Acceptance of Duntroon Multi-client 3D and 2D Seismic Survey EP

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) provides the following statement of reasons for its decision to accept the Duntroon Multi-client 3D and 2D Marine Seismic Survey Environment Plan (EP), subject to conditions, in accordance with regulation 10 of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

Relevant terms

1. In this statement, the words and phrases have the following meaning:

1.1. The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* is referred to as the OPGGS Act.

1.2. The National Offshore Petroleum Safety and Environmental Management Authority is referred to as NOPSEMA.

1.3. The Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 are referred to as the Environment Regulations.

1.4. EP is taken mean the Duntroon Multi-client 3D and 2D Marine Seismic Survey Environment Plan (Revision 3, dated 7 November 2018).

1.5. EPBC Act refers to the *Environment Protection and Biodiversity Conservation Act 1999*.

1.6. PGS Australia Pty Ltd is referred to as the titleholder.

1.7. Period A: is taken to mean the period 1 September 2019 to 30 November 2019.

1.8. Period B: is taken to mean the period 1 September 2020 to 30 November 2020.

1.9. The term 'petroleum activity' means the Duntroon Multi-client 3D and 2D Marine Seismic Survey.

1.10. The 'Eastern Great Australian Bight (GAB) upwelling (Kangaroo Island Canyons) biologically important area (BIA)' is taken to be the area defined in the Blue Whale Conservation Management Plan and the National Conservation Values Atlas (Kangaroo Island Canyon – Eastern GAB, object ID 2570) published by the Department of Environment and Energy.

1.11. The term 'environment' means: (a) ecosystems and their constituent parts, including people and communities; and (b) natural and physical resources; and (c) the qualities and characteristics of locations, places and areas; and (d) the heritage value of places; and includes (e) the social, economic and cultural features of the matters mentioned in paragraphs (a), (b), (c) and (d).

1.12. The term 'environmental impact' means any change to the environment, whether adverse or beneficial, that wholly or partially results from an activity.

1.13. The term 'control measure' means a system, an item of equipment, a person or a procedure, that is used as a basis for managing environmental impacts and risks.

1.14. The term 'environmental management system' includes the responsibilities, practices, processes and resources used to manage the environmental aspects of an activity.

1.15. The term 'environmental performance' means the performance of a titleholder in relation to the environmental performance outcomes and standards mentioned in an environment plan.

1.16. The term 'relevant person' has the meaning provided under regulation 11A of the Environment Regulations.

1.17. The term 'environmental performance' outcome means a measurable level of performance required for the management of environmental aspects of an activity to ensure that environmental impacts and risks will be of an acceptable level.

1.18. The term 'environmental performance standard' means a statement of the performance required of a control measure.

1.19. The term 'operational area' is taken to be the operational area for the petroleum activity as defined in Section 2.3 of the EP.

1.20. Southern Right Whale Calving BIA is taken to be the area defined in the National Conservation Values Atlas – Object ID 2599 published by the Department of Environment and Energy.

Decision

2. On 14 January 2019, NOPSEMA made the decision pursuant to regulation 10(6) of the Environment Regulations to accept the EP, subject to conditions.

3. Acceptance of the EP permits the titleholder to undertake the activity described in the EP, which is a marine seismic survey in Commonwealth waters in the GAB adjacent to South Australia (SA).

4. In undertaking the activity the titleholder is subject to the requirements of the Environment Regulations and relevant provisions in the OPGGS Act, as well as the conditions as set out in the notice of decision dated 14 January 2019.

5. The notice of decision was provided to the titleholder on 14 January 2019, in accordance with regulation 11 of the Environment Regulations.

Authority

6. The decision maker for acceptance of an environment plan under Regulation 10 of the Environment Regulations is the 'Regulator'. Where the decision relates to petroleum activity, the Regulator is defined as NOPSEMA by regulation 4 of the Environment Regulations.

7. I, David Christensen, was the responsible decision maker for this decision. I hold the position of the Manager, Assessment and Inspection - Seismic & Production Operations within NOPSEMA. I was empowered to make the decision pursuant to a valid instrument of delegation made by Stuart Smith, Chief Executive Officer of NOPSEMA.

8. A copy of the relevant instrument of delegation is available from NOPSEMA on request.

9. In the following sections of this Statement of Reasons, when I refer to NOPSEMA having made a request, or having regard to a matter, or similar phrasing, I am referring to a step that I took exercising delegated authority in making this decision. Where appropriate, in taking such steps I took advice from the assessment team within NOPSEMA.

The assessment process

10. The assessment team comprised of environment specialists from a range of backgrounds with expert knowledge in environmental and marine science relative to marine seismic survey activities and their associated impacts and risks.

11. The assessment team completed a full assessment of the EP since its first submission was received on 27 February 2017. The findings and conclusions of the general assessment and each topic assessment were evaluated together to form a view as to whether the EP, as a whole, met the criteria for acceptance.

12. At the conclusion of the assessment, the team made a recommendation to me (as the delegated decision-maker) that the EP met the criteria for acceptance under regulation 10A. For the reasons set out in this Statement of Reasons, I accepted that recommendation.

Background

13. On 27 February 2017, the titleholder submitted the EP to NOPSEMA in accordance with subregulation 9(1) of the Environment Regulations.

14. On 9 March 2017, the titleholder was notified that NOPSEMA was unable to make an assessment decision under subregulation 10(1)(c) of the Environment Regulations, with the notice date for the decision being revised to 14 April 2017.

15. On 13 April 2017, NOPSEMA notified the titleholder that they were required to modify and resubmit the EP, as NOPSEMA was not reasonably satisfied that the EP met the acceptance criteria as set out in subregulation 10A of the Environment Regulations.

16. On 9 May 2017, 3 July 2017, 15 August 2017, 26 September 2017 and 11 October 2017, NOPSEMA agreed to extend the timeframe for resubmission of the EP following requests by the titleholder, in accordance with subregulation 10(5) of the Environment Regulations.

17. On 20 October 2017, the titleholder resubmitted the EP (Revision 1) to NOPSEMA in accordance with subregulation 9(1) of the Environment Regulations.

18. On 14 November 2017, the titleholder was notified that NOPSEMA was unable to make an assessment decision under subregulation 10(1)(c) of the Environment Regulations with the notice date for the decision being revised to 4 December 2017.

19. On 4 December 2017, NOPSEMA requested the titleholder to provide further written information under subregulation 9A(1) of the Environment Regulations. NOPSEMA agreed to extend the timeframe for provision of the requested information on 18 December 2017, 11 January 2018 and 28 February 2018. This information, incorporated into Revision 2 of the EP, was received on 9 March 2018.

20. On 3 April 2018, the titleholder was notified that NOPSEMA was unable to make an assessment decision under subregulation 10(1)(c) of the Environment Regulations, with the notice date for the decision being revised to 26 April 2018.

21. On 26 April 2018, NOPSEMA notified the titleholder that they were required to modify and resubmit the EP, as NOPSEMA was not reasonably satisfied that the EP met the acceptance criteria as set out in subregulation 10A of the Environment Regulations.

22. On 8 May 2018, 13 August 2018, 25 September 2018 and 16 October 2018, NOPSEMA agreed to extend the timeframe for resubmission of the EP following requests by the titleholder, in accordance with subregulation 10(5) of the Environment Regulations.
23. On 7 November 2018, the titleholder resubmitted the EP (Revision 3) to NOPSEMA in accordance with subregulation 9(1) of the Environment Regulations.
24. On 6 December 2018, the titleholder was notified that NOPSEMA was unable to make an assessment decision under subregulation 10(1)(c) of the Environment Regulations with the notice date revised to 14 January 2019.
25. On 14 January 2019 NOPSEMA accepted the EP, subject to conditions. A notice of this decision was provided to the titleholder on 14 January 2019, in accordance with regulation 11 of the Environment Regulations.

Key materials considered in making the decision

26. In making this decision, NOPSEMA considered the documents making up the EP submission in accordance with legislative requirements and NOPSEMA assessment policy and procedure. The material that NOPSEMA had regard to in making this decision included:

- Duntroon Multi-client 3D and 2D Marine Seismic Survey Environment Plan (Revision 3, dated 7 November 2018);
- Relevant published, peer-reviewed scientific literature, including the scientific literature cited in the EP;
- The OPGGS Act;
- The Environment Regulations;
- NOPSEMA Environment Plan Assessment Policies, Guidance and Guidelines (available at https://www.nopsema.gov.au/environmental-management/environment-resources/):
    - PL0050 - Assessment
    - PL1347 - Environment plan assessment;
    - GL1721 - Environment plan decision-making;
    - GN1344 - Environment plan content requirements;
    - GN1785 - Petroleum activities and Australian marine parks;
    - GN1488 - Oil pollution risk management;
    - IP1765 - Acoustic impact evaluation and management;
    - IP1411 - Consultation requirements under the Environment Regulations; and
    - IP1349 - Operational and scientific monitoring programs.
- NOPSEMA's Environment plan assessment standard operating procedure (N-04750 - SOP1369);
- Relevant Other Requirements:

- Director of National Parks. (2018). Australian Marine Parks - South-west Marine Parks Network Management Plan 2018.
- Department of Sustainability, Environment, Water, Population and Communities (2012) Marine bioregional plan for the South-west Marine Region.
- Department of the Environment, Water, Heritage and the Arts (2013). Matters of National Environmental Significance - Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999.
- Department of the Environment, Water, Heritage and the Arts (2008) EPBC Act Policy Statement 2.1 – Interaction between offshore seismic exploration and whales.
- Relevant policies, plans of management, recovery plans, conservation advice and other guidance for matters protected under the EPBC Act, as well as other additional relevant scientific literature;

- Advice from the Australian Antarctic Division of the Department of the Environment and Energy received 19 April 2018;
- Third party correspondence received by NOPSEMA on or before the date of acceptance;
- The information raised by relevant persons (e.g. including Blue Whale Study, The Wilderness Society, Kangaroo Island Dolphin Watch), government departments and agencies that is relevant to making a decision; and
- Recorded findings of NOPSEMA's assessment team regarding assessment of how the EP met the relevant criteria of the Environment Regulations.

Legislative framework

27. The Environment Regulations provide for:

27.1. Subregulation 9(1) states that before commencing an activity, a titleholder must submit an environment plan for the activity to the Regulator.

27.2. Subregulation 9A(1) states that if a titleholder submits an environment plan, the Regulator may request the titleholder to provide further written information about any matter required by these Regulations to be included in an environment plan.

27.3. Subregulation 9A(3) states that if a titleholder receives a request, and provides information requested by the Regulator within the period specified or within a longer period agreed to by the Regulator:

a) the information becomes part of the environment plan; and

b) the Regulator must have regard to the information as if it has been included in the submitted environment plan.

27.4. Paragraph 10(1)(a) states that if the Regulator is reasonably satisfied that the environment plan meets the criteria set out in regulation 10A, the Regulator must accept the environment plan.

27.5. Paragraph 10(1)(b) states that if the Regulator is not reasonably satisfied that the environment plan meets the criteria set out in Regulation 10A, the Regulator must give the titleholder notice in writing under subregulation 10(2).

27.6. Paragraph 10(1)(c) states that if the Regulator is unable to make a decision on the environment plan within the 30 day period, the Regulator must give the titleholder notice in writing and set out a proposed timetable for consideration of the plan.

27.7. Subregulation 10(2) states that a notice to a titleholder under this subregulation must:

a) state that the Regulator is not reasonably satisfied that the environment plan submitted by the titleholder meets the criteria set out in regulation 10A; and

b) identify the criteria set out in regulation 10A about which the Regulator is not reasonably satisfied; and

c) set a date by which the titleholder may resubmit the plan.

27.8. Regulation 10A provides the criteria for acceptance of an environment plan and states that, for regulation 10, the criteria for acceptance of an environment plan are that the plan:

a) is appropriate for the nature and scale of the activity; and

b) demonstrates that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable; and

c) demonstrates that the environmental impacts and risks of the activity will be of an acceptable level; and

d) provides for appropriate environmental performance outcomes, environmental performance standards and measurement criteria; and

e) includes an appropriate implementation strategy and monitoring, recording and reporting arrangements; and

f) does not involve the activity or part of the activity, other than arrangements 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; and

g) demonstrates that: the titleholder has carried out the consultation required by Division 2.2A; and the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultation are appropriate; and

h) complies with the Act and regulations.

Consideration and findings of material facts

28. Following an assessment of the EP undertaken in accordance with the Environment Regulations and NOPSEMA's assessment policies and procedures, NOPSEMA provides the following considerations and findings of material fact which contributed to the decision to accept the EP subject to additional conditions.

Environmental assessment – description of the activity

29. NOPSEMA considered the description of the activity in the EP and found that:

- A comprehensive description of the activity had been provided in the EP which was relevant for the consideration of environmental impacts and risks of the activity. Key aspects of the description included the following:
    - The petroleum activity described in the EP is a marine seismic survey, consisting of a three-dimensional (3D) and two-dimensional (2D) marine seismic survey (MSS) located in Commonwealth waters in the eastern GAB, approximately 51 km from Cape Carnot, Eyre Peninsula (mainland SA), 95 km west of Kangaroo Island and approximately 80 km south-south west of Port Lincoln, the nearest township.
    - The activity will be undertaken using a purpose-built survey vessel equipped with the necessary hardware to conduct a seismic acquisition survey.
    - The location of the activity is clearly set out by diagrams, figures and coordinates depicting the survey operational area (up to 30,100 km^2) and acquisition areas (2D MSS up to 5100 km of survey sail lines; and the 3D MSS totalling up to 5700 km^2).
- Information considered relevant for the consideration of environmental impacts and risks (such as the operational details of the activity and proposed timetable) included:
    - a statement in the EP that the survey is planned to occur within the period 1 September to 30 November 2019 and possibly the equivalent period in 2020;
    - the activity duration, which is a maximum of 91 days, in any one season;
    - hours of operation, which is 24 hours a day;
    - the activity location, which is within EPP-41, EPP-42, EPP-45 and EPP-46 and adjacent open acreage in Commonwealth waters in the GAB adjacent to SA;
    - water depths of the activity location, which range from 100m to 3500m;
    - two or three source arrays will be towed at approximately 7m below sea level. The total volume of each airgun array is 3,260in^3 from a single source;
    - airgun operating pressure, which is ~2000psi;
    - source interval, which is approximately 16.67m to 25m;
    - hydrophone type, length and depth, which is 12 solid hydrophone streamers towed 150m apart, 8,100 m long and towed between 15m and 25m depth for the 3D MSS. The 2D MSS will use a single solid streamer of ~10,000m;

- general details of the vessels to be used for the activity, including fuel type; and
- a statement in the EP that confirms the activity or any part of the activity will not be undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act. The EP states that the closest World Heritage site to the survey area is the Australian Fossil Mammal Site at Naracoorte (SA) located approximately 475 km east-southeast of the survey area, and that survey activities will not affect this location. This statement in the EP is further confirmed by the results from the Department of the Environment's EPBC Protected Matters Search tool provided in Appendix A of the EP.

Environmental assessment – description of the environment

30. NOPSEMA considered the description of the environment in Section 3 of the EP that may be affected by the activity including relevant values and sensitivities and found that:

- The description includes the physical environment features and biological ecosystems and their constituent parts in the area that may be affected by the activity, including under emergency conditions.
- The Department of the Environment's EPBC Protected Matters Search tool (see Appendix A of the EP for the report) was used to determine the conservation values and sensitivities in the environment that may be affected by the activity. The results of this search were that 28 listed threatened and 33 listed migratory species within the meaning of the EPBC Act, including 32 species of cetaceans, have been identified and described as being in the environment that may be affected by the planned aspects of the activity.
- Values and sensitivities of the Spencer Gulf Shelf Province and Southern Province bioregions within the Commonwealth marine area have been identified and described.
- Values and sensitivities of the following Australian Marine Parks (AMP) have been identified and described:
  - Western Eyre AMP; Western Kangaroo Island AMP; Southern Kangaroo Island AMP; GAB AMP; Murray AMP, including the key ecological features (KEF): Ancient coastline at 90 to 120m depth and Kangaroo Island Pool, canyons and adjacent shelf-break and and Eyre Peninsula Upwelling; Meso-scale eddies; Benthic invertebrate communities of the eastern GAB; Small pelagic fish of the south-west region; Bonney Upwelling; and Shelf rocky reefs and hard substrates.
- In identifying relevant values and sensitivities, the EP has had regard to the Marine bioregional plans for the South-west Marine Bioregion and the South-east Marine Bioregion (for the Murray AMP).
- Commonwealth and SA managed commercial fisheries including the Commonwealth Skipjack Tuna (Western) Fishery; Small Pelagic Fishery, Southern and Eastern Scalefish and Shark Fishery, including the GAB Trawl Sector, Gillnet Hook & Trap Sector; Southern Bluefin Tuna Fishery; Western Tuna and Billfish Fishery; Southern Squid Jig Fishery; SA Rock Lobster Fishery; SA Giant Crab Fishery; SA Marine Scale-fish Fishery; SA Sardine Fishery; SA Abalone Fishery; and SA Charter Boat Fishery have been identified and described.
- Social, economic and cultural features of the environment relating to defence areas, recreational activities including fishing, marine tourism, commercial shipping and other petroleum activities, have been identified and described.

- Values and sensitivities within the broader environment that may be affected such as SA Marine Parks and SA Terrestrial parks have also been identified and described.

Environmental assessment – requirements

31. NOPSEMA considered the description of requirements in the EP, including legislative requirements that apply to the activity and are relevant to the environmental management of the activity and found that:

- a suitable description of the relevant legislative and other requirements applying to the activity, including, but not limited to, relevant plans of management under the EPBC Act has been provided in the EP; and
- a suitable demonstration of how these requirements will be met by the titleholder has been provided by integrating these requirements as criteria for demonstrating that impacts and risks of the activity will be of an acceptable level.

Environmental assessment – evaluation of environmental impacts and risks

32. NOPSEMA considered the details of the environmental impacts and risks for the activity provided in sections 5 and 6 of the EP and found that:

- A sufficiently robust method, consistent with internationally recognised standards ISO 14001: Environmental management systems, ISO 31000: 2009 Risk management and HB203: 2012 Environmental Risk Management – Principles and Process, has been applied for the identification and evaluation of environmental impacts and risks of the activity. This included establishing the internal and external context, defining criteria for evaluation, identifying and analysing impacts and risks, conducting an evaluation and application of control measures.
- The environmental impacts and risks detailed as resulting from all aspects of the activity are appropriately identified, given the description of the activity and environment that may be affected by the activity.
- These include impacts and risks associated with:
    - acoustic sound disturbance (seismic source);
    - acoustic sound disturbance (vessel/helicopter sound);
    - light emissions;
    - treated bilge water discharges (vessels);
    - sewage/grey water discharges (vessels);
    - food-scrap discharges (vessels);
    - air emissions;
    - introduction of invasive marine species;
    - disruption to commercial shipping;
    - disruption to commercial fishing;
    - vessel collision spill (diesel);
    - oil spill response;

- deck spill (chemical/oil);
- waste overboard incident (solid/non-biodegradable);
- seismic streamer loss; and
- cetacean collision by vessel.

- NOPSEMA considered the evaluation of environmental impacts and risks and found that this was appropriate to the nature and scale of each impact and risk given:
  - a sufficiently robust method has been applied for the demonstration that each environmental impact and risk of the activity will be reduced to as low as reasonably practicable, and the implementation of additional control measures would be grossly disproportionate to benefit gained, by evaluating all against one or a combination of the following criteria:
    - hierarchy of controls;
    - decision making criteria considering as low as reasonably practicable tolerability criteria, the type of activity, degree of uncertainty associated with the assessed impact or risk and stakeholder influence;
    - comparison with good industry practice control measures, engineering risk assessment and precautionary approach;
    - comparative options assessment of risks, costs and benefits; and
    - titleholder's risk assessment process.
- A sufficiently robust method has been applied for the demonstration that each environmental impact and risk of the activity will be of an acceptable level by evaluating all against the following criteria:
  - alignment with the titleholder’s HSE Policy and HSEQ Management System;
  - management in accordance with all relevant international, Commonwealth and State legislation and industry standards and best practice guidance;
  - consistency with relevant species recovery plans, Australian marine park management plans and species conservation advices;
  - stakeholder concerns must have been adequately responded to and for objections and claims with merit, measures put in place to manage those concerns;
  - appropriateness of the management measures consistent with the nature/sensitivity of the receiving environment;
  - consistency with the APPEA Principles of Conduct (2008) which includes principles of ecologically sustainable development; and
  - demonstrating that impacts and risks have been reduced to as low as reasonably practicable.
- The evaluation considered the likelihood and consequence of all impacts and risks using a consistent method before and after implementation of control measures.

- The statements and conclusions drawn by the titleholder regarding impacts and risks have been sufficiently supported with scientific literature, with greater effort placed supporting the evaluation where there is a higher degree of uncertainty and higher potential consequences. Supporting detail includes the use of underwater acoustic modelling to predict received levels in the marine environment and the use of maximum credible spill scenario modelling to predict the extent of a spill.
- The underwater acoustic modelling was performed by a suitably qualified service provider that specialises in underwater acoustic modelling, the provider's models have been verified with in-field data measured from more than 20 underwater acoustic programs around the world, NOPSEMA is reasonably satisfied that there is a high degree of confidence in the model's capability to predict received levels in both the nearfield and farfield.

33. The EP has demonstrated that impacts and risks to matters protected under Part 3 of the EPBC Act will be reduced to an acceptable level, and as low as reasonably practicable, for the following reasons:

For pygmy blue whales:

- The EP has defined an acceptable level of impact for pygmy blue whales that took into account the requirements of the Conservation Management Plan for the Blue Whale (Department of the Environment, 2015)[1], EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales, EPBC Act Policy Statement 1.1 – Significant Impact Guidelines for Matters of National Environmental Significance and South West Marine Park Network Management Plan 2018.
- The titleholder undertook a comprehensive assessment of the presence and potential impacts to pygmy blue whales (refer to section 3.5.5.2, Table 6-21 and section 6.2.3.8 in the EP). This has been informed by underwater acoustic modelling that has accounted for physical and behavioural impacts (Appendix B of the EP) and contemporary scientific literature.
- Model outputs were evaluated in conjunction with suitable acoustic impact thresholds/criteria to predict the extent of the potential behavioural and physical impacts on pygmy blue whales. NOPSEMA found that the thresholds/criteria derived were found to be reasonable based on published scientific literature.
- The titleholder considered all reasonably practicable control measures and proposed to adopt a series of control measures to ensure that the predicted levels of impact did not exceed the defined acceptable levels of impact, the titleholder adopted a series of control measures including:
    - undertaking the Duntroon survey in the period 1 September to 30 November 2019 or 2020 and will have a maximum duration of 91 days per season to avoid the majority of the pygmy blue whale foraging period in the region (November to May);
    - monitoring upwelling and primary productivity conditions in November with advice from an independent third party expert. If environmental variables are indicative of an upwelling event, blue whale aerial surveillance will be undertaken and in the event that a blue whale is detected, the survey will cease; and

[1] Department of the Environment (2015) *Conservation Management Plan for the Blue Whale – A recovery Plan under the Environment Protection and* Biodiversity *Conservation Act 1999*

  - the titleholder will implement EPBC Act Policy Statement 2.1 Parts A and B including adaptive management measures for higher than expected densities of whales.
- In the acceptance decision, NOPSEMA imposed additional conditions on the titleholder to commence the monitoring of upwelling conditions prior to November and clarify the triggers for aerial surveys to detect the presence of blue whales which, if detected, would lead to the cessation of operation of the acoustic array.
- After taking into consideration all of the environmental management requirements in place in the EP in combination with the conditions on acceptance, NOPSEMA was reasonably satisfied that the activity would be managed so that impacts on pygmy blue whales would not be inconsistent with the Conservation Management Plan for the Blue Whale (DoE, 2015) and that the risks to, and impacts on, pygmy blue whales would be of an acceptable level, and as low as reasonably practicable.

For southern right whales:

- The EP defined an acceptable level of impact for southern right whales that took into account the requirements of the Conservation Management Plan for the southern right whale (SEWPC, 2012)[2], EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales, EPBC Act Policy Statement 1.1 – Significant Impact Guidelines for Matters of National Environmental Significance and South West Marine Park Network Management Plan 2018.
- To support the evaluation, the titleholder undertook a comprehensive literature review of the known established and potential breeding and calving areas on the southern Australian coast (refer to section 3.7.5.3 of the EP).
- To predict the extent of impacts to southern right whales, including received levels in calving biologically important areas (BIAs), a comprehensive evaluation using underwater acoustic modelling was undertaken (Appendix B of the EP). Underwater acoustic modelling was used to inform the titleholder's conclusions that sound exposure levels at the southern right whale calving BIA boundary and closest aggregation area would be 125 dB re 1µPa (SPL) (weighted) and 110 dB re 1µPa (SPL) respectively. This represents received sound levels lower than behavioural disturbance thresholds in relevant technical guidance for low frequency cetaceans.
- While the activity avoids the period of southern right whale migration into the calving areas of the GAB, the EP recognised that there is potential for southern right whales to be exposed to sound emissions during migration out of the GAB in September/October. Through modelling, the titleholder predicted that the number of individuals that may be exposed to sound at levels that may result in behavioural disturbance is approximately five individuals representing ~0.25% of the Australian population.
- NOPSEMA found that the titleholder's evaluation of received sound levels in the calving BIAs was founded on an appropriate evaluation of the modelling outputs combined with relevant impact criteria/thresholds and scientific literature. Based on this analysis, the EP demonstrated that received levels within the calving BIAs would be below relevant behavioural disturbance thresholds.

[2] Department of Sustainability, Environment, Water, Population and Communities (2012) Conservation Management Plan for the Southern Right Whale - A Recovery Plan under the Environment Protection and Biodiversity Conservation Act 1999.

- The EP demonstrated that the activity avoids the critical period of south right whale migration into calving areas, sound levels in the calving BIA are highly likely to be below levels that are known to cause a behavioural response in low frequency cetaceans and there are no defined migration pathways that restrict migration routes out of coastal calving areas. In addition, reasonably practicable control measures have been adopted should southern right whales be encountered during the seismic activity including EPBC Act Policy Statement 2.1 Parts A and B including adaptive management measures for higher than expected densities of whales.
- To provide further assurance and validation of the received sound levels in the southern right whale calving BIA, NOPSEMA has set a condition that requires the titleholder to measure the received levels from the acoustic source at the boundary of the BIA to confirm that levels are at or below levels that would elicit behavioural disturbance for calving females and/or calves. NOPSEMA also set a condition that requires larger shutdown and low power zones to apply to southern right whales in implementing Policy Statement 2.1 as a precautionary measure.
- After taking into consideration all of the environmental management requirements in place including those in the EP and with the conditions imposed by NOPSEMA, NOPSEMA was reasonably satisfied that impacts to southern right whales will be managed so that impacts are not inconsistent with the Conservation Management Plan for the southern right whale and that the risks to, and impacts on, southern right whales, would be of an acceptable level, and as low as reasonably practicable.

For sperm whales:

- The EP has defined an acceptable level of impact for sperm whales taking into account EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales, EPBC Act Policy Statement 1.1 – Significant Impact Guidelines for Matters of National Environmental Significance and South West Marine Park Network Management Plan 2018.
- The EP includes a comprehensive review of scientific literature relevant to the disturbance of odontocetes (refer to section 3.7.5.6 of the EP) and the titleholder undertook an underwater acoustic modelling exercise to predict the distance at which physical and behavioural disturbance may occur (Appendix B of the EP).
- Results from underwater acoustic modelling predicted the distance at which behavioural disturbance to sperm whales may occur (Appendix B, Table 13 of the EP). This has been used by the titleholder to inform the selection of control measures to mitigate impacts to sperm whales during important biological life stages.
- The titleholder has adopted appropriate control measures to ensure that impacts will not exceed the defined acceptable level including appropriate spatial distances between the operational array and sperm whales (13km, informed by modelling outputs and relevant impact criteria/thresholds). In addition, to detect sperm whales a combination of visual and passive acoustic techniques will be utilised for the duration of the survey and adaptive management measures will be implemented should higher than expected densities of sperm whales be encountered within a 24 hour period.
- After taking into consideration all of the environmental management requirements in place in the EP, NOPSEMA was reasonably satisfied that the activity would be managed so that the risks to, and impacts on, sperm whales would be of an acceptable level, and as low as reasonably practicable.

For the Australian sea lion

- The EP has defined an acceptable level of impact on Australian sea lions taking into account the recovery plan for the Australian sea lion (SEWPC, 2013)[3], EPBC Act Policy Statement 1.1 – Significant Impact Guidelines for Matters of National Environmental Significance and South West Marine Park Network Management Plan 2018 and the Marine Bioregional Plan for the Southwest Region (SEWPC, 2012).
- The EP includes a comprehensive review of scientific literature relevant to the disturbance of pinnipeds (refer to section 3.7.6.1 of the EP) and the titleholder has undertaken an underwater acoustic modelling exercise (Appendix B of the EP) to predict the distance at which physical and behavioural disturbance may occur in pinnipeds.
- The titleholder has adopted control measures to ensure the defined acceptable level of impact will not be exceeded including the adoption of a pre-start observations and shutdown zones that apply to pinnipeds to prevent physical injury and a 10km spatial buffer (informed by the results of acoustic modelling and relevant technical guidance) between the acoustic source and the BIA foraging boundary (male and female sea lion).
- After taking into consideration all the environmental management requirements, NOPSEMA is reasonably satisfied that the activity will be managed so that impacts on pinnipeds will not be inconsistent with the recovery plan for Australian sea lions and that the risks to, and impacts on, Australian sea lions would be of an acceptable level, and as low as reasonably practicable.

For southern bluefin tuna (SBT)

- The EP has defined an acceptable level of impact to SBT which took into account the socio-economic values of the fishery.
- The titleholder has conducted a comprehensive review of scientific literature relevant to the impacts on SBT and associated food sources. The EP describes key periods of ecological and socio-economic sensitivity for the SBT and commercial fishing industry to occur from November, with peak commercial fishing activities targeting SBT between December and April.
- Noting these periods, the evaluation concluded that potential impacts to SBT are limited to behavioural disturbance which could result in disruption to annual migratory patterns and subsequent fishing activities. This evaluation was supported by underwater acoustic modelling to predict the horizontal and vertical distances at which SBT may be impacted (refer to Appendix B of the EP), as well as historical juvenile SBT aggregation data from scientific tagging studies.
- To mitigate potential ecological and socio-economic impacts to SBT, the titleholder will ensure (though has not limited mitigation measures to):
    - no survey activity occurring between December and April to prevent disruption to CSIRO SBT surveys; GAB Trawl Sector Fishery Independent Survey surveys and SA Sardine Industry Association egg count surveys; and

[3] Department of Sustainability, Environment, Water, Population and Communities (2013) Recovery Plan for the Australian Sea Lion 2013 (*Neophoca cinerea*).

  - the survey will avoid SBT capture and pontooning on the continental shelf during December to March.
- Recognising the conservation status of SBT (threatened – conservation dependent under the EPBC Act), the stringent restrictions on the Total Allowable Commercial Catch, and the potential for SBT to be present in the survey area during November, NOPSEMA has also applied an additional condition on the activity.
- The condition requires the titleholder to develop and implement a process to detect the presence of SBT aggregations within 30km of the operational area and cease operations should SBT aggregations be detected within 20km of the operational area in November. These mitigation zones have been selected as a precautionary distance to ensure there is sufficient time to communicate with the seismic survey vessel and cease operations prior to scientifically documented behavioural disturbance sound levels being exceeded.
- After taking into consideration all of the environmental management requirements in place (including with conditions imposed), NOPSEMA concluded that the impacts and risks from the activity to SBT populations, fishing activities or stock assessments would be of an acceptable level, and as low as reasonably practicable.

For primary productivity in the Commonwealth marine area:

- The EP has defined an acceptable level of impact on the primary productivity associated with key ecological features (KEF) including: Kangaroo Island Pool, canyons and adjacent shelf-break & Eyre Peninsula upwelling and Eyre Peninsula Upwelling and the Meso-scale Eddies KEF.
- The evaluation has been informed by underwater acoustic modelling (Appendix B of the EP) and contemporary scientific literature relevant to primary productivity associated with KEFs in the area that may be affected by underwater sound emissions.
- The EP details that the activity will be undertaken predominantly outside key upwelling periods and has committed to acquiring seismic data in the area that overlaps with the KEF first so that temporal overlap with upwelling events associated with this KEF will be largely avoided. In addition, adopted controls to detect and protect against blue whale foraging displacement in November will also provide additional protection to primary productivity should a blue whale be detected during November and the activity be required to cease.
- The EP concludes that any impacts to plankton during the survey are expected to be localised, short-term and recoverable with reference to relevant published literature.
- NOPSEMA found that the conclusions in the EP that the activity would not cause serious or irreversible ecosystem disturbance to Kangaroo Island Pool, canyons and adjacent shelf-break & Eyre Peninsula Upwelling KEF are adequately supported with an appropriate evidence base informed by scientific literature and acoustic modelling.
- After taking into consideration all the environmental management requirements, NOPSEMA was reasonably satisfied that the activity will be managed so that the risk to, and impacts on primary productivity associated with KEFs will be of an acceptable level, and as low as reasonably practicable.

For Western Eyre AMP – Commonwealth marine area:

- The EP has defined an acceptable level of impact that is informed by the content of the South-west Marine Parks Networks Management Plan 2018 including the representative values of the Western Eyre Marine Park and the relevant zone objectives.
- The evaluation has been informed by underwater acoustic modelling (Appendix B) and contemporary scientific literature relevant to the sound sensitive values of Western Eyre Marine Park.
- Through the implementation of relevant control measures specific to relevant values and sensitivities of the AMP, the EP has demonstrated there will be no serious or irreversible disruption to key ecological process key fauna values and ecosystem within the Western Eyre AMP (South-west Marine Parks Network Management Plan 2018).
- NOPSEMA is reasonably satisfied that impacts on the values of Western Eyre AMP will largely be reduced to acceptable levels. However, to ensure that all values of the Western Eyre AMP would be managed to an acceptable level, in particular pygmy blue whales and southern right whales, NOPSEMA imposed additional conditions on the titleholder that clarified triggers for blue whale detection aerial surveys necessary for informing the cessation of the activity and additional mitigation zone and received level verification requirements for southern right whales.
- After taking into consideration all of the environmental management requirements in place in the EP in combination with the conditions on acceptance NOPSEMA was reasonably satisfied that impacts to the values of Western Eyre AMP, the activity will not be inconsistent with the relevant plan of management for this AMP and that the risk to, and impacts on the Western Eyre AMP will be of an acceptable level, and as low as reasonably practicable.

Environmental assessment – details of control measures

34. NOPSEMA considered the details of the control measures that will be used to reduce the environmental impacts and risks of the activity to as low as reasonably practicable and acceptable levels and found that:

- control measures in the form of systems, equipment, persons and procedures have been clearly identified;
- these control measures will be appropriate for managing each of the environmental impacts and risks of the activity, given a clear demonstration has been provided by the titleholder through application of the above method of risk analysis, treatment and evaluation; and
- the control measures applied will be effective in reducing the environmental impacts and risks of the activity to as low as reasonably practicable and acceptable levels.

Environmental assessment – environmental performance outcomes and standards

35. NOPSEMA considered the environmental performance outcomes, environmental performance standards and measurement criteria and found that:

- environmental performance standards have been appropriately set for control measures identified as being necessary to reduce the environmental impacts and risks of the activity to and acceptable levels;

- environmental performance outcomes have been appropriately set to provide measurable levels of performance for the management of the environmental aspects of the activity to ensure that environmental impacts and risks of the activity will be of an acceptable level; and
- measurement criteria provided will allow the titleholder to determine whether each environmental performance outcome and environmental performance standard is being met for the duration of the activity.

Implementation strategy for the environment plan

36. NOPSEMA considered the implementation strategy for the activity including monitoring, recording and reporting arrangements and found that:

- the plan includes suitable arrangements for reporting the titleholder's environmental performance of the activity to NOPSEMA;
- the environmental management system described is consistent with recognised standards (AS/NZS ISO 14001: Environmental management systems, AS/NZS ISO 31000: Risk management - Principles and guidelines) and contains specific measures to ensure that the control measures detailed in the EP will be effective in reducing the environmental impacts and risks of the activity to an acceptable level and as low as reasonably practicable; and that the environmental performance outcomes and standards in the EP will be met;
- the environment management system includes measures to ensure that environmental impacts and risks of the activity will continue to be identified and reduced to as low as reasonably practicable and to an acceptable level. Specifically, periodic review of environmental inputs used to inform the evaluation of impacts and risks, including updates to legislative requirements, and environmental information will be performed. A clearly described and proposed management of change process is to be used to document and assess any change;
- a clear chain of command is established in the EP, with set roles and responsibilities of personnel in relation to the implementation, management and review of the EP, including during emergencies or potential emergencies, with the titleholder responsible for ensuring the activity is undertaken in the manner described in the EP;
- there are suitable measures in place to ensure that each employee or contractor working on, or in connection with, the activity is aware of his or her responsibilities in relation to the EP, including during emergencies or potential emergencies, and has the appropriate competencies and training, in particular, those with specialist roles such as Marine Fauna Observers (MFOs);
- sufficient arrangements are in place for monitoring, recording, audit, management of non-conformance and review of the titleholder's environmental performance and the implementation strategy to ensure that the environmental performance outcomes and standards in the EP are being met;
- sufficient arrangements are in place to allow monitoring of, and maintaining a quantitative record of, emissions and discharges (whether occurring during normal operations or otherwise), such that the record can be used to assess whether the environmental performance outcomes and standards in the EP are being met;

- an oil pollution emergency plan has been provided that is consistent with the national system for oil pollution preparedness and response and includes arrangements for responding to and monitoring oil pollution, including:
  - the control measures necessary for timely response to an emergency;
  - the arrangements and capability in place, for the duration of the activity, to ensure timely implementation of the control measures, including arrangements for ongoing maintenance of response capability;
  - the arrangements and capability in place for monitoring the effectiveness of the control measures and ensuring that the environmental performance standards for the control measures are met; and
  - arrangements and capability for monitoring oil pollution to inform response activities are in place.
- arrangements for testing of the response arrangements in the oil pollution emergency plan include a schedule of tests including pre-survey, at three monthly intervals during the activity and if arrangements are amended, that will be appropriate given the response arrangements and nature and scale of the risk of oil pollution for the activity;
- monitoring of impacts to the environment from oil pollution and response activities has been provided for, that is appropriate to the nature and scale of the risk for the activity and will be sufficient to inform any remediation activities; and
- appropriate ongoing consultation arrangements are in place with relevant authorities of the Commonwealth, SA, fishers and other relevant interested persons or organisations. The titleholder has developed a communication and engagement strategy requiring ongoing identification of new relevant persons, considering and responding to new objections and claims and keeping relevant persons informed of the activity. This occurs through a number of mechanisms including (but not limited to) confirmation of survey activities at least 1 month prior to survey commencement date, at least 5 days prior to equipment deployment, and at commencement of survey acquisition. Information on the survey and support vessels, survey area and vessel location (including coordinates), will also be provided on the titleholder's website prior to the survey start date and updated daily (refer to Table 9-1 of the EP).

Details of titleholder and liaison person

37. NOPSEMA considered the details of the titleholder and liaison person provided in the EP and found:

- that details of the titleholder's name (PGS Australia Pty Ltd), business address and ACN (within the meaning of the *Corporations Act 2001*) and the titleholder's nominated liaison person, their business address, telephone number and email met requirements; and
- there were suitable arrangements provided for notifying the Regulator of a change in the titleholder, the nominated liaison person, or of change in the contact details of either the titleholder or the liaison person.

Other information in the EP

38. NOPSEMA considered other information provided in the EP and found that:

- the titleholder's "Environment Policy" was provided; and

- details of all reportable incidents, meaning those that have the potential to cause moderate to significant environmental damage relating to the activity, are to be reported to NOPSEMA.

Consultation undertaken in the course of preparing the EP

39. NOPSEMA considered the consultation that the titleholder has carried out as required by Division 2.2A of the Environment Regulations and the measures that the titleholder has adopted, or proposes to adopt because of the consultations and found that:

- in preparing the EP, the titleholder consulted with each of the following (a relevant person):
  - each Department or agency of the Commonwealth, to which the activities to be carried out under the EP; may be relevant;
  - each Department or agency of SA, to which the activities to be carried out under the EP, may be relevant;
  - each person or organisation whose function , interests or activities may be affected by the activities to be carried out under the EP; and
  - other persons and organisations that the titleholder considered relevant;
- the titleholder has demonstrated that each relevant person has been provided with sufficient information and a reasonable period to make an informed assessment of the possible consequences of the activity on the functions, interest or activities of the relevant person, given:
  - information gathered from consultation has been used to inform the preparation of the EP;
  - the consultation records provided confirm that relevant persons have been kept informed of new developments and changes in elements of the EP relevant to their functions, interests and activities;
  - as part of consultation, the titleholder has provided sufficient information to relevant persons to allow them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities (including any subsequent changes). In some cases providing a copy of the entire EP and acoustic modelling reports;
  - sufficient time has been given to relevant persons for them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities. In particular, the titleholder provided initial information about the proposed activity in the form of correspondence to relevant persons in mid-November 2016. Consultation continued throughout 2017 and 2018 and will continue prior to and during the activity; and
  - the titleholder has adopted a methodical approach to the identification of relevant persons, formulation of a consultation strategy, and maintenance of consultation records;
- the report provided in Section 9 and Appendix I of the EP by the titleholder on consultation undertaken in the course of preparing the EP is appropriate as it includes:
  - a summary of each response made by a relevant person;
  - an assessment of the merits of any objection or claim about adverse impact of each activity to which the EP relates;

  - a statement of the titleholder's response, if any, to each objection or claim; and
  - a copy of the full text of any response by a relevant person;
- the objections and claims raised by relevant persons and assessed by the titleholder relate to:
  - displacement to commercial and recreational fishing activities;
  - impacts to commercial and recreational fish species and fish stocks;
  - impacts to marine fauna such as pygmy blue whales, southern right whales, sperm whales and Australian sea lions;
  - impacts to primary productivity associated with KEFs;
  - consultation during the development of the EP and ongoing consultation;
- objections and claims have been sufficiently addressed by the titleholder. Due consideration has been given to each objection and claim made by relevant persons;
- appropriate responses have been provided to relevant persons in a timely manner for each objection and claim made; and
- the consultation undertaken has met the requirements of Division 2.2A and the titleholder has adopted appropriate measures to reduce impacts and risks to an acceptable level.

Acceptance subject to conditions

40. Acceptance of the EP is subject to the following conditions applying to operations for the Duntroon Multiclient 3D and 2D Marine Seismic Survey (the petroleum activity):

Timetable of the activity

41. Condition 1-1: Operation of the seismic survey acoustic array must not occur outside of the period 1 September 2019 to 30 November 2019 (Period A) and 1 September 2020 to 30 November 2020 (Period B).

Publication of the Environmental performance report

42. Condition 5-1: The titleholder shall publish a report on the environmental performance for the petroleum activity detailing compliance with these conditions and the environmental performance outcomes and standards detailed in the EP. This report must be to the satisfaction of NOPSEMA and submitted to NOPSEMA within three months of completion of the petroleum activity both for Period A and Period B.

Pygmy blue whales

43. Condition 2-1: The petroleum activity may only be carried out in a manner that ensures no injury to pygmy blue whales (*Balaenoptera musculus*); or interference with foraging behaviours of pygmy blue whales in the foraging BIA, including no displacement from foraging areas.

44. Condition 2-2: To identify a possible upwelling event associated with pygmy blue whale food availability, the titleholder shall:

a) engage an independent third party expert to undertake daily real-time monitoring of wind direction and speed, sea bottom temperature and sea surface temperature in the Eastern GAB upwelling (Kangaroo Island Canyons) biologically important area (BIA) from 23 October to 30 November in 2019 and/or 2020; and

b) based on monitoring observations mentioned in condition 2-2 a). above, the titleholder shall undertake an aerial survey if the following initiation conditions are met:

i. wind stress from the south-east greater than 0.03 Pa at the Neptune Islands; and

ii. real time sea bottom temperatures in conjunction with bottom topography characteristics detect conditions typical of cold water interface uplift indicative of an upwelling event; or

iii. real time sea surface temperatures are between 19.2° C ± 0.7 ° C.

45. Condition 2-3: If aerial survey initiation conditions specified in the condition 2-2 b above have been met, the aerial survey will commence on the following day and will be repeated every day that the acoustic array is in operation for the duration of the petroleum activity.

46. Condition 2-4: The aerial survey referred to in condition 2-3 will be undertaken consistent with the methodology outlined in Gill et al. (2011) within the operational area, and up to 100km from its seaward boundaries, by a suitably qualified marine mammal expert (MME) who will maintain communication with the survey vessel master.

47. Condition 2-5: In the event the MME observes any pygmy blue whale during the aerial survey specified in condition 2-4 operation of the acoustic array will cease and not recommence until the following year, or if the activity is occurring in Period B the activity will cease and not recommence.

48. Condition 2-6: In the event vessel based observations by MFOs on vessels or passive acoustic monitoring from the seismic vessel detects a pygmy blue whale in November, operation of the acoustic array will cease and not recommence until the following year, or if the activity is occurring in Period B the activity will cease and not recommence.

Southern right whales

49. Condition 4-1: The petroleum activity may only be carried out in a manner that ensures no injury; or biologically significant behavioural disturbance to southern right whales (*Eubalaena australis*) in calving/aggregation areas located in coastal SA waters.

50. Condition 4-2: the titleholder shall engage a suitably qualified and experienced underwater sound propagation physicist to design and implement a sound verification study for the duration of Period A utilising acoustic loggers on the seabed at the boundary of the southern right whale calving BIA at locations that are most likely to receive the highest received levels from the petroleum activity in petroleum titles EPP-41/42.

51. Condition 4-3: Within three months of the completion of the petroleum activity in Period A, the titleholder must retrieve and analyse data from the acoustic logger study referred to in condition 4-2 and prepare a report that documents the received levels relevant to low frequency cetaceans at the boundary of the southern right whale calving BIA. If received levels are 120 dB re 1µPa (SPL) or higher, results are to be utilised to inform an appropriate setback between any petroleum activity and the southern right whale

calving BIA to provide assurance that received sound levels within the BIA will be at or below 120 dB re 1µPa (SPL) for the duration of the petroleum activity in Period B.

52. Condition 4-5: The titleholder shall implement EPBC Policy Statement 2.1 (Part B) procedures (Increased Precaution zones and Buffer zones) utilising the following mitigation zones specific to southern right whales:

    a. observation zone: > 3km horizontal radius from the acoustic array;

    b. low power zone: 3km horizontal radius from the acoustic array; and

    c. shutdown zone: 1km horizontal radius from the acoustic array.

Southern blue fin tuna

53. Condition 3-1: The petroleum activity may only be carried out in a manner that ensures no interference with the migration of SBT (*Thunnus maccoyii*) into the GAB.

54. Condition 3-2: The titleholder will develop and implement a process to detect the migration of SBT into areas within and adjacent to the operational area during November 2019 and/or 2020. This detection process is to be designed on the advice of a suitably qualified and experienced person for the purpose of detecting SBT aggregations within 30 km of the operational area.

55. Condition 3-3: In the event that SBT aggregation(s) are detected within 30 km of the operational area, SBT behaviour is to be monitored and should SBT aggregations be detected within 20 km of the operational area operation of the acoustic array will cease for the remainder of Period A, or if the activity is occurring in Period B, the activity will cease and not recommence.

Findings on regulation 10A criteria

56. NOPSEMA was reasonably satisfied that, when subject to the additional conditions, the EP:

    56.1. is appropriate for the nature and scale of the activity (see particularly the discussion at paragraphs 29 to 39 above);

    56.2. demonstrates that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable and will be of an acceptable level (see particularly the discussion at paragraphs 29 to 39 above);

    56.3. provides for appropriate environmental performance outcomes, environmental performance standards and measurement criteria (see particularly the discussion at paragraph 35 above);

    56.4. includes an appropriate implementation strategy and monitoring, recording and reporting arrangements (see particularly the discussion at paragraph 36 above);

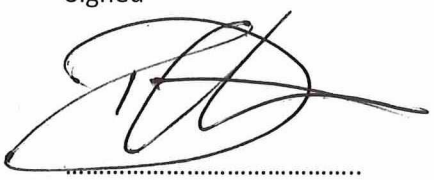
    56.5. does not involve the activity or part of any activity being undertaken in any part of a declared World Heritage property (see the discussion at paragraphs 29 and 30 above);

    56.6. demonstrates that the titleholder has carried out the required consultations and that the measures that they propose to adopt because of the consultations are appropriate (see particularly paragraph 39); and

    56.7. complies with the OPGGS Act and its regulations.

57. Since NOPSEMA was satisfied that the EP, subject to conditions, meets the criteria set out in regulation 10A, NOPSEMA accepted the plan pursuant to regulation 10 of the Environment Regulations.

Signed



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David Christensen

Manager - Assessment and Inspection - Seismic & Production Operations

27 February 2019