event of a spill, no long-term or significant impacts on MNES are predicted; * In the unlikely event of a spill, the spill can be managed in a manner that is not inconsistent with:   + the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species;   + the aims of relevant protected area management plans; and   + ESD principles.   The risks from spill response activities (Chapter 9 of the EP) were reviewed. Potential environmental impacts are identified and assessed. The controls were found to reduce the risk to ALARP and appropriate for the nature and scale of the activity. The risk was considered acceptable. No changes were made.  In regard to the request that the location of the Proposal be changed, it is not possible to change the location of the Proposal because the location of the geological formation determines where it can be drilled from. Moving the location of the drill site to another area far from the potential reservoir makes achieving the objectives of the well impossible to meet and means that the exploration obligations within the title issued by the government will not be achieved. | NOPSEMA acknowledges the matter raised and  recognises that there is the potential for the activity, if not appropriately managed, to have impacts to critical ecosystems such as coral reefs, seagrass communities, mangroves, migratory birds, sea turtles, dugongs, Australian snubfin dolphins, and diverse finfish communities.  In making a decision regarding this matter, NOPSEMA took into account Environment Plan Beehive-1 Exploration Drilling WA-488-P, relevant scientific literature, NOPSEMA’s Decision Making Guidelines (GL1721), the Australian Marine Park North Marine Parks Network Management Plan 2018 (Director of National Parks, 2018), the Ord River and Parry Lagoons nature reserves management plan 77 2012 (Department of Environment and Conservation 2012), and the North Kimberley Marine Park Joint Management Plan 2016 Uunguu, Balanggaarra, Miriuwung Gajerrong, and Wilinggin management areas management plan 89 (WA Department of Parks and Wildlife, 2016).  In addition, NOPSEMA required the titleholder to undertake analysis of the Mayala Marine Park Joint Management Plan, Lalang-gaddam Marine Park Joint Management Plan and the Bardi Jawi Gaarra Marine Park Joint Management Plan to establish the Marine Parks values and management objectives as relevant.  NOPSEMA also required the titleholder to review the Biosecurity Amendment (Biofouling Management) Regulations 2021, Australian Biofouling Management Requirements (Version 1, 2022), International Maritime Organization’s Guidelines for the Control and Management of Ships’ biofouling to Minimize the Transfer of Invasive Aquatic Species (2011), and the Minamata Convention on Mercury (Australia ratified on 7 December 2021) (i.e., barite, drilling chemicals, mercury in reservoir) to ensure the management controls were not inconsistent with these management plans.  NOPSEMA ensured the EP adopted control measures were not inconsistent with the Recovery Plan for Marine Turtles in Australia 2017-2027 (DoEE, 2017) by defining the habitat critical to the survival of marine turtles within the EMBA.  The EP describes the method used to determine whether impacts and risks are acceptable and NOPSEMA found that the method has been applied consistently to all considered impacts and risks. Acceptable levels are defined taking into account relevant internal and external context, legislative and industry standards, as well as relevant policy documents, guidance, bioregional plans, wildlife conservation plans, management plans, instruments under the EPBC Act, and conservation advice.  NOPSEMA has concluded that after taking into consideration all the environmental management requirements, that the activity will not cause unacceptable impacts to critical ecosystems such as coral reefs, seagrass communities, mangroves, migratory birds, sea turtles, dugongs, Australian snubfin dolphins, and diverse finfish communities. |
| 2 | **Scope 3 emissions**  Objection was made that the full extent of environmental risks from the activity have not been assessed and that an estimate of Scope 3 emissions and their cumulative impacts should be provided for evaluation. | Scope 3 emissions are not relevant for the assessment of the activity as it is an exploration well that will not be producing hydrocarbons for combustible use by EOG or any third parties. Further, the exploration permit EOG is operating under does not allow for the commercial extraction of resources. Therefore, only Scope 1 emissions are considered in evaluating the activity, as noted in Section 7.4.1 (IMPACT 4 – Routine Emissions – Atmospheric) of the EP. Drilling is necessary to determine whether there are recoverable hydrocarbons in the part of the reservoir to be drilled and any future possibility of production.  Section 7.4 (IMPACT 4 – Routine Emissions – Atmospheric) was reviewed. Realistic estimates of carbon dioxide equivalent (CO2-e) emissions are provided. Potential environmental impacts are identified and assessed. The controls were found to reduce the risk to ALARP and are appropriate for the nature and scale of the activity. The risk was considered acceptable. No changes were made. | NOPSEMA recognises that there was concern about scope 3 greenhouse gas equivalent emission from the petroleum activity.  The NOPSEMA assessment recognised that Scope 3 emissions were not relevant to this non-producing petroleum activity.  NOPSEMA notes that, in the event that a hydrocarbon discovery is made, if EOG or any other proponent wishes to develop the field, an Offshore Project Proposal will be required, which will include an appropriate consideration of the green house gas emissions from the project. |

1. Titleholder report on public comments – Environment Plan Beehive-1 Exploration Drilling WA-488-P, dated: December 2023 [↑](#footnote-ref-1)
2. Environment Regulations, Regulation 34 Criteria for acceptance of environment plan [↑](#footnote-ref-2)
3. Environment Regulations, Regulation 35(6) Publication of notice, etc. [↑](#footnote-ref-3)