

## *BassGas Offshore Operations*

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### 1. Purpose of this report

NOPSEMA has accepted the revised BassGas Offshore Operations Environment Plan (the EP) submitted by Beach Energy (Operations) Ltd (the titleholder) for operation of an existing facility and pipeline activity in the Tasmania region for the next five years.

The titleholder submitted the EP for assessment by NOPSEMA on 20 September 2019. NOPSEMA has since completed its assessment of the EP and has determined that it is satisfied that the EP meets the criteria for acceptance<sup>1</sup> on 23 December 2020.

This report explains how NOPSEMA took into account key matters that may be of interest to the public.

This report accompanies the accepted BassGas Offshore Operations Environment Plan, Rev.3 submitted by Beach Energy (Operations) Ltd, which is available on the NOPSEMA website and should be referred to for further information.

#### 1.1. 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) and Environment Plan Decision Making Guidelines (GL1721);
- NOPSEMA Section 572 Maintenance and Removal of Property Policy (PL1903), Australian Government Offshore Petroleum Decommissioning Guideline (2018) and Minister for Resources and Northern Australia Statement of Expectations, October 2019;
- the BassGas Offshore Operations Environment Plan 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;
- 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;
- Environmental Improvement Notice (No. 761) issued by NOPSEMA in August 2019 as hydrocarbon concentrations in produced water discharges from the Yolla platform were not in accordance with the accepted Bass Gas Offshore Environment Plan.

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<sup>1</sup> Environment Regulations, Regulation 10A Criteria for acceptance of environment plan

## 2. Next steps

Responsibility for the ongoing environmental performance of the facility and pipeline activity remains, at all times, with Beach Energy (Operations) 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.

## 3. Sensitive Information

Sensitive information received during the consultation with relevant persons, such as the names and contact details of relevant person, 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.

## 4. 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 Beach Energy (Operations) Ltd.

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 [Underway Offshore page](#) on NOPSEMA's website.

## How NOPSEMA has taken into account key matters raised during the assessment and decision making process for the BassGas Offshore Operations Environment Plan

#	Key Matter	Titleholder submission	NOPSEMA's assessment and decision
1	Hydrocarbon concentration levels in produced water discharges from operation of the Yolla platform could have unacceptable impacts on the values and sensitivities of the Commonwealth marine area.	<p>Beach Energy (Operations) Ltd (Beach) undertook an assessment of the potential impacts to marine environmental receptors from produced water discharges. Produced formation water discharged from the Yolla facility has a significantly higher concentration of total petroleum hydrocarbons than discharges from other oil and gas facilities in the Australian offshore regime. However, the discharge volumes are significantly lower than other facilities, and therefore the environmental load for overboard hydrocarbons is relatively small.</p> <p>The EP predicts that the area that will be impacted will be within ~7 to 700m of the Yolla platform. The prediction was informed by chemical characterisation of the effluent and comparison with Australian &amp; New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) water quality criteria, whole effluent toxicity testing results (Appendix 9) and dispersion modelling of the predicted volumes to be discharged (Appendix 9 and 10). Receptors that may be impacted by chronic exposure to the discharge are water quality, sediment quality, plankton, fish and Australian and New Zealand fur seals.</p>	<p>NOPSEMA recognises that there is the potential for the activity, if not appropriately managed, to have an unacceptable impact on MNES in the Commonwealth Marine Area including water quality, sediment quality, plankton, fish and Australian and New Zealand fur seals.</p> <p>In making a decision regarding this matter NOPSEMA took into account the content of the EP, including appended reports on ecotoxicity data and analysis of the produced water effluent, modelling of the discharge dispersion characteristics and proposed in situ monitoring, NOPSEMA's decision making guidelines, EPBC Act Significant Impact Guidelines 1.1- Matter of National Environmental Significance (DEWHA, 2013) and Australian &amp; New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018).</p> <p>During the course of the assessment NOPSEMA required Beach to align the impact assessment with the specific circumstances at the Yolla platform and improve the clarity of the produced water monitoring and management procedures including details of maintenance and calibration. Beach was also required to include firm commitments to shut-down production should defined thresholds be reached,</p>

	<p>Beach provides commitments to manage the impacts of produced water discharges to an acceptable level which is defined as:</p> <ol style="list-style-type: none"> <li>1. there is no impact to the marine environment outside the mixing zone boundary;</li> <li>2. impacts within the mixing zone are kept to acceptable levels; and,</li> <li>3. there are no significant impact to matters of national environmental significance (MNES) within the mixing zone including within the Commonwealth Marine Area, which is a matter protected under the EPBC Act.</li> </ol> <p>The control measures being implemented to ensure impacts are reduced to an acceptable level is implementing a monitoring and management procedure with the following elements:</p> <ul style="list-style-type: none"> <li>• Continuous monitoring of overboard hydrocarbon concentrations with automatic shut-in at maximum allowable values.</li> <li>• Continuous monitoring of volumes sent overboard with automatic shut-in at maximum allowable values.</li> <li>• Weekly calibration and maintenance program.</li> <li>• Adaptive management when hydrocarbons begin to approach maximum levels.</li> <li>• Six monthly chemical characterisation testing.</li> <li>• Annual Whole of Effluent Toxicity (WET) testing.</li> <li>• A plume verification study.</li> <li>• Seabed sediment sampling.</li> <li>• Biological monitoring and investigation triggered by outcomes of other testing.</li> </ul>	<p>commence early investigations if higher than normal parameters were detected and commit to undertake in-field verification of water and sediment quality predictions and biological monitoring to ensure contamination is not greater than predicted.</p> <p>Given the above, NOPSEMA is satisfied that appropriate measures will be taken to ensure impacts will be reduced an acceptable level. This is because impacts will be limited to within the predicted 700m mixing zone around the platform and will not be significant as defined by the MNES significant impact guidelines. The potential for impacts to Australian or New Zealand fur seals is limited to a small number of individuals relative to the total population in the region. According to the toxicity results presented, actual impacts to seals are likely to be very low to undetectable. Should this understanding of the impacts change as more information becomes available, Beach will undertake further biological monitoring and consider if additional actions are warranted.</p> <p>NOPSEMA has concluded that after taking into consideration the proposed environmental management measures that the activity will not cause unacceptable impacts to the Commonwealth Marine Area.</p>
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<p>2</p>	<p>Insufficient provisions for the maintenance and removal of structures, equipment and property bought onto title may impact compliance with section 572 of the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGGS Act).</p>	<p>Beach has commenced planning for the future of the BassGas operations activity including consideration of the cessation of production and the process to be followed during the decommissioning phase of the Yolla-A platform, wells and pipeline.</p> <p>The EP identifies two current options for the future of the BassGas activity; firstly, end of production in 2025, and secondly, development of the Trefoil gas field to the west of the Yolla-A platform and tying the wells into Yolla-A via a pipeline and extending the life of BassGas development to 2037 (Section 3.10.2 of the EP).</p> <p>Beach acknowledges the obligation for full removal of property and has a range of maintenance arrangements in place so that property and equipment can be removed (Section 3.10.2).</p>	<p>NOPSEMA recognises the importance of ensuring that titleholders meet their obligations under section 572 of the (OPGGGS Act) which requires them to:</p> <ul style="list-style-type: none"> <li>• Maintain all structures, equipment and property in a title area in good condition and repair.</li> <li>• Remove all structures, equipment and property when it is neither used nor to be used in connection with operations authorised by the title.</li> </ul> <p>In making a decision regarding this matter, NOPSEMA took into account the content of the EP, NOPSEMA Section 572 Maintenance and Removal of Property Policy (PL1903), Australian Government Offshore Petroleum Decommissioning Guideline (2018) and the Minister for Resources and Northern Australia Statement of Expectations, October 2019;</p> <p>During the course of the assessment NOPSEMA required Beach to provide further information about the proposed cessation of production and decommissioning planning process for the BassGas activity. In response Beach provided details of two options for the future of BassGas activity including details of the decommissioning planning process and notional timeframes for each option. Beach was also requested to provide further information about its systems for the maintenance of property on title to ensure that full removal could occur in the future. Beach provided further details of its property monitoring and maintenance system which includes</p>
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			<p>keeping an inventory of all property in an assets register.</p> <p>NOPSEMA is satisfied that the EP demonstrates how the requirements of section 572 of the OPGGS Act will be met.</p>
<b>3</b>	<p>Inadequate arrangements for responding to and monitoring an oil pollution emergency may result in unacceptable environmental impacts and risks.</p>	<p>Beach has evaluated the hydrocarbon spill risks of the operation of the Yolla-A platform, wells, subsea pipeline and support vessels in Sections 7.14 to 7.17 of the EP. Section 7.15 details Beach's approach to spill modelling and outcomes of the stochastic modelling are applied to define the environment that may be affected (EMBA) based on worst-case spill scenarios.</p> <p>Control measures for reducing the likelihood of a hydrocarbon spill from the operation of the Yolla platform, pipeline and vessels are presented in Sections 7.15, 7.16 and 7.17 respectively.</p> <p>Beach's spill response needs, capability and ALARP assessment for this activity is presented in Sections 7.18 and 7.19. Additional information on spill monitoring needs and capability is presented in the BassGas Addendum to Beach's Offshore Victoria OSMP. Control measures to manage the impacts and risks of a spill response are detailed in Sections 7.18, 7.19 and the OPEP.</p>	<p>NOPSEMA acknowledges the importance of ensuring that hydrocarbon spill risks are reduced to as low as reasonably practicable and that in the unlikely event of a spill, appropriate control measures are in place to ensure a timely response.</p> <p>In making a decision regarding this matter, NOPSEMA took into account the content of the EP, NOPSEMA's Decision Making Guidelines (GL1721), NOPSEMA's Environment Plan content requirements (GN1344), NOPSEMA's Oil pollution risk management guidance note (GN1488) and NOPSEMA's Oil Spill Modelling Environment Bulletin.</p> <p>During the course of the assessment NOPSEMA required Beach to provide further information about its spill risk evaluation and response arrangements including the application of spill modelling to define the EMBA, demonstration of ALARP for its spill response capability (including spill monitoring) and consideration of protected matters in response decision-making processes. In response to this, Beach made a number of modifications to the EP including removing inconsistencies in its spill risk evaluation, re-defining the EMBA to be consistent with recommendations in NOPSEMA's Spill Modelling</p>

			<p>Bulletin, presenting response capability needs assessments to support the demonstration of ALARP and clarifying response decision-making and implementation processes to ensure they give appropriate consideration to protected matters and relevant management plans.</p> <p>Given the information provided in the EP, NOPSEMA is satisfied that the details and evaluation of impacts and risks of hydrocarbon spills is appropriate to the nature and scale of the spill risks. The proposed control measures for reducing the impacts and risks of a spill and arrangements and capability for responding to a spill incident, including monitoring impacts, are considered appropriate and ALARP.</p>
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