

## Publication of a Statement of Reasons

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### *Bight Petroleum's Lightning Marine Seismic Survey*

NOPSEMA has prepared a Statement of Reasons under the *Administrative Decisions Judicial Review Act 1977* (ADJR Act) following request by a person entitled to receive such a document.

In accordance with its policy<sup>1</sup> NOPSEMA may consider it appropriate to publish the Statement of Reasons. A determination on publication of a statement of reasons will be made by NOPSEMA on a case by case basis based on the type of decision for which the statement was requested and the potential for the decision to affect multiple persons.

In the case of Bight Petroleum's Lightning Marine Seismic Survey, and NOPSEMA's acceptance of the proposed activity, NOPSEMA considers it appropriate to publish the Statement of Reasons due to:

- Legitimate and ongoing stakeholder interest.
- Parallel legal proceedings to release information about this survey.
- Ongoing media enquiries.
- No apparent deterrents or restrictions on release of the information.

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<sup>1</sup> <http://www.nopsema.gov.au/assets/Policies/PL1477-Statements-of-reasons-uner-the-ADJR-Act-Rev-0-Aug-2014.pdf>

## STATEMENT OF REASONS

### Lightning 3D Marine Seismic Survey (Bight Basin) Environment Plan

The National Offshore Petroleum Safety and Environmental Management Authority provides the following statement of reasons for its decision to accept the Lightning 3D Marine Seismic Survey (Bight Basin) Environment Plan 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 (Environment) Regulations 2009 are referred to as the Environment Regulations.
  - 1.2. The Lightning 3D Marine Seismic Survey (Bight Basin) Environment Plan is referred to as the environment plan.
  - 1.3. Bight Petroleum Pty Ltd is referred to as the titleholder.
  - 1.4. The Offshore Petroleum and Greenhouse Gas Storage Act 2006 is referred to as the OPGGS Act.
  - 1.5. The National Offshore Petroleum Safety and Environmental Management Authority is referred to as NOPSEMA.
  - 1.6. The term activity or activities means a petroleum activity.
  - 1.7. The term petroleum activity means operations or works in an offshore area undertaken for the purpose of: (a) exercising a right conferred on a petroleum titleholder under the Act by a petroleum title; or (b) discharging an obligation imposed on a petroleum titleholder by the Act or a legislative instrument under the Act.
  - 1.8. 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).
  - 1.9. The term environmental impact means any change to the environment, whether adverse or beneficial, that wholly or partially results from an activity.
  - 1.10. 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.
  - 1.11. The term environmental management system includes the responsibilities, practices, processes and resources used to manage the environmental aspects of an activity.

- 1.12. The terms environmental performance means the performance of a titleholder in relation to the environmental performance outcomes and standards mentioned in an environment plan.
- 1.13. The term relevant person has the meaning provided under regulation 11A of the Environment Regulations.
- 1.14. 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.
- 1.15. The term environmental performance standard means a statement of the performance required of a control measure.

#### **Decision**

2. On 6 June 2014, NOPSEMA made the decision pursuant to regulation 10 of the Environment Regulations to accept the environment plan.
3. Acceptance of the environment plan permits the titleholder to undertake the activity described in the environment plan which is a marine seismic survey in Commonwealth waters adjacent to South Australia.
4. In undertaking the activity the titleholder is subject to the requirements of the Environment Regulations and relevant provisions in the OPGGS Act.

#### **Authority**

5. Pursuant to a valid instrument of delegation dated 9 December 2013 made by Jane Cutler, Chief Executive Officer of NOPSEMA as the Regulator under the Environment Regulations, the Environment Manager Assessment and Compliance as the delegate of the Regulator made the decision to accept the Lightning 3D Marine Seismic Survey (Bight Basin) Environment Plan and provided notice of this decision in accordance with subregulation 11(1) of the Environment Regulations.
6. The person who was in the position of Environment Manager Assessment and Compliance has read this document and agrees with its contents. However that person is no longer an employee of NOPSEMA and there has not yet been another appointment to the position.
7. The General Manager Environment who is a delegate of the Regulator and a reporting line manager for the Environment Manager Assessment and Compliance has therefore signed this document.
8. A copy of the relevant instrument of delegation is available from NOPSEMA on request.

#### **Background**

9. On 21 March 2014, Bight Petroleum Pty Ltd submitted an environment plan to NOPSEMA in accordance with subregulation 9(1) of the Environment Regulations.

10. The petroleum activity described in the environment plan is a marine seismic survey in Commonwealth waters adjacent to South Australia, located in petroleum exploration permits EPP-41, EPP-42.
11. The environment plan states that the activity will be undertaken using a purpose built seismic vessel towing equipment along a series of pre-determined seismic lines. The seismic equipment with consist of up to 12 hydrophones each with a maximum length of 8100 metres, and a dual source array towed 6 metres below the ocean surface, each with a volume of up to 3250 cubic inches and operating pressure of 2000psi.
12. The environment plan states that the survey will take approximately 70 days to complete as a 24 hour-a-day operation.
13. The environment plan states that the survey is scheduled to occur between 1 March and 30 May 2015 (or 2016).
14. The acceptance was based on the document submission, including requested further written information, dated 26 May 2014, provided in accordance with the Environment Regulations.
15. Information of which NOPSEMA was made aware of, or information which was held by NOPSEMA (see below) was considered, where relevant, in conjunction with the information provided in the environment plan to make the decision.
16. On 6 June 2014 it was determined that the environment plan met the criteria set out in regulation 10A and the environment plan was accepted by NOPSEMA.
17. A summary of the environment plan submitted to NOPSEMA was confirmed to meet the satisfaction of the Regulator on 3 July 2014 and published on NOPSEMA's website.

#### **Materials considered in making the decision**

18. In making this decision, NOPSEMA considered documents making up the environment plan submission in accordance with legislative requirements and NOPSEMA assessment policy and procedure.
  - Lightning 3D Marine Seismic Survey (Bight Basin) Environment Plan (Revision 0, dated 21 March 2014)
  - Further information provided in response to NOPSEMA requests for further information
  - *Offshore Petroleum and Greenhouse Gas Storage Act 2006*
  - Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009
  - NOPSEMA Environment Plan Assessment Policies, Guidance and Guidelines
    - PL0050 – Assessment
    - PL1347 – Environment Assessment
    - GN1344 – Environment Plan Content Requirements
    - GN1394 – Oil Spill Contingency Planning
    - IP1349 – Operational and Scientific Monitoring Programs

Available at <http://www.nopsema.gov.au/environmental-management/environment-plans/>

- Relevant Legislative and Other Requirements
  - *Environment Protection and Biodiversity Conservation Regulations 2000: Schedule 5 Australian World Heritage Management Principles*
  - Department of Sustainability, Environment, Water, Population and Communities (2012). *Marine bioregional plan for the North-west Marine Region*
  - Department of the Environment, Water, Heritage and the Arts (September 2008) *EPBC Act Policy Statement 2.1 – Interaction between offshore seismic exploration and whales*
  - Relevant policies, plans of management, conservation advice and guidance for matters protected under the *Environmental Protection and Biodiversity Conservation Act 1999*, as well as other additional relevant scientific literature

### Legislative framework

19. The Environment Regulations relevantly provide:

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

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.

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 *Environment Protection and Biodiversity Conservation Act 1999*; 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

20. Following an assessment 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 environment plan.

#### Environmental Assessment – Description of the activity

20.1. NOPSEMA considered the description of the activity and found that:

- a comprehensive description of the activity had been provided in the environment plan which was relevant for the consideration of environmental impacts and risks of the activity.
- information considered relevant for the consideration of environmental impacts and risks (such as the operational details of the activity and proposed timetable) included:
  - the commencement date, which is 1 March 2015 (or 2016);
  - the activity duration, which is 70 days;
  - hours of operation, which is 24 hours a day;
  - the activity location, which is 104km west of Kangaroo Island, 68km south of Cape Carnot, and 68km south-west of South Neptune Islands over an area of approximately 3000km<sup>2</sup>;
  - water depths, which range from 130m to 2400m;
  - the total volume of the airgun array, which is 3250in<sup>3</sup> from a dual source;
  - airgun operating pressure, which is 2000psi;
  - source interval, which is 25m;
  - hydrophone type, length and depth, which is twelve gel/solid hydrophone streamers 8100m long and towed at a depth of 8m;
  - general details of the vessels to be used for the activity; and
  - 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 *Environment Protection and Biodiversity Conservation Act 1999*.

#### Environmental Assessment – Description of the environment

20.2. NOPSEMA considered the description of the environment that may be affected by the activity including relevant values and sensitivities and found that:

- the description includes ecosystems and their constituent parts in the area that may be affected by the activity, including under emergency conditions.
- Listed threatened and listed migratory species within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999*, including twenty species of cetaceans,

two mammal species, three reptile species, three shark species, seventeen marine bird species, twenty seven fish species have been identified and described.

- values and sensitivities of the Western Eyre Commonwealth marine area and South Australian marine areas have been identified and described.
- Commonwealth and State managed commercial fisheries including the Skipjack Tuna Fishery, Small Pelagic Fishery, Southern and Eastern Scale-fish and Shark Fishery, Southern Bluefin Tuna Fishery, Western Tuna and Billfish Fishery, Southern Squid Jig Fishery, Rock Lobster Fishery, Giant Crab Fishery, Marine Scale-fish Fishery, and Sardine Fishery have been identified and described.
- social, economic and cultural features of the environment relating to shipping, heritage, and marine tourism, including recreational beach use, diving, marine mammal watching, charter boating, recreational boating, yacht racing, cruise ship visits, and recreational fishing have been identified and described.

#### Environmental Assessment – Requirements

20.3. NOPSEMA considered the environment plan's description of requirements, 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 relevant plans of management under the *Environment Protection and Biodiversity Conservation Act 1999* has been provided in the environment plan.
- 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

20.4. NOPSEMA considered the details of the environmental impacts and risks for the activity and found that:

- a sufficiently robust method consistent with internationally recognised standards, AS/NZS ISO 31000: Risk management - Principles and guidelines and AS/NZS ISO 14001: Environmental management systems, has been applied for the identification and evaluation of environmental impacts and risks of the activity.
- all 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:

- introduction of non-indigenous marine species from ballast water or biofouling;
- disruption to commercial fishing activities;
- disruption to commercial shipping;

- disruption to tourism;
- light pollution;
- discharge of acoustic source;
- sound from operation of vessels;
- sound from operation of helicopter;
- permitted discharges from the vessels;
- air emissions from the vessels;
- accidental hydrocarbon spill due to collision with another vessel;
- accidental chemical/oil spill through deck drainage system;
- accidental oil spill during refuelling at sea;
- solid non-biodegradable/hazardous waste overboard incident;
- accidental seismic streamer perforation and/or loss in the marine environment; and
- accidental collisions with marine fauna.

20.5. 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 by evaluating all against one or a combination of the following criteria;
  - hierarchy of controls;
  - comparative options assessment of risks, costs and benefits;
  - comparison with standards and codes;
  - cost benefit analysis; and
  - Bight Petroleum'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;
  - principles of ecologically sustainable development;
  - Bight Petroleum HSE Policy objectives;
  - all relevant Commonwealth/State legislation;
  - adherence with relevant plans of management and policy statements developed under the *Environment Protection and Biodiversity Conservation Act 1999*;
  - providing sufficient information and time for stakeholders to make an informed assessment; and
  - demonstrating that impacts and risks have been reduced to ALARP.
- the evaluation considered the likelihood and consequence of all impacts and risks using a consistent method before and after implementation of control measures.
- that 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 predictive modelling of discharges, sound exposure modelling, control measures such as Passive Acoustic Monitoring for monitoring interactions with cetaceans, and studies to test assumptions made regarding the degree of impact caused in the unlikely event of a hydrocarbon spill.

20.6. NOPSEMA considered the details of the control measures that will be used to reduce the 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.
- 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

20.7. 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 as low as reasonably practicable 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.
- 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

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

- the plan includes suitable arrangements for reporting to the Regulator in relation to the titleholder's environmental performance of the activity.
- the environmental management system described is consistent with recognised standards, AS/NZS ISO 14001: Environmental management systems and contains specific measures to ensure that environmental impacts and risks of the activity will continue to be identified and reduced to as low as reasonably practicable; that the control measures detailed in the environment plan 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 environment plan will be met.

- a clear chain of command is established in the environment plan, with set roles and responsibilities of personnel in relation to the implementation, management and review of the environment plan, including during emergencies or potential emergencies, with Bight Petroleum responsible for ensuring the activity is undertaken in the manner described in the environment plan.
- 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 environment plan, including during emergencies or potential emergencies, and has the appropriate competencies and training, in particular, those with specialist roles such as Marine Mammal Observers and Passive Acoustic Monitoring operators.
- 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 environment plan 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 environment plan 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 pre-survey campaign specific oil pollution emergency drill 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.
- appropriate ongoing consultation arrangements are in place with relevant authorities of the Commonwealth, State, and other relevant interested persons or organisations through the development of a communication and engagement strategy requiring relevant persons to be kept informed of the activity through a number of mechanisms including, direct

contact, announcement of survey milestones and dissemination of biota sightings through the titleholders website

#### Details of titleholder and liaison person

20.9. NOPSEMA considered the details of the titleholder and liaison person provided in the environment plan and found:

- that details of the titleholder's name (Bight Petroleum 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.
- 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 environment plan

20.10. NOPSEMA considered other information provided in the environment plan and found that:

- the titleholder's corporate environmental policy was provided.
- details of all reportable incidents, meaning those that have the potential to cause moderate to significant environmental damage relating to the activity, are provided.

#### Consultation undertaken in the course of preparing the environment plan

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

- in the course of preparing the environment plan, 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 environment plan, may be relevant;
  - each Department of agency of the State, to which the activities to be carried out under the environment plan, may be relevant;
  - each person or organisation whose function, interests or activities may be affected by the activities to be carried out under the environment plan; and
  - other persons and organisation that the titleholder considered relevant.
- the titleholder has demonstrated that each relevant person has been provided with sufficient information and time to make an informed assessment of the possible consequences of the activity on the functions, interest or activities of the relevant person, given:

- the titleholder provided information in the form of correspondence to relevant persons in November 2011, and May 2012, and engaged in face to face meetings, teleconferences and email exchanges with relevant persons since this time.
- the titleholder made two referrals for the activity under the *Environment Protection and Biodiversity Conservation Act 1999* (2012/658 & 2013/677), requiring the publication of preliminary documentation regarding the activity, and providing three opportunities for the public to comment on the activity. This was during the periods 16 to 29 October 2012, 4 to 19 March 2013, and 21 November to 24 December 2013.
- the information provided to the public in the preliminary documentation included:
  - a rationale and analysis supporting survey planning;
  - an assessment of survey alternatives;
  - sound exposure modelling for the seismic survey;
  - monitoring and mitigation measures for the survey;
  - documentation and responses to questions raised by the public relating to mitigation measures, Passive Acoustic Monitoring, sound exposure levels at biologically important areas near the survey, and interaction and potential impacts to Southern Bluefin Tuna.
- the report provided by the titleholder on consultation undertaken in the course of preparing the environment plan 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 environment plan 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:
  - disruption to commercial fishing activities;
  - disruption to commercial shipping;
  - disruption to tourism;
  - impacts and risks to listed threatened and migratory species under the *Environment Protection and Biodiversity Conservation Act 1999*;
  - cumulative seismic impacts;
  - inadequate consultation;
  - objections to hydrocarbon exploration; and
  - oil spills from well fault activation.

- the measures adopted by the titleholder because of the consultation including restricting the spatial and temporal boundaries of the activity and implementation of additional control measures such as Passive Acoustic Monitoring and aerial surveillance to manage interactions with marine fauna and other marine users are appropriate.

20.12. NOPSEMA considered the environment plan and found that it complies with the Environment Regulations and the relevant requirements of the OPGGS Act.

Signed



Cameron Grebe

General Manager Environment

1 August 2014