NOPSEMA
Australia's offshore energy regulator

STATEMENT OF REASONS

Acceptance of Barossa Production Operations Environment Plan

Document No: A1190197

Date: 11 June 2025

1. On 22 April 2025, I, [redacted], Director Regulatory Operations – Production Environment, delegate of the Chief Executive Officer of NOPSEMA decided, pursuant to regulation 33 of the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (**Environment Regulations**), to accept the Barossa Production Operations Environment Plan (Document No: BAA-200 0637, Revision 4, dated 31 March 2025) (**EP**) as I was reasonably satisfied that the EP met the criteria in reg 34 of the Environment Regulations.
2. The EP was submitted by Santos NA Barossa Pty Ltd (ACN 109 974 932) (**titleholder**), to enable the titleholder to undertake the petroleum activity described in the EP, which involves the hook-up, commissioning, start-up and operation of the Barossa floating production, storage and offtake facility (FPSO) in Commonwealth waters.
3. For the purposes of assessing the EP, I was assisted by an assessment team comprised of a lead assessor and two environmental specialists and a consultation specialist.
4. The reasons for my decision are set out below.

Legislative framework

5. All references to a regulation (**reg**) are to the Environment Regulations unless otherwise stated.
6. All definitions contained in the OPGGS Environment Regulations are applied to those terms used in this statement.
7. The legislation relevant to my decision is set out in the Environment Regulations link.

Background

8. On 16 August 2024, the titleholder submitted the EP (dated August 2024) to NOPSEMA in accordance with the Environment Regulations.
9. On 1 October 2024, NOPSEMA provisionally decided in accordance with reg 27 that the EP included material addressing all of the provisions in Division 2 of the Environment Regulations and published the EP on NOPSEMA's website in accordance with reg 28(1).
10. Between the 27 November 2024 and 24 March 2025, NOPSEMA made two requests for further information, pursuant to reg 32. The requests identified that further information on a number of the criteria in reg 34 was required. In response to these requests, the titleholder re-submitted the environment plan incorporating additional information in answer to these requests
11. In addition to the requests detailed in [10] above, on 5 February 2025, NOPSEMA offered an opportunity to modify and resubmit the EP to the titleholder. The opportunity identified that the acceptance criteria had not been met. In response to this opportunity, the titleholder resubmitted the EP incorporating modifications pursuant to reg 33.
12. The EP that is the subject of this decision was received on 31 March 2025 (Document No. BAA-200 0637, Revision 4, dated 31 March 2025)
13. On 22 April 2025, I decided to accept the EP. I was reasonably satisfied that the EP met the criteria in reg 34. I explain my reasons in further detail below.

Materials

14. The materials considered in making this decision include, but are not limited to, those set out in **Appendix A** and are referenced where relevant in the reasons below.

Decision Overview

15. The issue before me was whether the EP should be accepted pursuant to reg 33. This required that I be reasonably satisfied that the EP meets the 'acceptance criteria' in reg 34.

16. Further, in accordance with regs 16 and 34, I must not accept an EP unless I am reasonably satisfied that the titleholder is compliant with subsection 571(2) of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (**OPGGS Act**) in relation to the petroleum activity, and the compliance is in a form that is acceptable to me. On review of the titleholder's financial assurance declaration and confirmation forms, I was reasonably satisfied that the titleholder was compliant with section 571(2), and the financial assurance declaration and confirmation forms were acceptable. I therefore considered that the precondition in reg 16 was met.

17. I then considered the criteria in reg 34 and was reasonably satisfied that the EP met those criteria. I therefore accepted the EP. My reasons for this part of my decision are set out at [21] – [92] below.

Should the Environment Plan be accepted?

18. Under the Environment Regulations, in order to accept the EP, I had to be reasonably satisfied that the criteria in reg 34 were met.

19. Regulation 33 requires that, when making my decision as to whether the EP should be accepted, refused or accepted in part or with conditions, I was required to consider the further information that the titleholders provided pursuant to the requests made by NOPSEMA (here, the requests made on 27 November 2024 and 24 March 2025). The information the titleholders provided in response to those requests was contained in the re-submitted versions of the EP (as set out at [10] and [11]) which resulted in the final version of the EP (Revision 3).

20. Against this background (and having considered the materials in Appendix A), I made the following findings against each criterion for acceptance of the EP in reg 34.

The EP is appropriate to the nature and scale of the activity: regulation 34(a)

21. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of reg 34(a).

22. I found that the EP (Section 2) contains a suitable description of the activity to inform how it may affect the environment. This is because, the scope and bounds of the activity are clearly described in the EP and in such a way that I understood the manner in which the activity would interact with the environment and the limitations of the activity, and therefore what impacts and risks could occur, allowing for an assessment of those environmental impacts and risks. I found that the EP contained an adequate description of the proposed location, spatial extent, timeframe, and duration of the petroleum activities. The EP also described the types and specifications of equipment and property that will be brought into the title areas and used to undertake the activity, as well as the description and where relevant, the composition of property to be removed from the title areas once it is no longer to be used. Examples as to why I was satisfied include but are not limited to:

    a. The EP contained an appropriate description of the petroleum titles on which the activity is located, specifically petroleum production licence NT/L1, and petroleum pipeline licences NT/PL5 and NT/PL6.

b. The EP identified Santos NA Barossa Pty Ltd as the operator and nominated titleholder of Production Licence NT/L1, and Pipeline Licences NT/PL5 and NT/PL6. This was confirmed through a search of the National Offshore Petroleum Titles Administrator's National Electronic Approvals Tracking System. Titleholder details are outlined in Section 1.5.

c. The EP includes a clear delineation of two 'Operational Areas' within Section 2.2.3, specifically the Offshore Operational Area (OA) and Gas Export Pipeline (GEP) Operational Area. The EP also describes temporary exclusion zones around key infrastructure and vessels to manage interactions with other marine users during hook-up, commissioning and start up with an appropriate level of detail.

d. The EP includes an appropriate geographical description of the OA noting its location approximately 285 km north-north-west of Darwin, Northern Territory (NT) and approximately 130 km north of the Tiwi Islands (at the closest point). Water depths in the OA range from approx. 220m to 280m. The Barossa GEP Operational Area (Pipeline Licences NT/PL5 and NT/PL6) traverses through Commonwealth waters to the NT waters boundary. Water depths through the GEP Operational Area range from 36m to 254m. Coordinates of the facility, subsea infrastructure, gas export pipeline and well locations are provided in Table 2-2, Table 2-3 and displayed in Figures 2-1 to Figure 2-3 of the EP.

e. The EP includes an appropriate temporal description of each phase of the petroleum activity, consisting of initial temporary activities (Floating Production Storage and Offtake (FPSO) hook-up and cold commissioning) followed by FPSO initial start-up to steady state and hot-commissioning, ongoing operations and Inspection, Maintenance, Monitoring and Repair (IMMR) activities. The indicative timing and duration of each stage of the activity is outlined in Section 2.3.

f. The EP includes an adequate level of information of the construction and layout of the facility and infrastructure involved in the petroleum activity, including the BW Opal FPSO, subsea infrastructure, campaign and support vessels, light well intervention vessel, uncrewed surface vessels, helicopters, unmanned aerial vehicles, and Remotely Operated Vehicles. Section 2.8 provides an appropriate description of the vessel specifications for each type of vessel that will be required to complete the activities.

g. The EP includes an appropriate description of the scope of activities, including those excluded. For example, the operation of the 100 km section of the Barossa GEP (NTC/PL5, PL37) located in NT waters. These activities are undertaken in accordance with Northern Territory legislation such as *Petroleum (Submerged Lands) Act 1981* (NT).

23. I found that the EP contained a thorough description of the activity (Section 2) relevant to the consideration of environmental impacts and risks of the activity with the EP containing an adequate description of each phase of the activity [as listed in 22e above]. The EP contained a thorough description of the activity components with the greatest potential to generate impacts and risks to the environment such as greenhouse gas (GHG) emissions. Examples of this for GHG, a higher order impact, include:

a. The EP describes key equipment which will have a material influence on the generation and monitoring of GHG emissions (Sections 2 and Section 6.3.3). This includes information on the specifications and expected performance of that equipment where relevant.

b. The GHG emissions that are expected to be generated from major sources are described for each phase of the activity in an appropriately supported emissions inventory (Section 6.3.2). This includes details of expected sources, relevant emissions factors, assumptions made, and identification of appropriate operational contingencies.

c. The whole-of-lifecycle direct (Scope 1) GHG emissions estimate (Table 6-16 of the EP) is less than that detailed in the accepted OPP, with refined source estimates based on engineering changes, updated emissions factors, and revised operational forecasts.

d. The whole-of-lifecycle (all scopes) GHG emissions estimate (Table 6-18 of the EP) has been developed based on appropriate methodologies and assumptions (Table 6-15), including expected production rates and product markets.

24. I considered that Section 3 of the EP contained a thorough description of the environment in sufficient detail to inform the evaluation of environmental impacts and risks. This is because the EP clearly describes the environment that may be affected (EMBA) by unplanned and planned components of the activity with a logical basis for deriving the boundaries. Examples include but are not limited to:

a. The EMBA includes areas that may be affected by potential emergency conditions in the event of an oil pollution incident which is conservatively defined through stochastic modelling of the cumulation of various marine hydrocarbon spill scenarios (heavy fuel oil release from the FPSO, condensate release from FPSO or offtake tanker, marine gas oil release from FPSO, marine diesel oil release from IMMR vessel) at the FPSO location and a vessel conducting activities along the gas export pipeline (GEP). Hydrocarbon exposure values used for the stochastic modelling (Table 7-13) are in accordance with NOPSEMA guidance.

b. Impact footprints from planned components of the activity) have been defined. For example, the titleholder defined a light impact footprint of 16.7 km and 6.4 km for flaring and non-flaring scenarios from the FPSO in OA1 and 3.3 km from vessel-based activities in OA2.

c. In relation to higher order impacts from GHG emissions:

i. The description of the environment addresses climate-vulnerable values and sensitivities in the Australian environment (Section 3). The EP uses contemporary scientific information in describing the current climate and predicted future trends.

A. One exception (with respect to contemporary data) relates to the inclusion of sea surface temperature (SST) data dated 2015 and 2016 in the description of the operational area (Section 3.3.3.4 of EP). The titleholder has retained the data in the EP as it refers specifically to measurements taken at the project location. However, for the purposes of conducting a contemporary impact assessment, the EP impact evaluation (Section 6.3) utilises current information including SST (e.g. CSIRO State of the Climate 2024) and addresses a broader geographic area; and so, I have concluded that the evaluation has been based on the most recent available information for the EMBA.

ii. The impact evaluation specifically identifies the current status and predicted future trajectories of key environmental aspects (Section 6.3). This is informed by relevant contemporary publications such as the CSIRO State of the Climate 2024 Report and the IPCC Sixth Assessment Report.

d. In specific relation to the assessment of impacts and risks to matters protected under Part 3 of the EPBC Act (Protected Matters) associated with the produced water (PW) discharges, which were identified during the assessment as representing a higher order impact and risk, the EP included:

i. A detailed evaluation of the potential impacts to marine fauna (including protected matters) (Section 6.8.4), which was informed by the likelihood of the species presence, distribution and behaviour within the area that may be affected (Section 3.4.3). The EP appropriately identified (through contemporary EPBC Act protected matters reports) key environmental values that intersect the Operational Areas which include but are not limited to threatened

and migratory fauna values, presence of the Shelf Break and Slope of the Arafura Shelf Key Ecological Feature (KEF) within Operational Area 1 (Figure 3-10), presence of flatback turtle internesting BIA (Section 3.5.6), and the Oceanic Shoals Marine Park (Section 3.5.4) within Operational Area 2. The EP also confirmed the absence of any key environmental values such as biologically important areas (BIAs) or habitat critical to survival (HCTS) for species within the Operational Area 1.

ii. Consideration of potential acute or chronic effects as a result of exposure to toxicants, including on marine turtles (Section 6.8.2.1, Section 6.8.4, Appendix K), in addition to the assessment of bioaccumulation risks (Section 6.8.2.3).

iii. Determination of the potential toxicity of the produced water discharge stream on the basis of an ecotoxicological assessment of the Barossa condensate, using an appropriate nine tests across seven different taxonomic groups, to determine the dilutions required to meet the 99% species protection value (Appendix K).

iv. A comparison of alternative treatment technologies, in relation to performance in the removal of oil-in-water (OIW) and mercury, to reduce impacts and risks to ALARP (Table 6-41).

25. I considered the level of detail included in the EP to be appropriately scaled to the nature of the impacts and risks. A greater level of detail is included in the EP on the environment potentially affected by planned operations (i.e. the Operational Areas) compared with the broader EMBA by low levels of hydrocarbon (i.e. in the unlikely event of a hydrocarbon release). Specifically, the EP includes:

a. A logical process to identify and describe the matters protected under Part 3 of the EPBC Act that may be present within the Operational Areas and EMBA. The EP utilises relevant information to adequately inform and support the descriptions, including information available on the Department of Climate Change, Energy, Environment and Water (DCCEEW) website such as plans of management, threat abatement plans, threatened species recovery plans and marine bioregional plans (Section 3.4.4, Appendix E).

b. A description of the key physical, biological, social, economic, and cultural features, values and sensitivities of the environment of the Commonwealth marine area. In particular, the EP identifies and describes the key physical, biological, social, economic, and cultural features, values and sensitives of the environment that overlap with the EMBA. I considered that the EP utilises relevant references and information sources to adequately inform and support the descriptions, such as contemporary peer-reviewed scientific literature and other authoritative sources (Section 3.3 to Section 3.7).

c. In relation to higher order impacts from GHG emissions:

i. The EP includes details of the impacts and risks that are relevant to the GHG emissions from the activity and provides an evaluation that is appropriate to the nature and scale of that impact and risk. I found that the titleholder has applied more detail and rigour to the evaluation of higher order impacts and risks and to receptors in the environment that are most vulnerable to impacts from climate change.

ii. The EP applies more detail and rigour to the impact and risk assessments where there is a higher degree of scientific uncertainty in predictions of impacts (i.e. in the potential future emissions and climate change scenarios that may arise) and risks and/or severity of potential consequence of impacts and risks. Information from authoritative sources such as the IEA and IPCC has primarily been relied upon in developing the impact evaluation and analysis of the project's emissions; and in describing the potential future impacts and risks.

iii. The EP (Section 6.3.2.4 and Table 6-19) contextualises the estimated emissions from the activity against current established Australian national and global emissions budgets that are consistent with the objectives of the Paris Agreement and with Australia's Nationally Determined Contributions. These have been derived from authoritative sources such as the Australian National Emissions Projections 2024, the IPCC's Sixth Assessment Report, and the Global Carbon Budget 2024, For example:

A. The EP estimates that the net[1] lifecycle emissions from the Barossa Project (an estimated 239.33 million tonnes CO2-equivalent) are expected to comprise approximately 0.05% of the estimated remaining global carbon budget (in a scenario projected to limit global warming to 1.5°C, consistent with the Paris Agreement objectives).

B. It also estimates that net lifecycle emissions occurring within Australia would comprise approximately 0.7% of the projected remaining national emissions budget to 2030.

C. It is noted that the majority of the emissions arising from the Project occur in jurisdictions onshore in Australia (e.g. processing) or overseas (in products use). The legislative and international frameworks that govern these emissions are administered in Australia by State and Territory (e.g. NT EPA) and Federal (e.g. Clean Energy Regulator) regulators in delivering Australia's Nationally Determined Contributions (NDCs) under the Paris Agreement via the Safeguard Mechanism and other relevant legislation and policy. Overseas, equivalent regulators administer the legislative frameworks which enact the NDCs of those countries under their own Paris Agreement commitments.

D. While there is some uncertainty inherent in the efficacy and sufficiency of NDCs and their implementation with respect to achieving the objectives of the Paris Agreement, it is assumed that the frameworks in place and being administered by appropriate regulators are able to, and must, be relied upon in evaluating the impacts, risks and control measures for this activity. It is noted that mechanisms exist nationally (via advice to government and other measures as described in the Climate Change Act 2022) and internationally (via NDC reporting to the Global Stocktake, the annual Conference of the Parties, and other measures as enacted via the Paris Agreement and the UNFCCC) to evaluate progress against the objectives of the Paris Agreement and to recommend changes as required. I consider that this national and international framework must be relied upon to reduce emissions, including those from the Barossa Project; and that the control measures presented in the EP must be, and are, consistent with those frameworks.

E. Advice from government departments (DCCEEW and the Clean Energy Regulator (CER)) confirmed that emissions from the Barossa Project that occur in Australia are covered by Australia's NDCs and mechanisms to support their achievement, such as the Safeguard Mechanism. The projected emissions from the activity have been included in the 2024 National Emissions Projections, which show that the Safeguard emissions reduction targets are expected to be met. NOPSEMA has received advice from DCCEEW confirming that it is unlikely that the Project will affect Australia's ability to meet its target to reduce emissions by 43% below 2005 levels by 2030.

[1] Net lifecycle emissions have been calculated as gross lifecycle emissions, minus the required reservoir CO_2 net zero offset. Both gross and net emissions are presented in context in Table 6-19, but the net emissions value is used for the purpose of comparison against the national and global carbon budgets.

iv. I also noted the EP (Section 6.3.2.2) describes multiple potential future gas demand scenarios (from authoritative sources such as the International Energy Agency) to reflect the uncertainty associated with energy market prediction. However, this section also acknowledges the uncertainty associated with future gas demand and includes commitment to monitor changes and apply EP Management of Change (MOC) processes (as described in Section 8.5.2 of the EP) as required.

26. I found that the EP includes sufficient information on the legislative and other requirements that are relevant to the activity and demonstrates how they will be met throughout the life of the activity. Examples which support my finding include:

    a. The EP includes an overview of relevant legislation and other environmental requirements (such as laws, codes, standards, agreements, treaties, conventions or practices) that apply to the activity and demonstrates how they will be met (Section 1.7 and Appendix C). For example, the petroleum activity covered by this EP is subject to additional regulatory approvals including EPBC Act Approval (EPBC 2022/09372), Class Approval – Mining Operations and Greenhouse Gas Activities for the North Marine Parks Network Management Plan 2018 and a Commercial Activity Licence. Appendix C of the EP identifies the applicable conditions from these approvals and details how the condition will be meet for activities conducted under this EP.

    b. The EP describes the requirements from policies, plans of management, recovery plans, conservation advice and other guidance for matters protected under the EPBC Act and demonstrates how these will be met (Section 3.4.4). Specifically, Table 3-13 outlines the relevant recovery plans, conservation management plans, threat abatement plans or approved conservation advice in place for EPBC Act-listed threatened species that may potentially occur or use habitat within the EMBA and summarises the actions from these plans relevant to the petroleum activity and demonstrates where the requirements have been addressed in the EP.

27. I also noted that a sufficiently robust method, consistent with internationally recognised standard ISO 31000:2018 Risk Management - Guidelines, was applied in the EP for the identification and evaluation of the environmental impacts and risks of the petroleum activity (Section 5.2). I considered that the detail and rigour applied to the impact and risk assessments (Sections 6 and Section 7) is commensurate to the magnitude of the impacts and risks related to the petroleum activity, and that the level of analysis and evaluation is proportionate to the nature and scale of the environmental impacts and risks generated by the petroleum activity. For example, the underwater sound emission evaluation (Section 6.1) includes an assessment of the potential for cumulative noise impacts to sensitive marine fauna (in particular cetaceans), as a result of concurrent project activities.

28. I found that the information provided during relevant persons consultation had been appropriately considered, evaluated, and incorporated into the EP where it was relevant. For example, consultation undertaken with the Department of Agriculture, Fisheries and Forestry (DAFF) completed in September 2024 regarding biosecurity requirements are contained within the impact assessment (Section 7.2) and EP implementation strategy (Section 8.3.2.9).

29. I considered that there was a clear demonstration in the EP that the evaluation of impacts and risks informed the selection of suitable control measures appropriate for the nature and scale of the activity to either reduce the consequence/severity or likelihood of environmental impacts and risks. This is because, the evaluation of impacts and risks take into consideration the intended performance of the control measure to demonstrate that impacts and risks have been reduced to as low as reasonably practicable (ALARP). Suitable control measures have been included to reduce impacts and risks to ALARP and an acceptable level. In this regard, the EP included sufficient

information on the legislative and other requirements that are relevant to the activity (Section 5 and Appendix C and E).

a. In relation to higher order impacts from GHG emissions I found the following to be relevant and credible to in supporting my reasonable satisfaction:

   i. The EP includes an overview of relevant legislation and other environmental requirements (such as laws, codes, standards, agreements, treaties, conventions or practices) that apply to the activity and demonstrates how they will be met (Sections 1.7 and 6.3, and Appendix C).

   ii. The EP (Sections 6.3.2.6.3, 8.2.4 and 8.5.7) summarises the relationship between the titleholder's corporate emissions targets, policies and initiatives and the Barossa project and the petroleum activity.

   iii. The EP (Sections 6.3.2.6 and 6.3.2.7) also summarises the legislative and management frameworks applicable to other components of the project e.g. Territory approvals for onshore LNG processing.

   iv. The description and application of the requirements that are relevant to this activity was consistent with advice received from government departments (e.g. the Clean Energy Regulator).

The EP demonstrates that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable: regulation 34(b)

30. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of reg 34(b).

31. In determining whether the EP demonstrated that the environmental impacts and risks of the activity will be reduced to ALARP, I considered, and found, the following:

32. Section 5 of the EP describes the process applied to planned (Section 6) and unplanned (Section 7) activities to evaluate whether impacts and risks are reduced to ALARP. A clear, systematic, and reproducible process for the evaluation of all impacts and risks is outlined, which details the control measures to be implemented, including an evaluation of additional potential control measures, and justifies why control measures are either adopted or rejected (with well-reasoned and supported conclusions) to demonstrate that the environmental impacts and risks of the activity will be reduced to ALARP. I noted that the evaluation of the adoption of control measures is based on environmental benefits and the consideration of the feasibility and cost/sacrifice of implementation.

33. The titleholder applied the environmental risk assessment process (described in Section 5) appropriately for planned and unplanned aspects of the activity. I accepted that the exploration of alternative, additional or improved control measures had been evidenced, and that the control measures adopted demonstrate that environmental impacts will be reduced to ALARP. For example, as part of the ALARP demonstration for risks associated with the introduction of invasive marine species (IMS), the titleholder evaluated and adopted a number of controls including pre-arrival cleaning and inspection controls, an FPSO specific biosecurity plan (developed in consultation with DAFF), vessel marine growth prevention systems and multiple IMS surveys and inspections of the FPSO and supporting infrastructure to address ongoing operational risks. Engineering controls such as ballast water heat treatment systems and mandatory dry docking of FPSO were evaluated but rejected on the basis that the cost and/or energy requirements of implementation grossly outweighed the environmental benefits at this point in time (Section 6.7.7).

34. The evaluation of impacts and risks has informed the selection of suitable control measures to either reduce the consequence/severity or likelihood of impacts and risks. The control measures outlined

in Section 6 and Section 7 of the EP are sufficiently detailed to demonstrate they will be effective in reducing the impacts and risks for the duration of the activity. The level of detail in the ALARP assessment is matched to the nature and scale of the potential impacts and risks. The EP provided a reasonable demonstration, that there are no other practical control measures that could reasonably be taken to reduce impacts and risks any further. For example, in relation to liquid and atmospheric mercury:

a. The EP includes the implementation of engineering (e.g. low temperature separators) and administrative (e.g. mercury management plan, emissions performance target setting) control measures. Furthermore, the EP includes a mercury validation process (BAO-CM-7.4.9 & Section 8.4.8) which will confirm and verify mercury content in the FPSO processing systems, as well as validating and verifying atmospheric emissions and discharges during the activity. I am reasonably satisfied that the combination of engineering, administrative and verification controls in place for the various phases of the activity (e.g. commissioning and operations) will be implemented, monitored and their effectiveness evaluated to ensure management of liquid and atmospheric mercury are managed to ALARP.

b. I am reasonably satisfied that in specific relation to higher order impacts from GHG emissions, the following information in the EP demonstrates that these impacts will be reduced to ALARP:

    i. Control measures described in the OPP have been incorporated into the EP and described in sufficient detail. Key controls incorporated from the OPP into the EP include:

        A. Compliance with Marine Order 97 and MARPOL Annex VI controls that relate to emissions and energy management. This is delivered through implementation of control measures CM-6.3.16 and 6.3.17 and the associated performance standards.

        B. Implementation of a preventative maintenance system including regular inspection and maintenance of engines and key emissions sources and emissions control equipment. This is delivered through the implementation of the equipment-related control measures and Environmental Performance Standard (EPS) in Section 8.1.2, and the supporting procedures (Section 8.3.2) for asset management and maintenance management.

    ii. The controls described are appropriate as they address the main phases of the activity, and the major emissions sources (including but not limited to power generation, FPSO process compression and support vessels) identified in Section 6.3.2 in a manner that is robust and credible, and I have relied upon them to support my decision. This includes specific control measures tailored for:

        A. GHG emissions (Table 6-20) for each phase of the petroleum activity, i.e. hook-up, commissioning, start-up, and steady-state operations phases (noting that emissions sources and profiles vary across these activity stages).

        B. the major direct and indirect emissions sources that have been described in the impact evaluation; including direct emissions at the facility, emissions in onshore LNG processing within Australia, and indirect emissions resulting from further processing, transport, and end use of the product.

    iii. I noted that the EP evaluated what I consider to be reasonable control measures, including those that are developing technologies or in use in other jurisdictions. The ALARP demonstration in the EP was satisfactory as it contains an evaluation of control measures, including those identified by relevant persons consultation, those required under the titleholder's management systems or other legislation, and technologies known to be in use at other facilities or that may be available in the near future.

iv. There is sufficient detail of the control measures to demonstrate that the measures will be effective in reducing impacts and risks to ALARP for the duration of the EP:

A. All control measures evaluated are described in Table 6-20, and those adopted have been detailed in Table 8-2 alongside their relevant EPS. Where applicable, further details of processes have been provided in the implementation strategy for the EP (Section 8).

B. Sufficient details of the control measures are provided such that they can be implemented, compliance monitoring can occur, and their effectiveness can be evaluated. This detail is provided through the combination of information described in control measures, EPS, and the implementation strategy where relevant.

C. Each control measure has been clearly linked to corresponding EPSs and measurement criteria (MC) in Table 8-2, with sufficient detail to provide a level of performance that can be monitored for effectiveness.

c. In specific relation to Protected Matters that may be affected by produced water discharge, I am satisfied that the EP demonstrates that the impact will be reduced to ALARP because:

i. The EP presented a review of potential alternative control measures (Table 6-38) for both OIW and mercury removal and justified the selection of the controls adopted (Section 6.8.5.1).

ii. The selected control measures included primary and tertiary treatment and are described in sufficient detail to demonstrate that the measures will be effective in reducing impacts and risks to ALARP for the duration of the EP (Table 8-2). The adopted control measures include:

A. The provision of an off-specification produced water storage tank in the FPSO hull for the storage and subsequent retreatment of off-specification produced water, with the required specification (OIW concentration) more stringent with a lower produced water discharge volume when a higher treatment efficiency can be achieved.

B. Online and manual laboratory sampling of produced water to verify the quality of produced water prior to discharge, and monitoring of the receiving environment, including water and sediment quality field sampling, to confirm the extent of impacts.

C. The in-boarding and re-treatment of produced water in the event mercury concentrations exceed the required specification, with a more stringent specification to apply following the commencement of steady-state operations, when better treatment efficiencies can be achieved.

D. The definition of a mixing zone beyond which appropriate guideline values (99% species protection) will be met, to ensure potential toxicity impacts are managed.

E. Implementation of the PW Adaptive Management Plan (Appendix I) to verify PW composition, monitor environmental quality, set performance targets and guide response actions to any deviations from the performance targets, to continually reduce the impacts and risks from the PW discharge to ALARP.

35. The EP considers, evaluates and incorporates information gathered from the consultation process (Section 4.7) when demonstrating impacts and risks are or will be reduced to ALARP.

a. In relation to indirect impacts from atmospheric and GHG emissions, I have considered the indirect impacts of the activity demonstrated in the EP, including planned emissions from the onshore processing at the onshore Darwin LNG facility. I note that relevant persons (Environment

Centre Northern Territory) raised objections and claims regarding impacts and risks of unplanned emissions from infrastructure faults at the onshore Darwin LNG facility. I note the titleholders' response, which I agreed with, that unplanned emissions arising from the Darwin LNG facility occur in the Northern Territory regulatory jurisdiction for which legislative frameworks are in place to administer and regulate these unplanned aspects.

b. In particular, information related to GHG emissions and their management has been appropriately addressed through the consultation report providing the titleholder's assessment of the merits of objections or claims, and through responses to relevant persons (Section 4.7) and the control measure evaluation and ALARP demonstration (Section 6.3.5). Control measures that were proposed by the Australian Conservation Foundation (ACF) and the Environment Centre Northern Territory (ECNT) in consultation (summary in Section 4.7) are included and evaluated in Table 6-20.

The EP demonstrates that the environmental impacts and risks of the activity will be of an acceptable level: regulation 34(c)

36. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of reg 34(c).

37. I considered that the EP demonstrated that the environmental impacts and risks of the activity will be of an acceptable level. Examples of some (but not all) matters that I gave significant weight to become reasonably satisfied include:

a. Section 6 and Section 7 of the EP applies a clear, systematic, and reproducible process for demonstrating how environmental risks will be of an acceptable level and the statements and conclusions drawn by the titleholder in the EP have been sufficiently supported with scientific literature. The process is commensurate with the nature and scale of the activity and the severity of its impacts and risks with more effort and rigour applied to evaluations where there is a higher degree of scientific uncertainty in predictions of impacts and risks and/or severity of potential consequence of impacts and risks.

b. Sections 5 to Section 7 of the EP describes the process undertaken by the titleholder to determine acceptable levels of impact and risk for the petroleum activity. This involved reflection on internal and external policy settings, feedback received by the titleholder during relevant persons consultation, relevant legislative requirements, applicable plans of management, recovery plans, conservation advice and other guidance for matters protected under the EPBC Act, and the principles of ecologically sustainable development as defined in the EPBC Act. For example, in relation to GHG emissions, Section 6.3.6 and Table 3-13 include consideration of the relevant requirements that apply to GHG emissions from the activity, including those internal and external to Santos, and the principles of ESD as defined in the EPBC Act.

c. The EP demonstrates that the petroleum activity is not likely to have a significant impact on matters protected under the EPBC Act, including World Heritage properties, National Heritage properties, Ramsar wetlands, listed threatened species and communities, listed migratory species and Commonwealth marine areas.

d. The EP demonstrates that the activity does not contravene Australian World Heritage management principles, National Heritage management principles, Australian Ramsar management principles or Commonwealth Heritage management principles. This is because there are no spatial overlap of the operational area or direct impacts to these protected places.

e. The EP has had regard to relevant policy documents, guidance, bioregional plans, wildlife conservation plans, management plans, instruments under the EPBC Act, conservation advice, marine bioregional plans, and other information on the DCCEEW website. In particular, an

suitable assessment of the activity against the relevant objectives and action areas in these plans is provided in Sections 3.4.4, Section 6 and Section 7.

f. The EP demonstrates that the activity is not inconsistent with a recovery plan or a threat abatement plan for a listed threatened species or ecological community, a management plan or IUCN Reserve management principles in operation for an Australian Marine Park or a management plan for a Commonwealth Heritage Place. I found various impact and risk pathways described in Section 6 and 7 include an assessment of relevant key documents and demonstrate that the nature and scale of activities described in the EP will not impact these key receptors in a manner inconsistent with the relevant plans. For example, the titleholder has evaluated and concluded that marine fauna interactions from the petroleum activity will be managed in a manner that is not inconsistent with the Recovery Plan for Marine Turtles in Australia 2017–2027.

g. The titleholder has identified and addressed areas of uncertainty using impact and risk evaluations. Predictions of environmental impact and risk are suitably conservative, supported by appropriate modelling, or subject to measures to validate assumptions and outcomes. Examples which I have given significant weight to, and which allow me to be reasonably satisfied that appropriate levels will be met include:

   i. Uncertainty in anthropogenic underwater noise was addressed through suitable noise modelling undertaken by JASCO Applied Sciences to model sound propagation for a range of concurrent operations and vessel scenarios (Section 6.1) to demonstrate behavioural impacts to marine fauna from noise will be localised (confined to an 11.4km footprint).

   ii. Uncertainty in light emissions was addressed through appropriate ILLUMINA modelling of vessel-based activities (Pendoley 2022) and FPSO flaring and non-flaring activities (Worley 2025) to model light attenuation from the greatest light emission sources in both Operational Area 1 and Operational Area 2. Evaluation of risks from light emissions accounted for biologically relevant receptors (i.e. turtle BIAs) with the modelling demonstrating there will be an acceptable level of impact on those receptors.

   iii. Uncertainty has been addressed in the evaluation of oil pollution incidents through the application of appropriately conservative stochastic modelling and recognition of assumptions made, and the provision for scalability of response arrangements to address spills of different magnitudes. The evaluation of risks posed by spill scenarios includes consideration of potential impacts to the receptors outlined in the description of the environment (Section 3), which has informed the selection of appropriate spill response options (Production Operations Oil Pollution Emergency Plan, BAS-210 0134).

   iv. In relation to higher order impacts from GHG emissions, the matters which I have given weight to be reasonably satisfied that impacts will be of acceptable levels include:

      A. The EP impact evaluation (Section 6.3) is conducted on the assumption that all emissions predicted for the lifecycle of the activity will be realised; and does not account for potential future emissions reduction through technology or operational refinements. It also does not account for the expected emissions trajectory decline that will be required through compliance with the Safeguard Mechanism, or potential future policy requirements that may apply to emissions from the activity.

      B. The EP (Section 6.3.3 and Table 8-2) contains emissions performance monitoring measures to review predictions against realised emissions; including validation of design controls and onshore processing emissions.

C. The EP contains specific controls (e.g. CM-6.3.22 and CM-6.3.23) which will collect information to verify GHG emissions estimates and address areas of uncertainty on an ongoing basis. This is supported by suitable performance standards and measurement criteria.

D. The EP contains specific measurement criteria (e.g. for CM-6.3.23 and CM-6.3.24) to verify that actions are not just implemented, but are also effective, in contributing towards meeting the EP's Environmental Performance Outcomes (EPOs) and ensuring impacts are to acceptable levels.

38. In relation to planned aspects of the activity (Section 6), predictions have been made regarding impacts and risks to the environment that I considered to be suitably conservative and result in the inclusion of appropriate controls given the nature of the activity. For example, the environmental assessment in Section 6 includes consideration of aspects typical for facility hook-up, commissioning and routine production activities, such as emissions (noise, light, greenhouse gas and atmospheric), seabed disturbance, physical presence and discharges (routine and non-routine facility and vessel discharges).

39. In relation to unplanned aspects of the activity (Section 7), the EP gives appropriate consideration to risks, such as unplanned spills of chemicals and hydrocarbons, introduction of invasive marine species, loss of solid waste, marine fauna interactions and emergency events (vessel collision). Uncertainty has been addressed in the evaluation of oil pollution incidents through the application of what I accepted were appropriately conservative stochastic modelling and appropriate recognition of assumptions made. The evaluation of risks posed by spill scenarios includes consideration of potential impacts to the receptors outlined in the description of the environment (Section 4) and informs the selection of appropriate spill response options.

40. In relation to protected matters under the EPBC Act, I considered that the EP demonstrated that the impacts and risks from the discharge of produced water will be of an acceptable level because of the following (but not limited to) matters:

a. The EP identifies and addresses areas of uncertainty in the impact and risk evaluations by the adoption of conservative (worst-case) assumptions in the assessment of impacts and risk, for example in relation to the produced water discharge volume and mercury concentration (Section 6.8.1).

b. The EP clearly defines acceptable levels of impact and risk in relation to the produced water discharge, including in relation to protected matters potentially occurring in the vicinity of the discharge with the acceptable level in relation to the PW discharge set at a 99% species protection level (based on ANZG 2018 guidance) within a 70 m mixing zone (Section 6.8.1.1).

c. The process of evaluating impacts and risks associated with the produced water discharge incorporates the principles of ESD as defined in the EPBC Act for example by way of:

i. The acceptability evaluation (Section 6.8.6) notes that the activity has been evaluated in accordance with Santos' Offshore Division Environmental Hazard Identification and Assessment Guideline, which includes the principles of ESD.

ii. The produced water impact evaluation, including dilution modelling, demonstrates that the acceptable level will be achievable, that the EPO will be met and supports the impact evaluation that produced water discharge will not result in 'serious or irreversible harm' to protected matters.

iii. The EP demonstrates that biodiversity and ecological integrity will be maintained for future generations.

iv. No significant cumulative impacts are predicted as a result of the activity and third-party activities.

d. The acceptability evaluation appropriately references relevant species recovery plans, conservation advice, wildlife conservation plans and other management plans and guidelines (Section 6.8.6), and the EP demonstrates that the activity can be undertaken in a way which is not inconsistent with these documents.

41. I also found the EP provided an appropriate evaluation of impacts and risks specific to the nature and location of the activity and relevant environmental receptors. I considered that the evaluation is commensurate with the level of impact or risk presented and provides justifiable conclusions that impacts and risks will be managed to an acceptable level (Sections 6 and Section 7). The impact and risk evaluations demonstrate that the acceptable level will be met, and that the EPO will be achieved.

42. I considered that information provided during relevant persons consultation had been appropriately considered, evaluated, and incorporated into the EP where it was relevant to demonstrate impacts and risks will be managed to an acceptable level.

The EP provides for appropriate environmental performance outcomes, environmental performance standards, and measurement criteria: regulation 34(d)

43. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of reg 34(d).

44. Section 6 of the EP contains EPOs, EPSs and MC for impacts and risks of the petroleum activity (and I refer to [21]-[42] above for more detail on these).

45. I found the EP provided appropriate EPOs which I considered, among other things, allowed me to be reasonably satisfied:

a. Were relevant and addressed all the identified environmental impacts and risks for the activity.

b. When read in conjunction with associated EPSs, established measurable levels for management of environmental aspects of the activity.

c. When read in conjunction with the relevant environmental impact and risk evaluation and adopted management measures, demonstrated that the environmental impacts and risks will be managed to an acceptable level and as low as reasonably practicable.

d. Are consistent with the principles of ESD and relevant requirements (such as plans of management, recovery plans, conservation advice and other guidance for matters protected under the EPBC Act), considering items (a) and (c) above. By way of example, EPO-17 which states "Zero unplanned discharge of hazardous and non-hazardous wastes into the marine environment from the Activity", is consistent with the Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife and Conservation Management Plan for the Blue Whales which have identified marine debris as a threat to wildlife.

e. In relation to the discharge of produced water and associated impacts and risks to matters protected under the EPBC Act, I was reasonably satisfied that the EPOs, EPSs and MCs were appropriate on the basis that:

i. The EPO for produced water discharge (EPO 13) demonstrates that impacts and risks will be managed to an acceptable level and reflects a level of environmental performance for management that is measurable and achievable (for example by referencing the achievement of no injury or mortality to listed marine fauna).

ii. EPO 13 also demonstrates that impacts and risks will be managed to an acceptable level by ensuring no ecological impact, by means of achievement of a 99% species protection level beyond the defined mixing zone.

iii. The EPSs contain appropriately clear and unambiguous statements of environmental performance (Table 8-2) including maximum discharge volume and minimum mercury removal performance.

iv. The control measures, including the monitoring of contaminant concentrations within the produced water discharge (CM-6.8.9, CM-6.8.10), verification of the produced water toxicity following the commencement of steady-state operations (CM-6.8.10), and receiving environment impact monitoring (CM-6.8.11) will effectively reduce the potential impacts and risks of the produced water discharge on the marine environment, including protected matters.

v. The EPSs describe how each of the adopted control measures will function and perform to effectively reduce environmental impacts and risks to ALARP and to an acceptable level.

vi. The EPSs have clear MCs outlining how environmental performance will be measured.

vii. The MC are suitable for verifying that the defined levels of environmental performance are being met.

f. In relation to higher order impacts from GHG emissions, I was reasonably satisfied the EPOs provided for will be acceptable overall because:

i. The EP includes EPOs (EPO 11) which is clear, unambiguous and appropriately address all identified impacts and risks relevant to the activity, including the direct and indirect emissions sources identified in the EP. The EPO appropriately reflects the magnitude of identified emissions sources, and is established with reference to the degree of operational control held by the titleholder over those sources; which is a reasonable and practicable approach.

A. In exception to the above, EPO 10 includes some language which is subjective or ambiguous: *"...as appropriate (having regard to joint venture arrangements and Barossa operations)..."*. This language may present some ambiguity for compliance and performance monitoring; however, as it is an isolated example, I considered that reasonable satisfaction against this acceptance criterion overall was still achieved. The EPO will be tested through inspection processes and if issues are found in Santos' implementation, then that will be addressed through the inspection conclusion and recommendation process.

ii. The EPOs demonstrate that impacts and risks will be managed to an acceptable level and reflect a level of environmental performance for management that is achievable. These are consistent with the Australian GHG emissions management frameworks, including the requirements of the National Greenhouse and Energy Reporting Act 2007 (NGER Act) and the Safeguard Mechanism.

46. I also found that the EP provided appropriate EPS that:

a. Contain clear and unambiguous statements of environmental performance. The statements of environmental performance describe how each of the adopted control measures will function and perform to effectively reduce environmental impacts and risks to ALARP and to an acceptable level.

b. Have clear MC that link to the EPSs and will provide a record that the EPSs have been met. The MC are suitable for verifying that the defined levels of environmental performance are being met, and for the purpose of monitoring compliance.

47. I considered that the EPOs, EPSs and MC are clearly linked and complementary of one another, as presented in the 'Environmental Performance Outcomes, Performance Standards and Measurement Criteria' tables presented for each of the impacts evaluated under Sections 6 and Section 7 of the EP.

The EP includes an appropriate implementation strategy and monitoring, recording and reporting arrangements: regulation 34(e)

48. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of reg 34(e).

49. I found that the implementation strategy contains an appropriate environmental management system (EMS) for the activity (Section 8.3). I noted that the implementation strategy outlined in Section 8 provides a range of systems, practices and processes (outlined in further detail below) which I was satisfied is appropriate and provided for all impacts and risks to continue to be managed to ALARP and acceptable levels for the duration of the activity. Examples to support this reasoning include but are not limited to:

a. Measures to ensure that control measures in the EP continue to be effective in reducing impacts and risks to ALARP and acceptable levels, and monitoring arrangements are in place to determine whether, and ensure that, EPOs and EPSs are being met.

b. Adequate and effective processes and systems in place to ensure that all impacts and risks continue to be identified and reduced to ALARP and acceptable levels. The implementation strategy includes processes and systems for environmental performance monitoring, audit, management of non-conformance and review, management of knowledge, learning and change, record keeping and reporting.

50. I found that the MOC process was adequately described in Section 8.5.2 and was appropriate because:

a. The EP details the internal management of change procedure that it will follow when assessing changes to the activity. The procedure determines whether a revision of the EP is required and whether that revision is to be submitted to NOPSEMA for consideration.

b. Changes will be risk-assessed to determine the significance of any potential new environmental impacts or risks not provided for in the EP.

c. It provided a reasonable description of the titleholder's learning and knowledge-sharing processes.

d. Changes relevant to the scope of the activity will be managed in accordance with regulation 18, 19, 38 or 39. Minor changes that do not trigger a requirement for a formal Revision under the regulations will be considered a 'minor revision' and tracked (Section 8.5.2).

51. In relation to protected matters and produced water discharge, I considered that the implementation strategy is appropriate for the nature and scale of the impacts and risks arising from the activity. This is because it contains specific processes and measures which support the continuous management of the produced water discharge to ALARP and acceptable levels for the life of the activity. The implementation strategy includes but is not limited to:

a. Processes and procedures for the monitoring and reporting of the performance of the produced water treatment system and compliance against EPO 13, including roles and responsibilities

(Section 8.2.2.2), the ongoing review of performance targets and limits (Section 8.2.5) and reporting (Section 8.4.9).

b. Processes for the review of environmental performance to ensure risks and impacts remain acceptable and ALARP for the duration of the activity (Section 8.5.3), with the Produced Water Adaptive Management Plan (Appendix I) detailing how the produced water stream will be monitored and characterised over time to ensure that predictions are continually validated, and EPOs are met (Section 8.5.6).

c. An EMS (Section 8.2) that includes measures to ensure it continues to be effective in identifying and reducing impacts and risk to ALARP and acceptable levels.

d. Monitoring associated with the produced water discharge (Appendix I and Appendix J) and formal reporting requirements (Section 8.4.9) which are appropriate, with the latter including notification to DCCEEW in the event of any harm or mortality to an EPBC Act-listed species.

e. Processes for the annual review of produced water performance data (Section 8.5.6) and the resolution of non-conformances through implementation of the Santos' Assurance Operating Standard and the Assurance Procedure (Section 8.5.1).

52. In relation to GHG emissions, I considered that the implementation strategy is appropriate for the nature and scale of the GHG emissions arising from the activity. This is because it contains specific processes and measures which support implementation of the GHG emissions-relevant controls, and which will be used to continuously manage emissions to ALARP and acceptable levels for the life of the activity. Key matters relevant to my finding regarding whether the implementation strategy was appropriate to manage the impact of GHG emissions include (but are not limited to):

a. The EP (Section 8.2.4) details the processes for emissions and energy management, including an adequate description of the processes for setting facility emissions and energy targets and conducting emissions performance monitoring across all phases of the activity (Sections 8.4.3.2 and 8.4.3.3); such that achievement of the EPOs and EPS described in Section 8.1 can be determined.

b. The EP also describes the annual process for identification and implementation of emissions reduction opportunities on an ongoing basis (Section 8.5.7), which will be used to achieve continuous improvement and reduction to ALARP and acceptable levels. The process is described in sufficient detail; and provides clear commitment to reviewing opportunities over time.

c. The strategy in place for methane emissions management is also described (Section 8.3.2.12) and enacted by corporate measures and facility-specific actions detailed in controls and corresponding EPS in Table 8-2. This degree of focus is appropriate and reflective of the Australian government policy focus on methane emissions reduction (e.g. through the Future Gas Strategy).

d. In addition, specific measures for indirect GHG emissions management are included (Section 6.3.3 and Table 8-2) committing to an annual review of *"options for improvements in the management of or reduction of scope 3 emissions"* to drive continuous improvement and reduction to ALARP and acceptable levels. This is supported by the measures for review and improvement described earlier in this report.

e. I also considered that the implementation strategy processes described in the EP are applicable and adequate for GHG emissions management, because:

   i. The EP specifically commits to reviewing emissions performance (Section 8.5.3) and the effectiveness of controls, as well as specifically addressing emissions assumptions (CM-

6.3.22 and 6.3.23). This is appropriate to identify changes and adaptive management actions that may be required for GHG emissions management.

ii. Section 8.4.3 outlines the approach to monitoring and record keeping for emissions and discharges. These include consistency with the GHG reporting requirements contained in the NGER Act that apply to the activity; and the data will also be used to verify the effectiveness of controls and processes such as target-setting as described in Sections 8.4.3.2 and 8.4.3.3.

iii. The EP (Sections 8.3.2.2 and 8.3.2.3) describes the titleholder's processes for managing and maintaining equipment, which will also apply to GHG-relevant equipment. Sufficient detail is included to ascertain compliance with these EMS processes and implementation of equipment-related EPS in relation to key GHG-relevant equipment such as flare ignition systems (e.g. CM-6.3.15).

53. I was reasonably satisfied that the implementation strategy included appropriate measures to ensure that each employee or contractor working on, or in connection with, the activity is aware of their responsibilities in relation to the EP, including during emergencies or potential emergencies, and has the appropriate competencies and training. The key roles and responsibilities of personnel involved in the implementation, management and review of the EP are appropriately outlined in Section 8.2.2 and the roles and responsibilities for personnel involved in oil spill preparation and response are outlined in Section 5.2 of the Oil Pollution Emergency Plan (OPEP). Examples to support my reasoning include:

a. Section 8.3.1 outlines the measures that are in place for ensuring employee and contractor competency, including the necessary awareness, training and induction requirements to fulfil their duties.

b. Section 5.4 of the OPEP describes the minimum training and competency requirements of the IMT personnel and defines training standards that are aligned with relevant industry good practice, and national and state emergency management training programs.

54. An appropriate OPEP (Barossa Operations Oil Pollution Emergency Plan (Document No. BAS-210 0134 Revision 2) has been provided that includes arrangements that are suitable, given the spill scenarios presented. Specifically, the OPEP includes adequate arrangements for responding to and monitoring oil pollution. The OPEP appropriately includes:

a. The control measures necessary for timely response to an emergency that results, or may result, in oil pollution.

b. The arrangements and capability that will be in place for the duration of the activity to ensure timely implementation of the control measures including arrangements of ongoing maintenance of response capability.

c. The arrangements and capability that will be in place for monitoring the effectiveness of the control measures and ensuring that the EPSs for the control measures are met.

d. The arrangements and capability in place for monitoring oil pollution to inform response activities which are summarised in the EP (Section 8.2.7) and in the OPEP.

e. Details of the oil pollution response control measures that will be used to reduce the impacts and risks of the activity to ALARP and an acceptable level, the arrangements for responding to and monitoring oil pollution to inform response activities, the arrangements for updating and testing the oil pollution response arrangements and control measures, and the monitoring of impacts to the environment from oil pollution and response activities.

f. Immediate (first strike plan) response measures situating the oil pollution response arrangements and control measures in an operational deployment context.

55. I found that the monitoring, recording and reporting arrangements were adequately described in Section 8.4.3 and Section 8.4.9 of the EP and included routine internal and external reporting requirements and incident reporting arrangements. I considered that these arrangements were appropriate as the information collected will:

a. Be based on the EPOs, controls, standards and measurement criteria in the EP.

b. Include environmental discharges reports that record volumes of planned and unplanned discharges to marine environment and atmosphere.

56. The EP also provides for appropriate auditing, review and management of non-conformances of the titleholder's environmental performance and the implementation strategy in Section 8.4 and Section 8.5, to ensure that the EPOs and EPSs in the EP are being met. I considered that the risk-based approach to activity specific assurance during hook-up and cold commissioning (Section 8.4.3.1), initial steady state (Section 8.4.3.2) and steady state operations (8.4.3.3) was appropriate. Non-conformances are to be entered into an incident management system and assigned corrective and preventative actions that are monitored and tracked to close out. I considered such processes would ensure prompt action and appropriate corrective measures were taken.

57. I found that the implementation strategy (Section 8.4.9) provides for appropriate reporting to NOPSEMA in relation to start and end of activity notifications, the titleholder's environmental performance for the activity, as well as incident reporting (reportable and recordable incidents).

58. The EP provides for the implementation of ongoing consultation arrangements in Sections 8.4.11 with planned notifications to relevant persons outlined in Section 8.4.9. I considered these are appropriate to the nature and scale of the activity. In particular, I noted that the titleholder has committed to:

a. Continue to update First Nations relevant persons via Land Councils, Aboriginal Corporations and representative bodies.

b. Continue to update relevant persons via written quarterly activity updates.

c. Provided a mechanism to subscribe to its website which can be utilised by relevant persons and those interested in the activity to remain up to date on the activity.

d. during the life of the EP, continuing to accept, assess and respond to post acceptance consultation feedback.

e. Implement Management of Knowledge and MOC processes to acknowledge any feedback received from persons or organisations during the life of the EP.

The EP does not involve the activity, or part of the activity, other than arrangement for environmental monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage Property within the meaning of the EPBC Act: regulation 34(f)

59. For the reason below, I was reasonably satisfied that the EP met the requirements of reg 34(f).

60. I was satisfied that the EP clearly described the boundaries of the petroleum activity (Sections 2.2), which demonstrates that no part of the activity will be undertaken in any part of a World Heritage Property within the meaning of the EPBC Act.

The EP demonstrates that the titleholder has carried out the consultations required by Division 3, and the measures (if any) that are adopted because of the consultations are appropriate: regulation 34(g)

61. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of reg 34(g).

62. Regulation 34(g) has two components which the EP must demonstrate:
    a. First, that consultation has occurred as per the requirements in regulation 25. This requires that the titleholder consults with each 'relevant person' as defined in regulation 25(1) and imposes certain requirements for how that consultation is to occur (as specified in regulations 25(2)-(4).
    b. Second, that the titleholder adopted, or proposed to adopt, appropriate measures in light of those consultations.
63. Overall, I must be reasonably satisfied that consultation undertaken was appropriate and adapted to the nature of the relevant persons.
64. I noted that the EP provides a clear and suitably detailed description of the consultation processes, and the rationale used to determine who and how to consult with relevant persons, including the approach to provision of sufficient information and how a reasonable period for the consultation was determined (Section 4).
65. I found that the identification process has provided for a broad capture of relevant persons, such that each relevant person who can be ascertained is identified or could have been identified because:
    a. The process involves consideration of the relevant person categories defined by regulations 25(1)(a), (b), (c), (d) and (e) (see Tables 4-5 and 4-6 within Section 4.6.2).
    b. The process broadly applies the terms of "functions", "interests" and "activities" in regulation 25(1)(d) in a manner that best promotes the objects of the Environment Regulations as reflected in NOPSEMA's 'Consultation in the course of preparing an environment plan guideline' (N-04750-GL2086) (see Table 4-2 within Section 4.5).
    c. The process includes reference to multiple sources of information such as publicly available materials, review of databases and registers, published guidance, as well as advice from authorities and other relevant persons (see Table 4-6 within Section 4.6.2).
    d. The process appropriately recognises that a connection of Traditional Owners with Sea Country may constitute an interest for the purposes of regulation 25(1)(d) and involves a range of appropriate and reasonable steps undertaken by the titleholder to ascertain First Nations people/groups with functions, interests or activities potentially affected by the activity (see Section 4.6.2.1).
    e. The process clearly details the titleholder's approach to identifying potential relevant persons that may be located outside the Australian jurisdiction in a manner proportionate to the potential for any effect on their functions, interests or activities (see Section 4.6.3).
    f. The process includes suitable details and evidence of reasonable measures employed by the titleholder to create public awareness of the petroleum activity and consultation process, so any not readily ascertainable relevant persons could have made themselves known to the titleholder and participated in the consultation process in preparation of the EP (see Section 4.6.4 and Appendix F). The EP notes that there were no persons or organisations that self-identified to the titleholder, having had a reasonable opportunity to do so.
66. In determining whether the activity may be relevant to authorities, or determining whose functions, interests or activities may be affected by the activity, I found that the titleholder took into account the nature of the activity, description of the environment and the possible environmental impacts and risks of the activity (see Section 4.6.2).

67. I found that the EP clearly identifies who are 'relevant persons' under regulation 25(1) for the purpose of Division 3 of the Environment Regulations within Table 4-9, and it contains suitable details, evidence and records to support that the titleholder has carried out consultation with each of those relevant persons in the manner specified in regulations 25(2)-(4). This is because:

    a. As required by regulation 25(2), the titleholder gave each relevant person sufficient information to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities. Matters which allowed me to be reasonably satisfied for the purposes of this part of the acceptance criteria, include:

        i. The titleholder informed relevant persons sufficiently about the purpose of consultation, including advising them of the regulatory requirements. For example, the consultation materials provided, raised awareness of and included a link to the NOPSEMA brochure 'Consultation on offshore petroleum environment plans: Information for the community' to help them better understand the responsibilities of titleholders to consult relevant persons in the development of EPs, the purpose of consultation and how relevant persons can provide feedback (see Section 4.6.6 and Appendix F).

        ii. The titleholder provided relevant persons with information relevant for making an assessment about possible consequences of the activity on their functions, interests or activities such as, but not limited to, information regarding the activity proposed under the EP, the EMBA (including depictions of the modelled EMBA and explaining how the EMBA is determined) and the potential environmental impacts and risks of the activity and proposed control measures (see Section 4.6.6 and Appendix F).

        iii. Relevant persons were provided access to information using different mediums and platforms, including by telephone, email, website (https://www.santos.com/barossa/), hard copy and electronic materials, social media, in person and virtual meetings (see Sections 4.6.6 and 4.7). Other examples of the consultation materials include; a FAQ document, responding to queries and feedback during consultation with relevant persons provided as part of the consultation process; and for particular relevant persons or particular groups of relevant persons, videos, animations, PowerPoint slides, photos, and maps to convey technical information to different audiences in a clear and accessible way (see Section 4.6.6 and Appendix F).

        iv. When relevant persons made requests for additional information, the records of consultation generally demonstrate that it was provided to them (see Section 4.7). While I noted some limited cases where requests for further information were not readily accommodated by the titleholder, this does not mean that the sufficient information was not provided (see [69] and [71]) below.

        v. The records of consultation demonstrate that the titleholder provided relevant persons with reasonable, supported and often highly detailed responses to all of their queries, requests, concerns, objections or claims raised in consultation (see Section 4.7).

    b. As required by regulation 25(3), the titleholder allowed a reasonable period for consultation with relevant persons. Matters which allowed me to be reasonably satisfied with respect to this acceptance criteria include:

i. The EP describes that the titleholder's understanding of what constitutes a reasonable period for consultation is developed on a case-by-case basis, considering the nature, scale, and complexity of the activity (see Section 4.6.7). This aligns with NOPSEMA's 'Consultation in the course of preparing an environment plan guideline' (N-04750-GL2086).

ii. The titleholder initially contacted most relevant persons about consultation on the activity in February 2024 (i.e. at least 12 months or more before the final submission of the EP to NOPSEMA on 31 March 2025). Some First Nations people/groups and other relevant persons appear to have been identified by the titleholder later in the consultation process. The shortest time that a relevant person had to participate in consultation was approximately 9 months before the final submission of the EP to NOPSEMA on 31 March 2025.

iii. Approximately one month before the commencement of the formal consultation period, the titleholder contacted many of the relevant persons notifying them of the consultation process and formal consultation period. Emails or letters were sent to relevant persons to invite feedback for the EP, confirming the date by which feedback was sought and outlining how feedback may be provided (see Section 4.6.7 and Appendix F). The titleholder also contacted relevant persons at the end of the consultation period to inform them of the close of the consultation process (see Section 4.7).

iv. The EP shows that the titleholder initially allowed 31 days (i.e., between 11 March to 9 April 2024 inclusive) through a 'preliminary consultation' phase for relevant persons to consider consultation information, including an online link to the Barossa Production Operations Information Booklet containing information about the proposed activities and their potential impacts and risks. The titleholder generally provided approximately 70 days (i.e., up until 21 May 2024) during the 'formal consultation' period for relevant persons to respond with feedback about the proposed activities (see Section 4.6.7).

v. During the consultation period, the titleholder addressed questions in a reasonably timely manner. The titleholder also proactively sent reminders to relevant persons about impending dates for providing any response(s). Where no comments were received, the titleholder generally followed up the relevant person during the formal consultation period to prompt them to consider the information materials previously provided and/or confirm whether the relevant person intended to provide feedback (see Section 4.6.7).

vi. The titleholder considered requests by relevant persons for additional time for consultation, with requests for extension facilitated when reasonably practicable. For example, there were various instances when the titleholder continued to respond to and accommodate further consultation engagements with various relevant persons after it had communicated the formal close of the consultation period, including up until the final submission of the EP to NOPSEMA on 31 March 2025.

vii. There were some limited cases noted where requests for additional time or opportunity for consultation were not accommodated by the titleholder. However, in context, I considered that these limited cases do not prevent me being reasonably satisfied that the EP

demonstrates a reasonable period for consultation was provided (also see [69] and [71] below).

c. As required by regulation 25(4), I found that the titleholder advised each relevant person by information sheets and emails that they may request that particular information provided during consultation not be published. I found that where the titleholder did receive such requests the EP does not contain those details.

68. In relation to the First Nations people/groups identified as relevant persons under regulation 25(1)(d), some additional reasons to those at paragraph 67 that I considered when forming a view that consultation had occurred in the manner required by regulation 25, included (but were not limited to):

a. The records of consultation reasonably support that the titleholder has provided consultation opportunities and supporting information to First Nations communities, clans and groups, representative organisations and other First Nation organisations listed in Table 4-8, in line with the details presented in Section 4.6.5.1.

b. The use of First Nations consultation committees to support consultation in remote areas of Northern Australia is reasonably explained and justified in the EP (see Section 4.6.5.1.4).

c. When contacting First Nations representative organisations, the titleholder clearly expressed that the invitation for consultation on the activity was open to all staff, Board members and members of the organisation (see Section 4.7.8).

d. The titleholder took into account availability and accessibility issues and made provision for and undertook travel to meet face-to-face at locations of choice by the First Nations people/groups that were consulted (see Section 4.6.5.1.3).

e. Based on feedback and guidance from First Nations people/groups, consultation by the titleholder was flexible and adaptive to needs, where reasonably practicable and appropriate. For example, when requests were made for additional meetings or further information, the report on consultation demonstrates that these requests were addressed in a reasonable manner (see Section 4.7.8).

f. The titleholder's approach to consultation included additional considerations to ensure that the provision of information was culturally appropriate and facilitated understanding through the use of visual aids, interpreters, and making offers for further opportunity to discuss the activity in individual or smaller group settings (see Section 4.6.6.1).

69. In the case of this EP, not all relevant persons may agree that consultation has occurred as required under Division 3. The EP records that various relevant persons noted feedback, concerns or assertions relating to the adequacy of the consultation process (see Section 4.7). In forming my view at [67] above, I considered this feedback as well as how that feedback was taken into account by the titleholder (see Section 4.7). Notable examples include (but are not limited to):

a. Larrakia Development Corporation (LDC) advised the titleholder that they need to consult with Larrakia people. I found that, the titleholder implemented a multi-faceted approach enabling a broad identification of the relevant Larrakia people and provided them a reasonable opportunity to be consulted

b. LDC advised of their preferences for consultation which included requests for further time, independent advice, financial assistance and a consultation framework. While I found that the titleholder's consultation with LDC was not in line with LDC's preferences, the EP demonstrates that the titleholder had a reasonably justified rationale that it was not reasonably practicable or appropriate to accommodate those preferences (see Section 4.7.8).

c. Consultation records for Mulyurrud Consultative Committee and Tiwi Islands Clan Groups and Individuals show some attendees give feedback that information shared during in-person meetings was technical or difficult to understand. I found that the titleholder explained for each instance how they sought to ensure that information was provided in a manner that facilitated understanding (see Section 4.7.8).

d. Australian Marine Sciences Association - NT (AMSA-NT) asserted the titleholder had failed to consult with relevant stakeholders in Indonesia and Timor Leste. I found that the consultation process had provided for identification of potential relevant persons located outside the Australian jurisdiction as detailed at [65], and that the titleholder's approach to consulting with Indonesia and Timor Leste stakeholders was in line with advice the titleholder received from Department of Foreign Affairs and Trade's Indonesia Branch.

e. AMSA-NT, Australian Conservation Foundation (ACF) and Environment Centre Northern Territory (ECNT) asserted the titleholder had not provided them with sufficient information or a reasonable period for consultation. I found that these relevant persons did have access to sufficient information to be able make an informed assessment about how their functions, interests or activities may be affected (e.g. via the Barossa Production Operations Information Booklet, the publicly available Barossa Area Development OPP, the publicly available draft EP for the proposed activity, and the direct responses given by the titleholder to their objections, claims or queries). They also had a period of more than 12 months to raise objections, claims or other feedback relating to the environmental management of the activity before the final submission of the EP to NOPSEMA on 31 March 2025.

f. Further to 69.e above, I found that the assertions relating to the sufficiency of information or timeframes for consultation were often linked to other feedback about not being satisfied with responses that had been given to them by the titleholder previously, including with requests for further information or asserting a position that the titleholder had not adequately demonstrated it has met the legislative requirements for an EP to be accepted by NOPSEMA. I found that the titleholder's responses were reasonable and supported (see Section 4.7), particularly in some cases where multiple responses had already been given addressing those concerns. Accordingly, I considered that in those cases it was not necessary for the titleholder to meet outstanding requests for further information. Further, there is no requirement for relevant persons to be satisfied with a titleholder's response or for a titleholder to convince relevant persons of the merits of a proposed activity. A misalignment in views does not mean that consultation is incomplete.

70. When relevant persons raised objections or claims relating to adverse impacts of the activity or gave other feedback of relevance to the environmental management of the activity, I found that the titleholder provided an assessment of the merits and responses that are reasonable and supported (see Section 4.7). Accordingly, I conclude that appropriate measures have been, or are proposed to

be, adopted in the EP as a result of the consultation that occurred between the titleholder and relevant persons.

71. In forming the view at 69 above, I noted the many cases when the objections, claims or feedback by relevant persons did not result in the adoption of any additional measures or changes to the EP. I found that this was a valid response because the titleholder demonstrated the suggested measures cannot be reasonably or practicably implemented or are unnecessary for the environmental impacts and risks of the activity to be reduced to ALARP and acceptable levels, or that there were already existing measures or information in EP satisfactorily addressing the concerns.

72. Specific examples of the additional measures or changes that the titleholder adopted in the EP as a result of consultation with relevant persons include:

    a. Commitments to providing certain activity notifications that were requested by relevant persons (see Table 8-26).

    b. Adoption of other measures as part of the implementation strategy (see Section 8.3.3), including reporting to DCCEEW outcomes of IMMR activities in multiple use and protection zones.

    c. Updates to the description of the environment and impact and risk assessments with information relevant to the environmental management of the activity, including research by Australian Institute of Marine Science (see Sections 3, 6 and 7).

    d. Consideration, evaluation and incorporation of other information gathered through consultation has informed the EP (refer to [28], [35], [42] of these reasons).

The EP complies with the Act and Regulations: regulation 34(h)

73. Based on the reasons below, I was reasonably satisfied that the EP met the requirements of regulation 34(h). I was satisfied that the EP:

    a. Is consistent with the Objects of the Environment Regulations, including the principles of ESD. This has been demonstrated through Section 6 to Section 8 of the EP.

    b. Includes an environment plan summary report (Section 1.1) as required by reg 35(7).

    c. Is consistent with Section 572 of OPGGS Act. Examples of matters which I have given weight to in coming to this conclusion include:

        i. The EP does not allow for any equipment that is not to be used for future production to be left on the seabed at the completion of the activity and includes provision for the inspection, maintenance, monitoring, and repair of subsea infrastructure installed for future production, consistent with the requirements of section 572 of the OPGGS Act (Section 8.9).

        ii. All equipment installed has been designed to allow for removal. Section 8.9.3.2 and Table 8-5 and Table 8-6 of the EP describe the design features and maintenance plans for infrastructure to enable its removal. For example, the activity involves the installation of 15 mooring (suction) piles which have been designed for a 25-year life and are subject to a risk-based inspection regime to monitor integrity. Furthermore, the mooring piles will be installed in a reversible manner enabling their removal at the completion of the activity.

74. I accepted that consultation with relevant persons has informed the titleholder for the purposes of Section 280 of the OPGGS Act which requires that the activity will not interfere with navigation, fishing, conservation of resources of the sea and seabed, other offshore electricity infrastructure and petroleum activities, and the enjoyment of native title rights and interests (within the meaning

of the Native Title Act 1993) to a greater extent than is necessary for the reasonable exercise of the titleholder's rights and obligations.

75. I was satisfied that the EP addressed the content requirements of regs 21 to 24 with enough clarity, consistency and detail commensurate to the nature and scale of the activity. Specifically:

    a. The titleholder has submitted the EP in writing as required by reg 26(6).

    b. The EP commits to complying with the requirements in regs 47, 48, 49, 50, 51, 52, 53 and 54 regarding various notifications and reporting to NOPSEMA.

    c. The EP contains a report on all consultations under regulation 25 of any relevant person by the titleholder that is in line with regulation 24(b). In particular:

        i. There is a summary of each response made by a relevant person as required by regulation 24(b)(i). This is in Section 4.7

        ii. There is an assessment of the merits of any objection or claim about the adverse impact of each activity to which the EP relates as required by regulation 24(b)(ii). This is in Section 4.7.

        iii. There is a statement of the titleholder's response, or proposed response, if any, to each objection or claim as required by regulation 24(b)(iii). This is in Section 4.7.

        iv. There is a copy of the full text of any response by a relevant person as required by regulation 24(b)(iv). This is in the sensitive information part of the EP (a discrete part that will not be subject to publication).

76. In relation to the titleholder's report on consultation under regulation 24(b), I found the details presented in the EP to be reasonably accurate and fairly represented, based on a review of the full text records of the consultation between the titleholder and relevant persons, as presented within the sensitive information part of the EP.

77. Lastly, I made no observations of 'sensitive information', meeting the definition provided under regulation 5 or the full text of any response by a relevant person, being contained in the EP. In accordance with regulation 26(8), such information is to be contained in the sensitive information part of the EP only, and not anywhere else in the EP.

Other considerations

Correspondence received directly by NOPSEMA

78. I note NOPSEMA received communications directly from third parties relating to the petroleum activity and its subsequent assessment. Information received directly from third parties was forwarded to the titleholder for consideration in the preparation of the EP.

The Program: protected matters under Part 3 of the EPBC Act

79. The Streamlining Program endorsed under Section 146 of the EPBC Act outlines the environmental management authorisation process under the EPBC Act for offshore petroleum and greenhouse gas activities administered by NOPSEMA and requires NOPSEMA to comply with Program responsibilities and commitments.

80. In implementing the Program, NOPSEMA conducts assessments of EPs against the requirements of the Program, which includes meeting the acceptance criteria and content requirements under the Environment Regulations. Specific Program commitments relating to Protected Matters under Part 3 of the EPBC Act are outlined in Table 2 of the Program report and must be applied by NOPSEMA during decision making with respect to offshore projects and activities.

81. In accordance with the Program, I considered Matters Protected under Part 3 of the EPBC Act, including listed threatened and migratory species and the Commonwealth marine area, and was reasonably satisfied that the activity under the EP met the requirements of the Program on the basis that:

    a. The activity will not result in unacceptable impacts on listed threatened species and is not inconsistent with relevant recovery plans and threat abatement plans for listed threatened species.

    b. Potential impacts to the Commonwealth Marine Area from the discharge of produced water are appropriately assessed in the EP in relation to potential impacts to water quality, marine fauna and sediment quality, noting that Operational Area 1 intersects with the Shelf Break and Slope of the Arafura Shelf Key Ecological Feature (KEF).

    c. Appropriate control measures are presented in the EP to ensure that impacts to threatened or migratory species, and to the Commonwealth marine area, will be of an acceptable level. For example, the inclusion of limits on the discharge volume, contaminant concentrations from, and monitoring of, produced water discharges.

The Program: Cumulative environmental impacts

82. In the context of the Program, cumulative impacts refers to the direct and indirect impacts of a number of different petroleum activity actions that may influence the natural environment or other users within a locality or region which, when considered together, have a greater impact on the offshore marine environment than each action or influence considered individually.

83. Cumulative environmental impacts are successive, additive, or synergistic impacts of collectively significant activities or projects with material impacts on the environment that have the potential to accumulate over temporal and spatial scales (see NOPSEMA's Decision Making Guidelines).

84. I considered the potential for cumulative environmental impacts to the Commonwealth marine area by the activities covered in the EP, as required by the Program, noting the titleholder had specifically evaluated potential cumulative impacts from multiple concurrent Barossa Project activities (Section 2.3.1) and activities covered under this operations EP for Noise (Section 6.1.2), light (Section 6.2), greenhouse gas (Section 6.3) and atmospheric emissions (Section 6.4), seabed & benthic habitat disturbance (Section 6.5), interactions with marine users (Section 6.6) operational discharges (Section 6.7) and Marine fauna interaction (Section 7.3) impacts. For example, the EP addressed, among other things:

    a. Potential cumulative impacts from light emissions from the FPSO and support vessels, and additional vessels during hook-up and commissioning (under this EP), potentially concurrent with a mobile offshore drilling unit (MODU) conducting drilling activities (under the Barossa Development Drilling and Completions EP) and construction and support vessels conducting subsea infrastructure installation activities (under the Barossa Subsea Infrastructure Installation EP), are assessed in Section 6.2.1 resulting in a finding that cumulative impacts are negligible.

    b. Potential cumulative impacts from GHG emissions (noting that this impact pathway is not geographically bound to the project area) are assessed in Section 6.3 of the EP; including the evaluation of impact in relation to the project's emissions contributions to the global atmosphere. The contribution of the project emissions to the national and global carbon budget (and therefore impact pathways) is addressed as described in [25c] of this Statement.

85. After considering the information presented in the EP, I was reasonably satisfied that, considering the potential cumulative impact factors, the receptors at risk, the nature of the potential concurrent activities and the adopted controls, cumulative impacts were of an acceptable level.

s527E of the EPBC Act: Indirect Consequences

86. Under the Program, when assessing EPs NOPSEMA must have regard to EPBC Act requirements, including section 527E of the EPBC Act and the EPBC Act Policy Statement - 'Indirect consequences' of an action: Section 527E of the EPBC Act (Indirect Consequences Policy). NOPSEMA considers section 527E and the policy to determine where indirect consequences may be considered an 'impact' of an activity. This consideration is on a case-by-case basis against the circumstances of the activity in accordance with the criteria set out in the policy.

87. In assessing the EP, I had regard to section 527E and the Indirect Consequences Policy, in relation to indirect GHG emissions. I gave consideration as to whether the activity is a substantial cause of GHG emissions from the processing, consumption, and combustion of gas, and as an indirect consequence of the activity, whether emissions are facilitated to a major extent by the activity, within the contemplation of the titleholder, and are a reasonably foreseeable consequence of the activities described in the EP.

88. The titleholder has addressed the indirect greenhouse gas emissions (Section 6.3) that are expected to result from the activity throughout the EP, including the emissions and potential consequences arising from upstream suppliers and downstream customers (including those arising from combustion and use of the gas product). The relevant evaluation and measures are addressed above throughout this statement of reasons against each relevant EP acceptance criterion.

89. I also had regard to section 527E and the Indirect Consequences Policy in relation to indirect non-GHG atmospheric emissions. I gave consideration as to whether the activity may be a substantial cause of air emissions associated with the processing, consumption and combustion of gas at onshore facilities, and are a reasonably foreseeable consequence of the activities described in the EP. The relevant evaluation and measures are addressed above throughout this statement of reasons against each relevant EP acceptance criterion.

90. As I have been reasonably satisfied in relation to indirect consequences of GHG and other non-GHG atmospheric emissions under each acceptance criteria above, I consider that the EP adequately addresses the requirements of the Indirect Consequences Policy in relation to NOPSEMA's implementation of the Program.

Other relevant advice received

91. Advice was received from the CER, the Department of Climate Change, Energy, the Environment and Water and the Department of Industry, Science and Resources in relation to GHG emissions management frameworks and their relationship with the activity. This advice was based on information provided to the agencies by NOPSEMA in the form of extracts from the EP, and was considered by the decision-maker when considering the GHG emissions topic assessment findings against the acceptance criteria set out above in these reasons.

Conclusion

92. For the reasons set out above, I was reasonably satisfied that the EP met the criteria set out in reg 34. Being satisfied that the titleholder was compliant with s 571(1) (and met reg 16) (refer to [16]), I accepted the EP.

[redacted]

Director Regulatory Operations – Production Environment

11 June 2025

Appendix A: Key materials considered in making the decision

1. In making this decision, I considered the documents making up the EP submission in accordance with legislative requirements and NOPSEMA policy and procedure. The material that I had regard to in making this decision included, but was not limited to:
    a. Barossa Production Operations Environment Plan (BAA-200 0637, Revision 4) and included appendices;
    b. Barossa Operations Oil Pollution Emergency Plan (Document No. BAS-210 0134 Revision 2, dated December 2024);
    c. Operational and Scientific Monitoring Bridging Implementation Plan: Northern Australia (Document No.7715-650-ERP-0003, Revision 1, dated 12 September 2024);
    d. Sensitive Information Report - Barossa Production Operations Environment Plan;
    e. Sensitive Information Report - Barossa Production Operations Environment Plan – Additional Correspondence; and
    f. Material referenced in the EP that was important evidence for making the case that impacts and risks will be managed to ALARP and acceptable levels,
2. Barossa Area Development Offshore Project Proposal (OPP) (Document No. BAA-OO-EN-RPT-00001, Revision 5) and supporting documentation (Appendices A through to Appendix R), accepted by NOPSEMA on 13 March 2018.
3. The legislative framework relevant to EP assessments, including:
    a. The OPGGS Act;
    b. The Environment Regulations; and
    c. The EPBC Act Program[2].
4. Policies and Guidelines:
    a. NOPSEMA Assessment policy (N-04000-PL0050).
    b. NOPSEMA Environment plan assessment policy (N-04750-PL1347).
    c. NOPSEMA Environment plan decision making guidelines (N-04750-GL1721).
    d. NOPSEMA Consultation in the course of preparing an Environment Plan guideline (N-04750-GL2086).
    e. NOPSEMA Section 572 Maintenance and removal of property regulatory policy (N-00500-PL1903).
    f. NOPSEMA Petroleum activity guidance note (N-04750-GN1343).
5. Guidance:
    a. NOPSEMA Environment plan content requirements guidance note (N-04750-GN1344).
    b. NOPSEMA Petroleum activities and Australian marine parks guidance note (N-04750-GN1785).
    c. NOPSEMA Oil pollution risk management guidance note (N-04750-GN1488).

[2] https://www.environment.gov.au/protection/assessments/strategic/offshore-petroleum-greenhouse-gas

d. Department of Industry, Science, Energy and Resources, Offshore Petroleum Decommissioning Guideline (2018).

6. Procedures:

a. NOPSEMA Environment plan assessment standard operating procedure (N-04750-SOP1369).

7. Other relevant documents and records:

a. Relevant published, peer-reviewed scientific literature, including the scientific literature cited in the EP and relevant national/international standards such as the Australian and New Zealand Guidelines for fresh and marine water quality (ANZG, 2018).

b. Advice received from the Clean Energy Regulator (dated 14 February 2025); the Department of Climate Change, Energy, the Environment and Water (dated 14 February 2025); and the Department of Industry, Science and Resources (dated 12 February 2025) in relation to GHG emissions management frameworks and their relationship with the activity.

c. Department of the Environment, Water, Heritage and the Arts, Significant Impact Guidelines 1.1 – Matters of National Environmental Significance, EPBC Act Policy Statement (2013).

d. Department of Sustainability, Environment, Water, Population and Communities, 'Indirect consequences' of an action: Section 527E of the EPBC Act, EPBC Act Policy Statement (2013).

e. Department of the Environment and Energy, National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (2020).

f. Commonwealth of Australia, Recovery Plan for Marine Turtles in Australia 2017–2027 (2017).

g. Commonwealth of Australia, Conservation Management Plan for the Blue Whale 2015–2025 (2015).

h. Department of Agriculture, Water and the Environment, Guidance on key terms within the Blue Whale Conservation Management Plan (2021).

i. National Recovery Plan for the Southern Right Whale (2024).

j. Commonwealth of Australia, Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans (2018).

k. Commonwealth of Australia, Wildlife Conservation Plan for Seabirds (2020).

l. Department of Sustainability, Environment, Water, Population and Communities, Marine Bioregional Plan for the North-west Marine Region (2012).

m. Director of National Parks, North-west Marine Parks Network Management Plan (2018).

8. Relevant legislative and other requirements that apply to the activity and are relevant to the environmental management of the activity.

9. Relevant Federal Court of Australia authority and issued judgments.