

## Assessment details

Id	Submission received date	Type	Sub type	Organisation	Activity Name
2664	21/03/2014 0:00	Environment Plan	New	Bight Petroleum Pty Ltd	Lightning 3D Marine Seismic Survey

Activity types	Scopes	Status	Outcome
Seismic surveys	Emissions and discharges (planned) , Socio-economic , Matters protected under Part 3 of the EPBC Act ,	Assessed / Completed	Accepted

Lead inspector	Additional assessor 1	Additional assessor 2	Additional assessor 3	Additional assessor 4
David Christensen	Janelle Eagle	Katherine Ross		

Regulation clause	Regulation summary	Regulation clause findings	Findings comment
13(1)	Comprehensive description of activity	Complies	<p>DC: Rev 0: The titleholder, Bight Petroleum Pty Ltd is undertaking the seismic survey in EPP41 and EPP42 and "other areas" (note: in relation to "other areas", Bight have identified that an access authority will be sourced in the future). The titleholder has provided a sufficient description of the activity to inform the identification and evaluation of impacts and risks of the activity, further findings have been detailed below.</p> <p>(a) sufficient information is provided regarding the location of the activity. Section 2.3 of the plan details that the Lightning MSS area is located approximately 104km west of Kangaroo Island and 68km south of Cape Carnot (Eyre Peninsula). The closest landfall point is Liguanea Island located 65km north and North &amp; South Neptune Islands located 68km NE. The activity area is described to include the areas where data will be acquired as well as where the vessel will be turning. Boundary coordinates of the area provided in table 2-1.</p> <p>(b) the titleholder has provided sufficient information regarding the layout of the activity in section 2. The survey is to be divided into two racetracks, one taking place in deeper waters the other straddling the shelf. Various maps provided to further illustrate details of the activity.</p> <p>(c) sufficient information regarding operational details have been provided. Table 2-2 details key parameters for the activity including timeframes for the activity, which is to start 1 March 2015 (or 2016) and finish no later than May 2015 (or 2016). Other details provided relate to the size of the array (3250in3/2000psi), water depth (130-2400m), and streamers (12 by 8100m) for example. The titleholder has excluded transit related activities from management under this plan.</p> <p>(d) the titleholder has provided a sufficiently clear and succinct description of the activity to inform the identification and evaluation of impacts and risks of the activity.</p> <p>The activity is not taking place in a World Heritage Property. The closest property identified by the titleholder to this activity is onshore over 890km from the proposed survey (p.19, s3.1.1). [Complies].</p>
13(2)	Describe existing environment including details of relevant values and sensitivities	Complies	<p>DC: Rev 0: Section 3 of the plan provides a description of the environment. The description of the environment has been provided in relation to regional setting - the south west marine bioregion (s3.1.1), marine conservation areas (s3.1.2), climate (s3.2.1), oceanography (s3.2.2), bathymetry and seabed type (s3.2.3), key ecological features, including ancient coastline (s3.3.1), Kangaroo Island Pool, canyons and adjacent shelf-break and Eyre Peninsula upwelling (s3.3.2), meso-scale eddies (s3.3.3), marine species including, benthic fauna and flora (s3.4.2), great white shark (s3.4.3.1), shortfin mako shark (s3.4.3.2), porbeagle (s3.4.3.3), other continental shelf fish such as southern bluefin tuna, sardines (s3.4.3.4), humpback whale (s3.4.4.1), blue whale (s3.4.4.2), southern right whale (s3.4.4.3), fin whale (s3.4.4.4), sei whale (s3.4.4.5), other cetacean species (s3.4.4.6), Australian sea lion (s3.4.5.1), NZ fur seal (s3.4.5.2), green turtle (s3.4.6.1), loggerhead turtle (s3.4.6.2), leatherback turtle (s3.4.6.3), marine seabirds (s3.4.7), shipping (s3.5.1), marine tourism (s3.5.2), commercial fisheries including skipjack tuna, small pelagic, great Australian bight trawl fishery, gillnet</p>

			<p>hook and trap, southern bluefin tuna, western tuna and billfish fishery, southern squid jig, SA rock lobster fishery, giant crab, marine scale-fish, sardine (s3.5.3) and cultural heritage (s3.5.4).</p> <p>RFFWI</p> <p>The description of the environment includes details of natural and physical resources, social, economic and cultural features in the area. The description is of sufficient spatial and temporal scale to inform the evaluation of impacts and risks of the activity. It is noted that spill modelling has been undertaken for the activity (loss of 300m3) which indicates low level contact with Neptune Islands and Eyre Peninsula (Lincoln National Park). While the Neptune Islands have been broadly described no description has been provided of the Lincoln National Park or its values [Partially Complies].</p> <p>DC: RFFWI response: The titleholder has provided a description of tourism which includes details of specific values of Eyre Peninsula, Lincoln National Park and Neptune Islands (p.7). Further details have also been provided of other values of these features e.g. Neptune Islands (p.5) and Lincoln National Park and Eyre Peninsula (p.6). With submission of the requested further information the titleholder has provided a sufficient description of the environment that may be affected by the activity for the purposes of informing the evaluation of impacts and risks [Complies].</p>
13(3)	Relevant values and sensitivities of matters protected under Part 3 of the EPBC Act	Complies	<p>DC: Rev 0: Particular values and sensitivities have been described in relation to the Southwest Marine Bioregion (s3.1.1), important value of the region includes the irregular upwelling, known as the Kangaroo Island Pool. Major conservation values relate to values of the Western Eyre commonwealth marine reserve which include: seasonal calving habitat for Southern Right Whale, foraging habitat for White Sharks, Australian Sea lion, Blue Whale, Sperm Whale, and migratory seabirds. Key ecological features including ancient coastline, Kangaroo Island Pool, meso-scale eddies, benthic invertebrate communities of the eastern GAB, areas important for small pelagic fish. South Australian Marine Reserves identified and described include Neptune Islands, Western Kangaroo Island, and Thorny Passage Marine Park.</p> <p>(a) the titleholder has confirmed that the activity is not located in a world heritage property and identified that the closest world heritage property is onshore, located 890km from the activity (p.19, s3.1.1).</p> <p>(b) the titleholder has confirmed that the activity will not impact a National Heritage Place, and identified that the closest is 500km ESE of the activity area. (p.19, s3.1.1).</p> <p>(c) the titleholder has confirmed that the activity will not impact a declared RAMSAR wetland, with the closest one located 330km east of the survey area (p.19, s3.1.1).</p> <p>(d &amp; e) the titleholder has undertaken an EPBC Act protected matters search to inform the description of the environment. This search related to identification of threatened and migratory species protected under this Act. Results indicate presence of 28 cetacean species, 2 additional mammals, 3 reptiles, 3 species of shark, 17 marine birds, 27 species of fish. Sufficient detail has been provided of these species to inform the evaluation of impacts and risks.</p> <p>(f) the description of the commonwealth marine area relates to the marine parks and associated KEFs. There is sufficient information provided of these values and sensitivities to inform the evaluation of impacts and risks. [Complies].</p>
13(4)	Describe the requirements, including legislative requirements and demonstrate how requirements will be met	Complies	<p>DC: Rev 0: Section 4.3 describes various guidelines applying to the activity with reference to recovery plans and EPBC Act policy statements. Table 4-1 details applicable commonwealth legislation applying to the activity.</p> <p>The titleholder has developed a methodology for demonstrating that impacts and risks are acceptable by using criteria such as "all relevant Commonwealth/State legislative criteria are met" and "the activity does not contravene management plans or result in unacceptable impacts to protected matters under the EPBC act" (p.78). This criteria has then been applied to the evaluation for each impact and risk. In relation to a key policy statement, EPBC policy Statement 2.1, this has been described and identified as a control in the evaluation and represented as an environmental performance standard for the activity.</p> <p>It is noted that the activity is described to take place in the Western Eyre Commonwealth Marine Reserve and a requirement includes a need to obtain approval from the Director of National Parks. However, this is currently not a requirement (as the implementation of the government policy has been delayed) and therefore not needed to be reflected as a control. [Complies].</p>

13(5), (6)	Details and evaluation of all the impacts and risks for the activity, from all operations and potential emergency conditions	Complies	<p>DC: Rev 0: Section 5 contains the methodology for the risk and impact assessment and details the outcome of the evaluation.</p> <p>(a) the impacts and risks have been identified through a qualitative risk assessment process consistent with the ISO31000:2009 (risk management) standard. The titleholder states that hazards were identified through brainstorming and peer reviews using industry experts (p.76, s5.1.1). The titleholder has identified 19 hazards with the potential to impact the environment. These include: invasive marine species introduction (s5.3.1), disruption to commercial fishing (s5.4.1), disruption to commercial shipping activities (s5.4.2), artificial lighting impacts (s5.4.3), disruption to tourism activities (s5.4.4), seismic acquisition (s5.5.1), vessel operation (s5.5.2), helicopter operations (s5.5.3), treated bilge water discharges (s5.6.1), sewage and grey water discharges (s5.6.2), food scrap discharges (s5.6.3), air emissions (s5.6.4), oil spill due to collision (s5.7.1), chemical/oil spill through deck drain system (s5.7.2), oil spill due to refuelling (s5.7.3), solid non-biodegradable/hazardous waste overboard incidents (s5.7.4), seismic streamer release (s5.7.5), seismic streamer liquid release (s5.7.6), cetacean collision (s5.7.7).</p> <p>The impacts and risks identified for the activity are generally consistent with activities of this nature and suitable given the description of the environment and activity. [Complies].</p> <p>(b) the titleholder has provided a methodology for demonstrating that impacts and risks are acceptable. This requires that certain criteria be met including: principles of ESD; Bight policy; legislative requirements; various EPBC management plans; stakeholder provided with sufficient information; risks and impacts ALARP. This methodology appears suitable. In relation to demonstrating ALARP, the titleholder has a number of different approaches listed in the methodology for doing this, including: meeting Bight's risk methodology; hierarchy of controls; options analysis; comparison with standards and codes; cost benefit analysis. This methodology appears suitable.</p> <p>The structure of each assessment includes background, environmental risk assessment (which details controls), an acceptability and ALARP demonstration.</p> <p>The evaluation in terms of consequence and likelihood and the supporting justification provided for this is generally appropriate. The following areas are worth further discussion:</p> <ul style="list-style-type: none"> <li>- Seismic acquisition (s5.5.1): the model used to inform the evaluation is different to what is proposed (3090 vs 3250) however, this is believed to not be material given the difference, the controls proposed and that the titleholder has also modelled a larger array (4130). Further, the titleholder has clearly indicated in the description of the activity that an alternating dual gun array will be utilised. This is reflected in the modelling undertaken and further information is therefore determined not to be required.</li> <li>- Seismic acquisition (s5.5.1): reference to timing of upwelling events is inconsistent (p.120). However, this is not material from the perspective of the risk assessment given the information that has been provided and controls proposed are based on a worst case scenario (i.e. upwelling taking place) and further information is not required.</li> <li>- Oil spill due to collision (s5.7.1): justification for loss of only one tank of fuel is not well supported. However, given this is consistent with other activities of this nature and the presence of inherent controls regarding vessel and fuel type, it has been determined that this is not substantial in preventing acceptance criteria of the regulations from being met. this is on the basis that the controls proposed by the titleholder both preventative and mitigation have been demonstrated to be ALARP.</li> <li>- Oil spill due to collision (s5.7.1): justification for the thresholds used in the spill modelling for entrained and dissolved hydrocarbons relating to LC50 as this may not provide a conservative enough approach for the purposes of the evaluation. However, given the nature of the spill risk (e.g. diesel) and other information presented in the evaluation such as shoreline accumulation results, in addition to the response strategies that would be suitable for managing a spill of this nature, the titleholder has demonstrated that risks will be managed to ALARP. [Complies].</li> </ul> <p>RFFWI:</p> <ul style="list-style-type: none"> <li>- Seismic acquisition (s5.5.1): impacts to Sea Lions: the level of impact anticipated for when the survey is undertaken within water depths less than 200m. Noting that the titleholder will be in an area where a large number of foraging seals are expected. The evaluation of impact and risk to pinnipeds requires further attention to demonstrate that these will be reduced to acceptable and ALARP levels (p.118). [Partially Complies].</li> </ul> <p>DC: RFFWI response: The titleholder has provided further information regarding impacts and risks to pinnipeds, including details on likely hearing ranges and that of the activity, further</p>
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information on the systems, practices and procedure to be used to manage impacts and risks to these species (p.17 of RFFWI). In the requested information the titleholder has clearly specified that soft-start/ramp up procedures will be followed and applied to pinnipeds, that the MMO will monitor and record presence and this will be reported to the regulator. Note, this is referenced as an environmental performance outcome and measurement criteria [Complies].

RFFWI:

(c) the titleholder has identified controls throughout all sections of the assessment. These are principally located in tables provided for each impact/risk which also detail the environmental performance standards and measurement criteria proposed. The operator has largely followed a methodical and consistent approach for the demonstration that controls will be appropriate for the activity. However, the following controls require further clarification or supporting information to justify that they will be appropriate:

- details of what measures will be implemented to manage impacts to Southern Blue Fin Tuna fishers. The consultation records clearly detail measures that Bight have committed to, such as only starting in the southern corner in March (record 4, dated 30 March 2013), using adaptive management techniques p.59 (e.g. aerial observations/support vessel observation to inform when and where activity will take place). Note, page 107 when discussing impacts to cetaceans discusses how the aerial surveillance will also consider SBFT presence.
- the titleholder has committed to undertaking an aerial survey 3 days prior to inform location of survey. Criteria used to determine start point of survey refer to "feeding" of blue and sperm whales and presence of SBFT pontoons. However, feeding has not been defined so it is difficult to know when the survey would be moved accordingly (p.107).

It is noted that there is a 1 month overlap of the activity (March) with possible upwelling events at the Kangaroo Island Pool (which is described to be irregular and 3 to 10 days at a time). Blue Whale presence would be anticipated during this event, in which case the titleholder would start in the southern corner of the survey area following aerial observation. However, further clarification is needed to determine which controls have been developed to manage the activity in the event upwelling occurs [Partially Complies].

DC: RFFWI response: The titleholder has provided further information in relation to the above matters.

- the titleholder has provided further information regarding how the aerial survey will be used to manage impacts and risks of the activity, this include the use of a decision making framework to determine the most suitable start location of the activity. Some further clarity on what constitutes feeding has also been provided. This decision making framework takes into consideration location of SBFT pontoons, and feeding of cetaceans including Sperm and Blue Whales. Further detail has also been provided on interactions and commitments made with fishers. These consideration have been suitably captured in the decision making framework developed (p.14 of RFFWI).

- the titleholder has provided some further detail on the likelihood of upwelling occurring during the activity, which has been identified to be very unlikely. Clarity on the controls proposed to manage impacts and risks of the activity attributed to upwelling have also been provided. This includes how timing of the activity is being used to manage the risk, use of the aerial survey, and soft starts/shut downs to mitigate impacts and risks to species present. (p.10, RFFWI).

The titleholder has demonstrated in the environment plan (and requested further information) that impacts and risks of the activity will be managed to an acceptable and ALARP level. [Complies].

13(7)(a)	Set environmental performance standards for control measures identified	Complies	DC: Rev 0: The environment plan details appropriate environmental performance standards for controls identified in the submission. These standard follow the required format, in that they contain a statement of the required performance of the identified control. [Complies]. DC: RFFWI response: It is worth noting that the titleholder has addressed as environmental performance standards, controls identified in the requested further written information. [Complies].
13(7)(b)	Set out the environmental performance outcomes	Complies	DC: Rev 0: The environmental performance outcomes provided for unplanned risks associated with the activity appear suitable and align with the acceptable level demonstration provided in the submission. In addition these are clearly measurable. For example: "No collision incidents or serious near-misses during the survey with third party vessels" or "No release of packaged chemicals/oils through the deck system to the marine environment". In relation to other risks such as possible interference with other marine



			users, this appear appropriate, for example "No incidents of spatial conflict with fishing vessels/equipment occurs during the Lightning MSS". [Complies].
13(7)(c)	Include measurement criteria	Complies	DC: Rev 0: Measurement criteria provided in the submission appear to be appropriate in demonstrating that environmental performance standards have been met. [Complies].
14(1) (2) (a), (b)	Contains an implementation strategy and states when the titleholder will report on the titleholder's environmental performance to the regulator	Complies	DC: Rev 0: Section 7.2.3 of the plan specifies the environmental performance reporting requirements. The report is to be submitted within 3 months of completion of the activity and detail performance against the EPO/EPs. This information and the time interval for submission of the report is sufficient given the nature and scale of the activity [Complies].
14(10)	Compliance with legislation	Complies	DC: Rev 0: The submission appears to comply with requirements of the Act and other applicable environmental management legislation (i.e. EPBC Act). [Complies].
14(3)	Contains a description of the EMS	Complies	DC: Rev 0: The titleholder has committed to completing a review of the contractors management system against requirements of the ISO14001 standard and commitments made in the EP (s6.1.1). Key components identified that will be assessed as part of this review are consistent with the ISO standard. The methodology for the implementation strategy appears to be appropriate. [Complies].
14(4)	Establishes a chain of command, setting out the roles and responsibilities	Complies	DC: Rev 0: The plan includes the organisation structure for ensuring effective implementation of controls (s6.2). Sufficient detail provided in relation to the roles and responsibilities of various offshore and onshore personnel. It is noted that roles and responsibilities are also detailed for the MMOs [Complies].
14(5)	Include measures to ensure each employee and contractor awareness of responsibilities, competence and training	Complies	DC: Rev 0: An induction of all personnel on-board the vessel will be undertaken and records of this will be maintained (s6.4.1). The titleholder also has a system in place to ensure an appropriate level of training and competence is maintained, stating "all contractor employees are inducted into the Vessel's HSEMS and specific responsibilities are detailed in position job descriptions. Appropriate training, in accordance with the Vessel training matrix is provided to individuals with specific environmental responsibilities" (s6.4.2). Specific comments are also provided regarding MMO, stating "Bight Petroleum will ensure that all MMOs engaged for the survey have appropriate qualifications and experience to undertake reliable marine mammal observation activities". A range of other training programs are also detailed in section 6.4.2. The process described appears appropriate for the activity. RFFWI: Note, no measures have been described for PAM operators, given this is a specialist role, specific measures need to be provided through further written information. [Partially Complies]. DC: RFFWI response: Training and competence requirements for the PAM operators has been provided by the titleholder in the requested further written information. This includes reference to minimum requirements, that all PAM operators have completed 12 weeks at sea and successfully completed a course in the use of PAM (RFFWI, p 25). [Complies].
14(6)	Provide for sufficient monitoring, audit, management of non-conformance and review	Complies	DC: Rev 0: The titleholder has committed to undertaking a pre mobilisation audit and also an EP compliance audit during the activity. Although no timeframe is provided for the audit during the activity, given the inspection that will be undertaken prior to the commencement, the overall measures appear appropriate. The non-conformance process is to be managed under the vessel's on-board action tracking system (s6.6.2). A review process has also been identified and will be conducted on completion of the activity (s6.6.3). A range of monitoring and recording processes have been identified and presented in table 6-2 Lightning MSS Emissions, Discharges and Interactions Monitoring Program. These appear appropriate given the impacts and risks identified for the activity. [Complies].
14(7)	Provide for sufficient monitoring of and a quantitative record of emissions and discharges	Complies	DC: Rev 0: Section 6.6.1 of the implementation strategy details the records for emissions and discharges that will be maintained. These appear to relate to the risks identified for the activity and the proposed environmental performance standards. For both routine and non-routine aspects of the activity. Note records to be maintained only for interactions with cetaceans given these have applicable environmental performance standards (other marine fauna do not). [Complies]. DC: RFFWI response: Note the titleholder has made amendments to the records that will be maintained for interactions with marine animals. These are now applicable to a greater range of species than cetaceans. [Complies].
14(8)	Contains an OPEP and provides for updates	Complies	DC: Rev 0: The titleholder has developed and OPEP for the activity (this relates to the vessel SOPEP). This is found in section 8 of the EP. Given the contractor has not yet been

			<p>determined Bight has stated that "Bight, as part of seismic contractor selection, will confirm the vessel has an IMO certified SOPEP (or equivalent according to class); equipment and resources as described in the SOPEP are available; and that all scheduled drills and exercises have been undertaken against the documented testing program in the SOPEP" (p 212, s8.1.1). Note this is reflected as an environmental performance standard for the activity, refer to section 8.7 of the EP. [Complies].</p>
14(8A), (8B), (8C)	Includes arrangements for testing the arrangements in the OPEP	Complies	<p>DC: Rev 0: The implementation strategy includes testing arrangements (s8.5). This test is in the form of a campaign specific oil pollution emergency drill.</p> <p>(a) the objective of the testing has been provided, which includes " Availability of response procedures/documentation on-board the vessels; Access to, and testing of, notification contact numbers for the Bight EMT, Seismic Contractor CCT; Confirmation of relevant external (regulator) and responder (AMSA) contact details; and Testing of Vessel SOPEP response actions (including crew and equipment response) to the identified spill scenario" (p229).</p> <p>(b) a schedule has been provided, only one test is proposed, on commencement of the activity.</p> <p>(c) the titleholder has stated that "The effectiveness of response arrangements will be assessed against the performance standards detailed in Section 8.7". This is suitable criteria to test against.</p> <p>(d) lessons learnt from the test are to be "documented with opportunities for improvement and corrective actions documented in the Vessel Action Tracking System. The actions will be monitored by the Party Manager and Offshore Bight representative to closure. All corrective actions will be implemented in a timely manner" (p.227).</p> <p>Given the nature and scale of the response measures and arrangements proposed, the testing arrangements appear appropriate. [Complies].</p>
14(8AA)	Adequate arrangements for responding to and monitoring oil pollution	Complies	<p>DC: Rev 0: In summary the response arrangements rely on the vessel SOPEP, SAMSCAP, and NATPLAN given this is a vessel operating in Australian waters. The framework of these arrangements and ability of these arrangements to manage spill risks of the activity has also been described and appears to be appropriate.</p> <p>(a) the control measures proposed by the titleholder relate to activating the vessel SOPEP, beyond that notify AMSA as soon as practicable.</p> <p>(b) vessel resources has been described in section 8.4.1 and relate to equipment being capable for managing small spills on the vessel.</p> <p>The titleholder has committed to audits to ensure that this is reviewed and equipment is maintained to suitable levels for the duration of the activity.</p> <p>AMSA resources have also been broadly described (s8.4.2).</p> <p>(c) In relation to monitoring of the control measures, these relate to audits for ensuring effectiveness of the vessel SOPEP. For larger spills these relate to notifying AMSA within 30 minutes of a spill, who will then manage the spill, with termination criteria to be developed by AMSA.</p> <p>(d) In relation to operational monitoring of larger spills (beyond SOPEP ability to manage), the titleholder has relied on NATPLAN and stated that "Spill monitoring and surveillance, at frequencies determined by the Incident Controller (AMSA), continue to inform the spill response until the termination criteria is achieved (SITREP Records)" (s8.7). The plan also states that "As directed by AMSA, undertake spill surveillance by support vessel (as appropriate). Continue to monitor the spill providing information on spill amount, trajectory, weather, area of coverage and spill appearance. Information to be provided back to AMSA &amp; Bight" (table 8-6). [Complies].</p>
14(8D)	Provides for monitoring of impacts from oil pollution and response	Complies	<p>DC: Rev 0: The titleholder has put forward a statement in the evaluation of impacts and risks that in the unlikely event of a hydrocarbon spill that there will be no significant impact to species/features at risk. As such there is no need to undertake environmental (scientific) monitoring. However, given the use of modelling and inherent uncertainty with this approach, a monitoring program is required to ensure that these predications are accurate. As such, further information is requested from the titleholder regarding the proposed impact monitoring arrangements [Partially Complies].</p> <p>DC: RFFWI response: The titleholder has provided further information regarding the proposed monitoring arrangements. This includes a commitment that Bight will undertake monitoring for determining impacts to environmental sensitivities following a tier 2 spill. Also that Bight will utilise consultants (e.g. GHD, SKM) to undertake the required monitoring (RFFWI, p.23).</p> <p>Sufficient information has now been provided to demonstrate that suitable arrangements are in place. [Complies].</p>

14(8E)	Includes information demonstrating response arrangements in the OPEP are consistent with the national system	Complies	DC: Rev 0: This has been demonstrated by the titleholder, refer to finding comments in 14(8AA). Further, the approach adopted by Bight is consistent with AMSA's public position regarding oil spill contingency plans. [Complies].
14(9)	Consultation with relevant authorities, interested persons or organisations	Complies	DC: Rev 0: The titleholder has undertaken extensive consultation with a range of relevant persons. Table 6-1 of the plan details the specific relevant persons, the engagement method (email), timing and the responsibility to undertake this consultation from Bight. These arrangements appear appropriate for the activity and are in keeping with commitments made during consultation undertaken in the course of preparing the EP. [Complies].
15(1), (2), (3)	Details of titleholder and liaison person and arrangements for notifying change in titleholder, liaison, or contact details	Complies	DC: Rev 0: Section 2.1 of the plan includes the required information. An arrangement has also been described in the event of changes to the titleholder. TITLEHOLDER DETAILS: Bight Petroleum Pty Ltd (ABN 61 143 444 106) 159 Darley Rd, Randwick, NSW, 2031 LIAISON PERSON: Name: [REDACTED] Business Address: GPO Box 1884, Adelaide 5001 Telephone No: [REDACTED] Email: [REDACTED] RFFWI: However, the contact details do not include the ACN only the ABN. Following a review of ASIC, Bight has an ACN (143444106). Review undertaken 10/04/2014 ( <a href="https://connectonline.asic.gov.au/RegistrySearch/faces/landing/panelSearch.jspx?searchType=OrgAndBusNm&amp;searchText=Bight+Petroleum+Pty+Ltd&amp;searchTab=search&amp;_adf.ctrl-state=x249uqlu5_4">https://connectonline.asic.gov.au/RegistrySearch/faces/landing/panelSearch.jspx?searchType=OrgAndBusNm&amp;searchText=Bight+Petroleum+Pty+Ltd&amp;searchTab=search&amp;_adf.ctrl-state=x249uqlu5_4</a> ) [Partially Complies]. DC: RFFWI response: The titleholder has provided an ACN in the requested further information (p25, RFFWI). [Complies].
16(a)	Contains a statement of corporate environmental policy	Complies	DC: Rev 0: A copy of the Bight policy has been provided, refer to page 4. [Complies].
16(b)	Contains a report on all consultations for reg 11A	Complies	DC: Rev 0: Relevant persons have been identified and consulted with in the course of preparing the EP. Relevant persons have been provided with sufficient information, primarily through the EPBC Act referral material. Full copy texts appears to be provided. Refer to detailed topic assessment for further findings. RFFWI: Assessment of merits has not always been undertaken, or the assessment not sufficiently supported. This requires further written information from the titleholder to support.[Partially Complies]. DC: RFFWI response: The titleholder has undertaken a further assessment of merits of objection and claims made by relevant persons. Refer to pages 25 to 40 of the RFFWI. The consultation undertaken by Bight in the course of preparing the EP, which includes consultation undertaken during the EPBC Act referral process is compliant with regulatory requirements. [Complies].
16(c)	Details of all reportable incidents	Complies	DC: Rev 0: The titleholder has detailed the reporting requirements for the activity. This includes details of what constitutes reportable incidents. These incidents are consistent with the result of the risk assessment undertaken by the activity. Some are relatively conservative e.g. loss of 80L of chemicals/hydrocarbons. [Complies].
13(2)	Describe existing environment including details of relevant values and sensitivities	Complies	JE Rev 0:  Lightning 3D MSS area covers 3000km2 and is located in the Commonwealth waters of SA 104 km west of Kangaroo Is. and 65km from islands off the Eyre Peninsula (Liguanea and North and South Neptune Islands) (see Figure 2-1 p14). There are a shelf and deepwater racetrack that will take 40 days and 30 days respectively to complete. Note also turns up to 10km outside defined area as shown in Figure 2-2. Water depth ranges from 130m to 2400m. Shelf edge is at 200m over which shelf survey will straddle and deepwater racetrack shallowest depth is 1000m. Note area is approx. 80km long by 40km wide (note this is 3200km2) , streamer array is 8.1km long and potentially 1.44km wide therefore will cover around 12km2 at one point in time, but 10% of length of area and this will influence flexibility

in terms of where the survey is located with respect to sensitivities.

Description of environment is covered in section 3 of the submission. Includes:

- 3.1.1 regional setting in south west bioregion within spencer gulf province and southern province bioregions. Description on p20 details key features of the region including seasonal upwelling resulting in high productivity for wildlife and fisheries.
- 3.1.2 marine conservation areas i.e. west eyre and conservation values and state (SA) marine parks including Neptune Is., Western Kangaroo Is., Thorny Passage.
- 3.2.1 climate which influences tourism and other ocean activities
- 3.2.2 oceanography including upwelling events and their importance
- 3.2.3 bathymetry and seabed types including sediments
- 3.3.1 ancient coastline KEF
- 3.3.2 KI pool, canyons and upwellings

RFFWI:

3.3.3 meso scale eddies

The statement that the activity does not impact on KEF functioning may be incorrect as while the eddy itself in terms of the oceanography will not be affected by the activity, its ecological function as an aggregating device for wildlife may well be if an upwelling occurs during the activity. The submission states that the upwelling occurs 2 to 4 times a year each over 3 to 10 days during 'upwelling favourable' south-easterly wind regimes at depths of 150m or less and within 15km of the shelf-break (note that the survey is partially in this vicinity) and that there is inter-annual variability in the upwelling events and that stronger upwelling events are associated with El Nino conditions. The submission does not predict the likelihood of the upwelling occurring during the timing of the survey or whether this information would be sought prior to commencing.

[the submission currently does not state whether it is predicted that the upwelling will occur during 2015 or 2016 and if so whether additional controls will be applied]

[JE: RFFWI Response]

The response has not provided further information as to the likelihood of the upwelling occurring in 2015 or 2016. The response does state that it is more likely to occur in an El Nino year and provides 1998 and 2003 as examples of El Nino years (matter number 2, p10). The BOM website's ENSO tracker shows a higher than average likelihood of 2014 and 2015 being an El Nino year and also shows ENSO over 2009/10 lasting from Sep to May. The response does not discuss whether the survey would be rescheduled to 2016 if it were an El Nino year, but information has been reiterated that the likelihood of upwelling is high over November to March but decreases through Mar, April, May (matter number 2, p10), which is the time period proposed for the survey. The submission has clarified use of the aerial survey to direct starting positions to the least sensitive area of the survey block according to the presence of sperm and blue whales feeding (as evidence of upwelling) as well as the locations of SBT pontoons. The submission has stated that the controls currently employed (timing, EPBC 2.1 A & B, PAM, aerial survey) are suitable for use in the worst case scenario of upwelling being present during the survey, but has not provided an ALARP discussion around putting the survey off until the following year. It is reasonable to believe that the sacrifice required to change the survey to the following year once vessels have been booked would be disproportionate to the environmental benefits given the controls that are to be put in place, the relative unpredictability of the upwelling, and considering that the title for exploration has already been awarded by NOPTA.

[complies]

RFFWI:

The submission does not acknowledge the importance of the GAB area (including the Bonney upwelling and Kangaroo pool areas) as one of the few cold regional upwelling systems in Australia and similar to the western upwelling systems known for their productivity worldwide i.e. Peruvian, California, Namibian and North West African. Subsequently the area is known for its productivity, diversity and endemicity for both pelagic and benthic components of the ecosystem. It is a regional hotspot for pelagic species. The GAB produces 25% of Australian seafood by value, more by volume.

[the submission does not include information on the importance of the upwelling on a global scale and whether additional controls should be applied should the upwelling occur during



the survey period]\*\*\*

[JE: RFFWI response]

The importance of the upwelling on global terms has not been discussed, but the submission states that controls (aerial survey, EPBC 2.1, PAM) are considered to be suitable for the worst case scenario that the upwelling is in occurrence during the survey (as described above). Since the survey duration has been designed in the least sensitive annual window, shutting the survey down during the days that upwelling occurs may result in the survey being pushed later into the year to coincide with SRW breeding season. It is reasonable to believe that the timing of the survey is ALARP and Acceptable and considering the title has been awarded by NOPTA there are legal obligations that need to be met.  
[complies]

RFFWI:

[note the WHL La Bella survey carried out in Nov-Dec 2013 in the location of the Bonney upwelling used additional controls set by EBPC Act conditions in the form of increased low power zones. The application of more conservative low power and shutdown zones from other conditions has not been considered in ALARP decision making and might be applied to mitigate cetacean impacts either during the survey or in the event upwelling occurs during the survey]

[JE: RFFWI Response]

No further controls have been applied with respect to shut down and power down distances due to sightings, however the Bight survey will have additional controls whose parameters have now been clarified (matter number 4 p14 and 9 p24) in the form of the aerial survey and PAM compared with the previously mentioned survey. The environmental management broadly aligns with the recommendations for responsible practices for minimizing and monitoring environmental impacts from seismic surveys made by Nowacek et al. 2013. While the controls proposed are not with international best practice with respect to consideration of other fauna present (pinnipeds, dolphins, seabirds) (e.g. Greenland, NZ) it has been assumed that numerous shutdowns and re-starts due to interactions with these fauna would likely extend the survey into the SWR breeding season. Note that the titleholder has now committed to record interactions with dolphins and pinnipeds (matters 5 & 6 p17). Furthermore, due to the distance offshore interactions with penguins are unlikely, have not been raised by stakeholders, and it is reasonable to presume that other seabirds will avoid area and that if fish aggregations occur that these will not be confined to the vessel source area.  
[complies]

Marine species including descriptions of

3.4.1 threatened and migratory species overlapping the activity area

3.4.2 benthic flora and fauna,

3.4.3 fish including sharks such as white sharks and their relevant life history stages,

3.4.4 cetaceans including humpback whales, blue whales, southern right whales, other baleen whales, odontocetes including toothed whales, beaked whales and dolphins,

3.4.5 other marine mammals including Australian sea lions and NZ fur seals including information related to the habitats and timing for breeding and feeding.

3.4.6 marine reptiles i.e. 3 listed species of turtles

3.4.7 marine seabirds ie 14 listed species that forage in the area but no nesting or roosting

RFFWI:

Note that the description of benthic flora and fauna is very general and it is difficult to link the evaluation of impacts to fishes and crustaceans or other fauna from this brief description, because the impact identification and evaluation is mostly linked to fisheries species. Further information on spawning periods and berried periods for crustaceans should be detailed for evaluation given the sensitivity of larval stages. Furthermore, some listed species detected in the protected matters search may have been benthic species but further information is required to determine the identity of these species and therefore enable an evaluation of potential risks and impacts.

[JE: RFFWI Response]

No further information has been provided for demersal fauna, however, information has

been provided for benthic fauna and in particular eggs and larval stages (matter number 1 p4) (though demersal fauna was discussed during the TLM). Given the information provided about the habitat, that the minimum water depth is 130m, published literature on distance from source and sound attenuation, and likely impacts and limitations of the survey due to other sensitivities, requesting extra information would not alter the impact mitigation strategies for the survey and therefore it is reasonable to believe that the submission meets the requirements of the regulations.

[complies]

Description of social environment includes

3.5.1 shipping - survey appears to be in main shipping lane that transits north of KI and south of cape.

3.5.2 tourism (subject of separate topic scope - KR)

3.5.3 commercial fishing - some fisheries can be excluded as overlap will not occur with the survey. Others that will need to be considered include: small pelagic fishery, GABTS, GHTS (noting that edge of acquisition area overlaps with eastern edge of gulper shark protection closure area) SBT overlaps but mitigation controls have been included, SSJF, rock lobster, giant crab, MSF and sardine (for these last two - unlikely as mostly inshore)

3.5.4 cultural heritage (subject of separate topic scope - KR)

Descriptions are all comprehensive with added detail about habitat use for different life stages either in the text or as footnotes.

RFFWI:

Note that the submission does not discuss little penguins, for which there are colonies at Kangaroo Island that are presently in decline. These colonies are, however, located on the eastern side of the island distant from the survey area. Tagging studies show they travel quite far to feed and so may be present in the survey area, however, it is suspected that they would be predominantly found inshore where the bait fish are. This may change during an upwelling as the bait fish may move and so should be included in any seabird mitigation measures employed.

[JE: RFFWI Response]

Little penguins nearby to the survey have been mentioned in brief (matter number 1 p6) and the information states that they are considered to be nearshore and unlikely to be impacted. The information provided makes it reasonable to assume few little penguins will be present in the survey area. Impacts to any that may travel to the survey area should be mitigated by soft starts and other controls around feeding aggregations if whales are also present that have now been strengthened (PAM, aerial survey).

[complies]

The information provided in the environment plan and the additional information provided in the response to RFFWI are sufficient to meet the regulations for the description of the environment for the nature and scale of the activity.

[complies]

13(3)	Relevant values and sensitivities of matters protected under Part 3 of the EPBC Act	Complies	<p>JE Rev 0:</p> <p>p19 Activity will not be undertaken in or affect a World Heritage Property, National Heritage Place, declared RAMSAR wetland or threatened ecological community. Submission acknowledges that there is an overlap of the activity with the Commonwealth marine environment encompassing the Western Eyre Commonwealth Marine Reserve and a presence of EPBC-listed threatened and migratory species and provides some details of these areas (s3.1.2 p20-21).</p> <p>EP includes further detail about KEFs (s3.3), marine species (s.3.4).</p> <p>Protected matters relevant to the assessment include features of the Western Eyre Commonwealth Marine Reserve, and these are: the ancient coastline, kangaroo island pool, canyons/shelf break and Eyre peninsula upwelling, and mesoscale eddies.</p> <p>p28</p> <p>Listed species that present in the protected matters search include:</p> <p>- Twenty-eight (28) species of cetacean. Three (3) of these species have a threatened</p>
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status and nine species have a migratory status under the EPBC Act;

- Two (2) additional mammal species with one having a threatened status under the EPBC Act;
- Three (3) reptile species listed as threatened and migratory;
- Three (3) species of shark. One species has a threatened status and all species have a migratory status under the EPBC Act;
- Seventeen (17) marine bird species are listed with twelve (12) listed as threatened and fourteen (14) listed as migratory; and
- Twenty-seven (27) species of fish are listed including twenty-two (22) species of pipefish, two (2) pipe-horse, two (2) sea-dragons and one (1) species of pipe-horse.

RFFWI:

Table 3-2 however, does not correspond with the information provided. Only 14 bird species are listed in this table rather than 17, only 10 species of marine mammal are listed and listed fish species are not provided nor are they specified or described in s3.4.3.4. It is not clear why there is this inconsistency in the table and following description of values and sensitivities. Note for fishes, a brief search found info showing that some e.g. sea dragons are confined to shallower water e.g. <40m kelp beds, but others may be deeper cold water specialists. This type of information has not been included in the submission, probably linked with a paucity of information included about benthic habitats and therefore their demersal associates. Due to streamlining, these should be included in greater detail to ensure program commitments are met.

[the submission has not provided the details of the species obtained in the protected matters search versus the species listed and detailed in the plan and why some have not been included]

[JE: RFFWI Response]

The submission has now included detail on major groups of listed species in the area that came up in the protected matters search including seabirds, fishes, and the minke whale (matter number 1 p2). The submission states that these species are similar to other species in the submission and no additional controls are required (p6). While the detail is not comprehensive, what has been provided is sufficient to determine that the controls proposed are likely to be Acceptable and ALARP on the proviso that the demersal fauna are sufficiently deep enough that the SEL's have attenuated to a reasonable value so as not to cause an effect and that seabirds will avoid the area or impacts to them will be mitigated by controls for whale presence in the event of feeding aggregations.

RFFWI:

Information provided about NZ fur seals includes that 77% of the population is found in central South Australian waters (Kangaroo Island to South Eyre Peninsula) and that large breeding populations which account for more than 80% of the national pup production for the species are found at North Neptune and South Neptune Islands, Kangaroo Island and Liguanea Island. Details about this species should perhaps be specifically discussed in relation to potential impacts and mitigation measures and monitoring. Note this species is threatened in other areas of Australia, but population expansion in SA is causing concern for some parties.

[the submission has not provided information about the recording and reporting of seal interactions, particularly given seals forage in the water column on pelagic fish as opposed to sea lions that forage on the seabed.]

[JE: RFFWI Response]

The response now includes a commitment to record pinniped interactions with the vessels (matter number 5 p17).

[complies]

The information presented in the environment plan together with the information in the RFFWI response is sufficient to describe and detail protected matter sensitivities in the

			survey area.
			[complies]
13(4)	Describe the requirements, including legislative requirements and demonstrate how requirements will be met	Complies	<p>JE Rev 0:</p> <p>See full assessment under Protected Matters topic scope.</p> <p>Requirements will not include management plans for Commonwealth Marine Protected areas in the South West marine region as these are on hold until further notice.</p> <p>Legislative requirements will include recovery plans for listed species. The plan is currently inconsistent with at least two recovery plans for listed threatened (sea lion) and migratory (seabirds) species.</p> <p>[JE: RFFWI Response]</p> <p>The plan has provided information to that can be used to find consistency with recovery plans for seabirds (matter number 1 p2) and pinnipeds (matter number 5 p17)</p>
			[complies]
13(5), (6)	Details and evaluation of all the impacts and risks for the activity, from all operations and potential emergency conditions	Complies	<p>JE Rev 0:</p> <p>5(a) details of the impacts and risks</p> <p>Highlighted controls are to deploy and retrieve equipment off the shelf edge to avoid fisheries interaction (p13), unplanned turning circles in offshore direction (p13), survey streamer selection of 8-10 streamers (but note p16 states 12) to minimise time of acquisition (p13), timing of survey (Mar 1 to May 30 2015 or 2016) to avoid SRW breeding (May-Nov) and blue whale feeding (Nov-Mar). Will also need to do a notice for mariners due to heavy vessel traffic in the area.</p> <p>Vessel speed 8-9 km/h, 11 sec/25m pulses, up to 12 streamers, 8.1km long max, separated by 100-120m, source towed at depth of 6m, streamers at 8m, 200psi 3250cui. Note modelling on 3090cui source calculated SEL 228dB re 1uPa2s (p16). Seismic transect lines 500-720m apart. Gel Isopar M streamers to be used with 150m sections to minimise release if damaged, and in stretchers filled with 250-300L of Isopar M. Refuelling at sea may occur as a contingency.</p> <p>Acquisition will occur 24 hours per day, 7 days a week for 70 days max with weather contingencies built in (will not operate where 4.5m wave height. Likely to be operational 70% of time period given.</p> <p>5(b) evaluation of the impacts and risks</p> <p>s5.5 addresses acoustic impacts to wildlife</p> <p>CETACEANS The plan provides information from previous studies to suggest that baleen whales may show avoidance behaviour at times but at other times may also appear to ignore the presence of a seismic vessel. The SEL that avoidance behaviour begins is quoted from different studies and ranges between 140dB in humpbacks to 180dB in grey and bowhead whales. The submission states TTS occurs in beluga at 186dB and that a dolphin showed no TTS at 188db. The EP states that Bight considers a SEL of 160dB re1uPa2s to be a conservative sound threshold for behavioural disturbance to blue whales. This is not taking the most conservative approach, however, might be reasonable depending on the mitigation measures that are employed. According to Figure 5-1 a SEL of 160dB re1uPa2s for a 3090in3 array occurs at 1km for lower limit but 1.5km for upper limit of variation.</p> <p>The submission presents information in the plan stating that differences in sighting of small odontocetes are negligible after 3km, suggesting that beyond this distance the effects of the seismic source are negligible (p106). But thereby also implying that within this distance there are at the very least behavioural effects.</p> <p>The submission states that studies of sperm whale behaviour during seismic surveys was</p>



variable with changes in foraging activity occurring in some studies, but "failed to elicit reactions from a significant percentage of individuals" in other cases (p106).

RFFWI:

For vessel noise, the submission states that "proximity distances and low speeds will be adopted in accordance with the EPBC Regulations 2000 (Part 8) for cetaceans to avoid behavioural impacts (i.e. for support vessels)" and that the "MMOs on-board the MSS vessel will keep watch for cetaceans and will report on these interactions in accordance with this section". The submission does not clearly state whether this applies to the seismic vessel as well as support vessels, and also does not state whether this applies to dolphins and porpoises. Furthermore use of the terminology "cetaceans" excludes pinnipeds, which may also be in the area

[JE: RFFWI Response]

Terminology has been clarified and dolphins and pinnipeds included in avoidance and recording

RFFWI:

For vessel collision, s5.7.7 states 'cetacean collision', and this thereby excludes pinnipeds. Furthermore, the submission states that support vessels will observe the requirements of EPBC Regulations 2000 Part 8 "which detail interaction protocols between whales and vessels including proximity distances, and vessel speed/management when cetaceans are sighted within caution zones". The rest of this section details that the hazard is for "cetaceans", which includes dolphins, but not reference has been made to the difference distances of avoidance for whales and dolphins in the Act or in the guidelines. The tables containing the Acceptability and ALARP use the terms 'cetaceans' and 'whales only' therefore it is unclear whether the Regulations will be adhered to as prescribed for dolphins and whether there are any proposed for pinnipeds.

[clarifications around identification and evaluation is required for three separate risks of seismic noise, vessel noise and vessel strike for whales, dolphins and pinnipeds all with controls proposed or evaluation around why no controls are required]

[JE: RFFWI Response]

Clarification has been provided that EPBC Part 8 will be applied for dolphins and pinnipeds and they will be recorded (matters 5 & 6 p17).

[complies]

TURTLES p108

p108 Turtles are unlikely to be present in the area and the submission states that the soft start for whales should be adequate measure to ensure avoidance behaviour. Note that use of turtle guards on the streamers has not been discussed and there does not appear to be any recording of turtle interactions however given the low likelihood of occurrence this may be appropriate.

PINNIPEDS p108

Avoidance or TTS in seals and sea lions at SEL 163 dBuPa2s to 206 dBuPa2s. The submission demonstrates that physiological or breeding impacts from sounds exposure on the shoreline are highly unlikely and that there will be small localised avoidance of seals and sea lions from foraging around the vessel.

Behavioural study (Houser et al. 2013) cited in the plan found that SPL (i.e. dB re 1uPa) 155 no response, but above 170 forwent a food reward thus implying a behavioural response. Submission states that the proposed MSS activities may result in a localised temporary avoidance of sea lions or NZ fur seals when the survey is acquiring on the shelf areas. Studies show behavioural avoidance particularly closer than 150m from vessel and that 79% of seal sightings occurred within 250m of vessel but this may be due to worsening visibility of seals further away.

Note that in Acceptability demonstration p 118, the submission states that "if seismic activities are undertaken beyond the continental shelf (depths >200m) there is a low risk of significant impact" however the survey is also to be conducted on the shelf break in waters less than 200m but this is not discussed. Furthermore, seals are not discussed in this particular section, only sea lions

RFFWI:

[the ALARP and Acceptability discussion do not include specific information about seals v sea lions and also activities that are between 130 and 200m on the shelf edge, though some of this detail is covered in the general section preceding. Subsequently this leads to a deficiency against 14(3) because since interactions are not being recorded, the EMS does not include measures to ensure that, for the duration of the activity the impacts and risks continue to be identified and are effective at reducing them to ALARP and Acceptable]

[JE: RFFWI Response]

Clarification has been provided that EPBC Part 8 will be applied for dolphins and pinnipeds and they will be recorded (matters 5 & 6 p17).

[complies]

SHARKS p110

Submission states that due to mobile nature of sharks most will avoid the area during the soft start phase. Exceptions are demersal type sharks e.g. gulper sharks that may be exposed to received SELs of less than 140dB re 1uPa2s. This is stated to be ALARP and Acceptable because for this species the closure area continues to the west. Submission also states that sharks and fish are known to bite streamers and are likely to avoid the area p111

FISH p111

Submission states that sensitivities for fish are greatest for those with swim bladders, in particular those with swim bladders of similar frequency to the survey noise, and furthermore those with a mechanical coupling of swim bladder to ear. The submission does not detail the relative proportions of these different types of fishes in the survey area.

The submission cites the Woodside acoustic study examining effects on fish as validation that impacts are low or negligible, but does not directly compare the size of the array or exposure distance to the proposed survey. Note that highest exposure level was 190dB re 1uPa2s in the study. The submission also cites literature stating results of a startle response occurring at 178-316m directly beneath the array, which is in the same depth zone and the proposed survey with alarm responses and behavioural responses occurring at distances of 630-2km and 2-12km respectively. There may then be subsequent effects on fisheries catches immediately following the survey and for a number of days afterwards that may be dependent on the gear type and species but this is not discussed. The submission includes some statements about a number of species of fish spawning time periods but does not cover the range of species found in the area, though some of this is covered in the commercial fishery section for commercial species. While the importance of the upwelling event should not be underestimated in terms of affecting the success of cohorts of larvae there may not be information about this available for the area. If deficiencies around the upwelling event, which may be important to cohorts of larvae is addressed, then this risk maybe covered. Note that there have been other seismic surveys in the area (Bight Petroleum response to public comments document) and fisheries have not noted any changes in catch rates that could be due to this. Ideally the titleholder would have information about the seabed fauna directly underneath the survey and monitor for impacts before, during and after the survey and this can be addressed through detailing of benthic composition in relation to protected matters species. However, the limited literature available indicates minimal effects from seismic surveys on fish species. Given that the timing of the survey is restricted on the basis of whale seasonality and the likelihood of spawning occurring in different seasons for different species it is not clear what other controls could be

applied so emphasis for the submission would be on demonstration of ALARP and Acceptable.

#### CRUSTACEANS p113

The submission provides an argument that the impacts to crustaceans are likely to be negligible. The submission acknowledges that there may be some effects on the larval stages of crustaceans based on previous research but does not provide information about the spawning seasons of those in the area (information in the referral documentation states that they mate between April and July which overlaps during the survey duration and other information confirms that the females will be berried during the time of the survey which is not discussed). Note that the timing of the survey is already limited to this period due to whale seasons.

the submission does not discuss further potential impacts to berried females given there are limited controls that could be applied - i.e. temporal and spatial parameters of survey, source size, monitoring to determine whether or not there has been an impact

[JE: RFFWI Response]

The submission has provided further information about the generic benthic fauna of the continental shelf (matter number 1 p2), and considering the comments above that no further changes to timing are practicable, constitutes sufficient information for the risk evaluation.

[complies]

5(c) control measures to ALARP and Acceptable

#### CETACEANS

- timing - the timing of the survey that is proposed in the submission 1 March to 30 May has been chosen to avoid the presence of humpbacks, SRW calving periods, sperm whale peak presence, blue whales peak presence, as well as SBT ranching. The submission notes that upwelling occurs in the area 2-4 instances 3-10 days per year if upwelling weather conditions are present but does not propose additional controls for in the event this occurs simultaneously to the survey

[JE: RFFWI Response]

Further justification has been provided for operating during the upwelling (matter number 2 p10) and that any pauses in the survey due to a few days of upwelling activity will extend the survey duration into the SRW breeding season or into the following year in which the cost would be disproportionate to the mitigation gained and is therefore not practicable.

[complies]

RFFWI:

- aerial survey - while the seismic vessel is deploying its trailing equipment south of the survey area (p107) a spotter aircraft to determine the "presence" of whales species and SBT pontoons in the MSS area in order to determine the optimum part of the survey to commence recording, this to occur while "vessel is trailing equipment to south prior to commencing". "Presence" is not defined, does this mean one individual, one pod etc and further clarification should be sought

[JE: RFFWI Response]

Survey parameters, definition of feeding, decision tree for start point, and qualifications of personnel have been provided and are appropriate (matter number 4 p14).

[complies]

RFFWI:

- aerial survey - "Potential adaptive management" and "there are a number of potential scenarios that will be considered", are detailed. The 3 scenarios are subsequently detailed as if present in northern racetrack, will commence in southern and vice versa. If sensitivities are present in both then commence in the "least sensitive area" and implement shutdown

protocols. The plan also states that northern racetrack will not be surveyed in March, therefore this conflicts with adaptive management strategy stated p107. "Prior to April 1, seismic acquisition will commence on the deep water racetrack (i.e. during March) to avoid conflict with pontoons being towed over the shelf portion of the MSS area;" p84

[RFFWI Response]

Survey parameters, definition of feeding, decision tree for start point, and qualifications of personnel have been provided and are appropriate (matter number 4 p14).  
[complies]

- Statement 2.1

- Part A adopted for whales (not dolphins or porpoises), using 2km low power zone and 500m shutdown.

- Part B adopted as described in the submission:

- if whales are encountered during the day, a scout vessel will survey the area ahead of the survey

- if whales are sighted by the scout vessel, the seismic vessel will operate in an alternate area away from where the whales are detected

- if 3 or more power-downs due to whales entering the 2km low power zone occurs in a 24 hours period then no night time recording will continue until a full days operation has elapsed without power downs due to whale sightings (except for species detectable during darkness such as sperm whales, beaked whales and pilot whales)"

- 4 MMO's will observe for blue and SRW. "During all daylight hours when whales are known to be in the area of the operations (i.e. as a result of aerial surveys, vessel surveys or previous sightings a scout vessel with scout the area 5-10km ahead of the MSS vessel and 4 hours prior to darkness and, if whales are present in the area the vessel will record on the least sensitive part of the survey area."

- PAM will be used to detect sperm, beaked, pilot and killer whales at night time and during poor visibility, power down will occur if whales are within 2km of the operating source p116 but the plan does not specify what sensitivity, range, protocols, competency, if/when shut down will occur.

RFFWI:

Controls as proposed for whales appear to be acceptable and ALARP generally. However further clarification should be sought on worst case scenario of many whales feeding in the vicinity if an upwelling event is occurring, what is the definition of "presence of whales", how do commitments to SBT fishery and decisions made in the event whales are spotted during the aerial survey conflict, shutdown protocols when operating with PAM

[submission does not provide aerial survey decision points, controls employed in the event of upwelling, when shutdown occurs due to PAM]

[JE: RFFWI Response]

Survey parameters, definition of feeding, decision tree for start point, and qualifications of personnel have been provided. Further information about PAM parameters has been provided including commitment to shut down if PAM detects whales within 500 (matter number 9 p 24).

[complies]

RFFWI:

No apparent controls for dolphins or porpoises with only justification as a reference to Statement 2.1. No ALARP and Acceptable justification for this. Note that many other seismic surveys adhere to the national guidelines for whale and dolphin watching for controls for acoustic disturbance as well as vessel collision. s5.5.2 p124 of the plan states that EPBC Regulations 2000 Part 8 (whale and dolphin approach) will be adhered to for support vessels only. It is not clear that this will be carried out for the seismic vessel as well. The Australian National Guidelines for whale and dolphin watching 2005 have not been cited in an ALARP discussion, but this may be because the titleholder is adhering to them. All interactions with whales, dolphins and porpoises need to adhere to the Regulations and MMO's should record the interactions. Section 5.5.1.2 does not address dolphins and porpoises

[submission does not provide controls or recording for dolphins and porpoises.]

[JE: RFFWI Response]



Controls and recording now provided for (matter number 6p19).  
[complies]

#### TURTLES p114

- soft starts a deterrent and low likelihood of encounter. Turtle guards not discussed, ALARP demonstration low likelihood of encounter and hearing information

#### PINNIPEDS p115

- The submission does not propose any controls that will be employed to mitigate impacts if pinnipeds are sighted near the seismic vessel during the survey.  
- The submission states that behavioural impacts may occur at SEL 145db re 1uPa2s and will occur within 10km of the acoustic array but that the foraging habitat extends beyond this therefore "it is unlikely that impacts to the species will be realised and the risk is considered to be low". Distinction between sea lions and seals not clear

#### RFFWI:

[submission has no controls or sightings recorded, contravenes sea lion recovery plan]

#### [JE: RFFWI Response]

Recording of seal and sea lion interactions has now been provided for (matter number 5p17) however no additional controls have been proposed. Any shutdown controls that are applied to sea lions would extend the survey duration into SRW breeding season or into the following year, which is not practicable. Sea lions would presumably avoid the survey area, moving elsewhere to feed, and have been included in the objective around soft start procedures applying to all marine fauna. In the event any changes to sea lion populations are detected following the survey, the data from the recording of interactions by MMO's can be used to investigate potential causes.

[complies]

#### FISH/SHARKS p115

The submission does not propose any controls for impacts on demersal fish of the continental slope or eggs and larvae for the relevant cohorts of species likely to be present at the time of the survey due to impact evaluation.

#### CRUSTACEANS p116

The submission does not propose any controls for potential impact on crustaceans or larvae present at the time of the survey due to impact evaluation, however the dates have been selected due to whale sensitivities.

[complies]

The information contained in the EP and RFFWI Response combined detail and evaluate the environmental risks and impacts for the activity and provide detail of the control measures that will be used to manage the potential environmental impacts of the activity.

[complies]

13(7)(a)	Set environmental performance standards for control measures identified	Complies	<p>JE Rev 0:</p> <p>RFFWI: Performance Standard for aerial survey does not set a statement of performance for the control</p> <p>[JE: RFFWI Response]</p> <p>Survey parameters, definition of feeding, decision tree for start point, and qualifications of personnel have been provided (matter number 4 p14) [complies]</p> <p>Other standards relate to Policy Statement 2.1.</p> <p>Standard re: use of scout vessels appears reasonable.</p>
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			<p>RFFWI: Does not specific qualifications of PAM operator. Does not specify if/when shut down will occur, only power down</p> <p>[JE: RFFWI Response]</p> <p>Appropriate survey parameters, shut down and power down commitments and qualifications of personnel have been provided (matter number 9 p24) [complies]</p> <p>RFFWI: No clear standards for dolphins/porpoises and pinnipeds because no controls</p> <p>[JE: RFFWI Response]</p> <p>Clear standards and recording for dolphins and pinnipeds provided (matter numbers 5 &amp; 6 p17) but no controls (e.g. power downs, shut downs, are proposed in the event they are frequently sighted in close proximity to the survey vessel. Presumably these fauna would avoid the area and controls such as soft starts and shutdowns applied to whales present in feeding aggregations would also encompass these species if also present. Any shut downs solely due to the present of pinnipeds and dolphins would likely extend the survey duration into SRW breeding season, or into the following year. [complies]</p>
13(7)(b)	Set out the environmental performance outcomes	Complies	<p>JE Rev 0:</p> <p>Environmental performance outcomes are stated as:</p> <p>"Soft-start procedures are utilised during all array start-up activities to provide time for sound-sensitive species to relocate from the area prior to acquisition activities and source power-down if whales are identified within 2km of the operating array and source shut-down occurs if within 500m of operating array" with MMO records cited as measurement criteria.</p> <p>RFFWI: Outcome is not measurable as applied to pinnipeds, as their presence is not recorded, and it is not clear whether dolphins and porpoises presence will be recorded.</p> <p>[when submission revises standards and MC around impacts then these should also be revised]</p> <p>[JE: RFFWI Response]</p> <p>Outcome has been changed to reflect all "sound sensitive species" and interactions recorded (p17) [complies]</p>
13(7)(c)	Include measurement criteria	Complies	<p>JE Rev 0:</p> <p>MMO records from pre-mobilisation aerial survey are written as stating "that this occurred" and is not relevant to the data contained with in. Furthermore how the decision about how to proceed is linked with the data is not specified.</p> <p>MMO records only for cetaceans sighted, not other sensitive marine fauna likely to be in the area such as pinnipeds and it is not clear that the presence of dolphins and porpoises will be recorded.</p> <p>Other MC are suitable as described</p> <p>RFFWI: [submission does not detail how the information from the aerial survey will be utilised and recorded, and also whether the presence of other fauna i.e. pinnipeds, dolphins will be recorded]</p> <p>[JE: RFFWI Response]</p>

			<p>MC have been updated and are appropriate - aerial survey report, training of observers (matter number 4 p14).</p> <p>All marine mammals will be recorded (matters number 5&amp;6 p17)</p> <p>Information has been provided about how aerial survey will be utilised (matter number 4 p14).</p> <p>[complies]</p>
14(3)	Contains a description of the EMS	Complies	<p>JE Rev 0:</p> <p>EMS described in section 6.</p> <p>Relevant considerations for this topic scope include</p> <ul style="list-style-type: none"> <li>- use of a vessel crew and a seismic crew</li> <li>- use of contractors EMS where possible due to familiarity but a gap analysis will be conducted and implemented through a bridging document with particular attention paid to items listed p191</li> <li>- role of the MMO p195</li> <li>- proposed environment induction p197 s6.4.1 noting that this is an inspection item</li> <li>- ongoing consultation p198 s6.5.2</li> <li>- s6.6.1 marine fauna interactions - sightings and collisions (currently only for whales)</li> <li>- no EMS for dolphins/porpoises, pinnipeds</li> <li>- note no information is provided re: PAM parameters or operator</li> </ul> <p>[JE: RFFWI Response]</p> <p>Information has now been provided for PAM parameters and operator (matter number 9 p24).</p> <p>It has been clarified that EMS for dolphins/porpoises, pinnipeds includes controls for whales if present simultaneously (soft starts, survey) and EPBC Part 8 will be applied and interactions recorded (matters 5&amp;6, p17)</p> <p>[complies]</p>
14(5)	Include measures to ensure each employee and contractor awareness of responsibilities, competence and training	Complies	<p>JE Rev 0:</p> <p>Qualifications of MMO's described as "Bight Petroleum will ensure that all MMOs engaged for the survey have appropriate qualifications and experience to undertake reliable marine mammal observation activities."</p> <p>Induction described as including "Importance of conforming with the EP and associated regulatory requirements; The location of environmentally sensitive areas (e.g. Kangaroo Island Canyons, cetacean feeding areas, cetacean behaviours within the area) in proximity to the MSS area; Potential MSS environmental hazards and required controls to minimise impacts associated with MSS activities in the area; EPOs, management measures and requirements contained within this EP; Reportable and recordable incidents associated with the Lightning MSS; Personnel roles and responsibilities with respect to implementation of nominated controls in this EP; and The emergency and oil spill response arrangements for the Lightning MSS."</p> <p>These items are suitable for inspection.</p> <p>RFFWI:</p> <ul style="list-style-type: none"> <li>- no information about PAM operator is provided</li> </ul> <p>[JE: RFFWI Response]</p> <p>Information about qualifications now provided (matter number 9p25).</p> <p>[compiles]</p>
14(6)	Provide for sufficient monitoring, audit, management of non-	Complies	<p>JE Rev 0:</p> <p>Reportable incidents relevant to this topic scope include:</p>

	conformance and review		<ul style="list-style-type: none"> <li>- whales present in the shut-down zone (500m) when the array is operating on full power but this does not include pinnipeds and specifically excludes dolphins</li> <li>- includes vessel strike causing damage to whales but does not include pinnipeds and dolphins or other fauna</li> <li>- breach of soft start procedure should perhaps be reportable, and recordables and reportables with respect to additional controls such as scout vessels should be detailed</li> <li>- see section 7.2.4 regarding compliance and sighting reports which specifically refers to whale interactions, but not other fauna.</li> <li>- inspection item should be recordings of whales and time periods scout vessel is used</li> </ul> <p>RFFWI: [submission needs to detail monitoring, recording and reporting for other fauna besides whales]</p> <p>[JE: RFFWI Response]</p> <p>Monitoring, recording and reporting for all marine mammals now provided for (matters 5&amp;6 p17).</p> <p>[complies]</p>
14(9)	Consultation with relevant authorities, interested persons or organisations	Complies	<p>JE Rev 0;</p> <ul style="list-style-type: none"> <li>- blue whale study notified 2 weeks prior to commencement of study</li> <li>- eNGO's and SARDI, for example, will be notified only when there is a change in scope or control during the survey, and there is currently no planned consultation. Note that some objections and claims have been addressed through the impact evaluation section only rather than through the use of controls or other mitigation or monitoring.</li> <li>- DENR no timing provided for consultation in table p202, also note that DENR stated that the timing of the upwelling should be considered p203 and while this has occurred in the planning of the survey there is no additional management measures proposed for in the event the upwelling occurs during the survey</li> </ul> <p>RFFWI: [details of consultation timing for DENR not provided nor statement against merits of claim made about upwelling]</p> <p>[JE: RFFWI Response]</p> <p>Further details of upwelling and merits provided (matter number 2 p9).</p> <p>[complies]</p>
13(4)	Describe the requirements, including legislative requirements and demonstrate how requirements will be met	Complies	<p>JE Rev 0:</p> <p>Listed marine species for which there are relevant management plans include white sharks, turtles, large whale species, sea birds and sea lions. Specific discussions of the content of these recovery plans and how the activity does not contravene them has not been included in the submission. Due to the management measures that are currently being employed, recovery plan objectives appear to be supported for turtles (i.e. soft start) and large whale species (statement 2.1 plus timing plus additional measures). While the survey is offshore of areas of known habitat for white sharks including juveniles in the Australian region and juveniles are commonly seen between December and June (i.e. during the time of the survey), the pupping areas for white sharks are likely to be in shallower waters distant from the survey area and as such there does not appear to be a contravention of the white shark recovery plan</p> <p>[complies]</p> <p>RFFWI: However, while seismic/ acoustic emissions are not considered as a key threat to Australian sea lion in the relevant recovery plan for this species, the objective for the plan includes "to investigate and mitigate other potential threats to Australian sea lion populations, including disease, vessel strike, pollution and tourism". By not recording interactions with sea lions that show their proximity to vessels and any incidences of vessel strike as a recordable</p>



and/or reportable incident, the activity may not be consistent with the recovery plan.

Recovery actions in the plan include:

- Recovery action 4.1 – Improve the understanding of and where necessary mitigate the threat posed to Australia sea lion populations by illegal killings, vessel strike, pollution and oil spills – implement jurisdictional oil spill response strategies as required.
- Recovery action 4.4 Monitor and mitigate cumulative impacts of human interactions on Australian sea lion colonies – management actions developed and implemented (where necessary) to mitigate impact of human interactions with Australian sea lion

[clarification required - re: controls, reporting for sea lion interactions]

[JE: RFFWI response]

The response to the RFFWI has clarified the position of the titleholder in that they have committed to record the presence of pinnipeds around the survey vessels and adhere to the vessel approach guidelines for pinnipeds (matter number 5 p17). There are, however, no commitments to power down or shut down in the presence of pinnipeds, which is commonly part of guidelines in other parts of the world. In this circumstance where the entire proposed survey period is required to complete the survey, which is already of a minimised duration due to a number of seasonal sensitivities, frequent shutdowns due to the presence of other fauna may push the survey window into more sensitive windows or into the following year for which the sacrifice required would be disproportionate to the environmental benefits gained. Given the distance from shore of the survey, ability of fauna to move away and the controls applied for whale species that will also be applicable to pinnipeds, and also that pinniped interactions will be recorded, the controls as proposed are reasonable to mitigate impacts to sealions.

[complies]

RFFWI:

Similarly, for listed seabird species, it is noted that "no biologically significant areas (i.e. nesting and roosting areas) for these marine bird species lie in proximity to the proposed Lightning MSS area, however these birds may overfly and forage within the area during the MSS". It is likely that in general these birds are sufficiently mobile to avoid disturbance by the survey. However, there is no discussion of the importance of foraging during upwelling events or if this results in associated feeding aggregations, and if so what impacts may occur from these occurring simultaneously with the activity. Furthermore, there is no discussion in the submission about management of potential impacts should the upwelling occur during the survey period

[The submission does not contain information on the importance of foraging in the survey area particularly during the upwelling period. If it is unknown or if is important, then the upwelling period should be avoided or appropriate controls should be proposed for operations during upwelling period]

[JE: RFFWI Response]

While further description of listed seabirds has been provided in the response to the RFFWI (matter number 1 p2), there have been no additional controls applied to the survey and seabirds numbers will not be recorded. Note that some guidelines recommend recording or other mitigation of impacts for seabirds (e.g. Greenland Kyhn et al. 2011, NZ Code of Conduct 2010). Information has however been provided in the RFFWI Response to put forward the case that is unlikely that seabirds will be present in the survey area due to the distance from shore. Furthermore it is reasonable to believe that they will be disturbed by the noise and have freedom of movement away, and seismic surveys are not considered as a threatening activity to seabirds in the documented Recovery Plan. The submission considers an oil spill risk to be the highest risk to seabirds in the area. Stakeholders have not raised impacts to seabirds as an area of concern.

The environment plan in combination with the information provided in the RFFWI response provide a reasonable description of the environmental management system for the activity. The information states how the requirements for management of the protected matters relevant to the area will be met, i.e. in particular the upwelling KEF that is part of the Commonwealth Marine Reserve, and listed species that utilise the area. The key controls used to mitigate impacts of the survey to these sensitivities are minimising the sound source,

			the timing of the survey window, use of the aerial survey to determine the starting position, use of scout vessels, MMOs, PAM and adherence to EPBC Statement 2.1 Parts A and B. [complies]
13(2)	Describe existing environment including details of relevant values and sensitivities	Complies	<p>KR - Rev 0 - 24hr ops, 70 day duration March-May. Marine conservation areas in the region are identified in Section 3.1.2. Brief overview given of the values of local marine parks, with information provided relevant but limited. p27 identifies that sustained noise disturbance to SBT during their feeding season on the shelf might impact of growth of the species (feeding season identified [p32] as spring-summer, moving to shelf break by April). Section 3.4.3.4 describes continental shelf fish, including anchovies/sardines (as feedstock for SBT), SBT movements, and summarises other commercially caught species. SBT encountered in inshore waters expected to be &lt;5yo (p32). Commercial fish landings are mixture of demersal and small pelagics, as well as giant crab and lobster along shelf edge. Information on fish is patchy, and does not include information on non-commercial species e.g. leafy/weedy seadragon, blue warehou - particularly given information provided in stakeholder consultation (e.g. KI Council submission) - addressed in other topic scope.</p> <p>Section 3.5 describes the social environment, including shipping (3.5.1), tourism (3.5.2), commercial fisheries (3.5.3), and cultural heritage (3.5.4). Permit areas primarily contain fishing and shipping, nearby ports support fishing and ecotourism (p49). Main shipping lane runs through survey area. Some shipping density data is dated (e.g. Gardner et al. 2006, AMSA map from 2012), as for recreational fishing effort (p52-53) but this information is unlikely to materially influence controls selected or risk assessment outcomes. Marine tourism in the region includes whale-watching, diving, recreational fishing, recreational beach use and cruise ship visits (p51). Visitor numbers and values of Kangaroo Island identified, including conservation areas and natural values from KI Council information. Data on employment and revenue for KI is also included. Main activities described in the region are beach use, diving, marine mammal watching, charter and rec boating, yachting, cruise ship visits, and rec fishing. Information provided is specific and relevant, and likelihood of encounter in the project area is specified.</p> <p>Commercial fisheries (State and Commonwealth) are described in detail, with fishing effort and likelihood of encounter supported by appropriate references. Fisheries information is supported by information from literature and consultation with fishers (e.g. small pelagics p54-55). Sardines (but not sardine fishers) likely to be in survey area, and spawning inshore prior to survey (footnote 23, p55). Fishery closure areas partly overlap with the survey area, closed to protect and rebuild gulper shark stock (p57 and Fig 3-22). A portion ('most', but unsupported statement) of gillnet fishers have relocated effort to VIC as a result of closures (p57). The SBT fishery is described p59. Based on recent fishing effort and consultation, the SBT are likely to be towed via sea cage through the survey area, with the season predicted to finish prior to survey commencement. Survey may interfere with CSIRO SBT survey - ASBTIA unconcerned due to quotas having been set already; and CSIRO did not raise concerns in consultation. Lobster fishery information includes future forecasting of effort in deeper waters (p62), but as yet unconfirmed. Timing for rock lobster and crab is the same (Fig 3-28), lowered effort as seismic survey commences. King George whiting (marine scalefish) fishery spawning in Investigator Strait at time of survey, main catch areas near Spencer Gulf, Kangaroo Island. Key habitats for nursery of MSF species in both nearby Gulfs described. Sardine fishers unlikely to be in area, but timing and area is important habitat for spawning (Jan to March), with eggs and larvae therefore expected during survey.</p> <p>Fig 3-31 displays fishing industry employment, income and methods, but has no accompanying text so conclusions on importance are implied. Figure is dated 2006, appears to show industry employment ranging from 2.6% (Kangaroo Island) up to 10% (Eyre Peninsula); survey area shown as lower income than waters closer inshore; and predominant methods being line and trap.</p> <p>Section 3.5.4 identifies no heritage sites in the survey area, and describes the shipwrecks in the surrounding area.</p> <p>RFFWI:</p> <p>- Some Eyre Peninsula and Neptune Islands values not specifically described (e.g. Neptune Islands shark diving) - and could be impacted by emergency conditions.</p> <p>KR - RFFWI response - Additional information has been provided on the Neptune Islands and Eyre Peninsula in the response to RFFWI point 1. This includes socioeconomic values such as white shark tourism, CSIRO research activities and recreational fishing. It is sufficient to support an evaluation of impacts and risks, and is appropriate for the nature and scale of the activity. [Complies]</p>

13(5), (6)	Details and evaluation of all the impacts and risks for the activity, from all operations and potential emergency conditions	Complies	<p>KR - Rev 0 - Impact/risk identification methodology provided in Section 5.1, and summary list of risks in Section 5.2. Likelihood analysis = likelihood of occurrence of the worst credible environmental impact. ALARP and acceptability criteria outlined, which include sufficiency of information provided to stakeholders. Impacts/risks relevant to socioeconomic aspects are commercial fishing (5.4.1), shipping (5.4.2), tourism (5.4.4), seismic acquisition (5.5.5), and non-routine events (5.7).</p> <p>Commercial fishing effort and presence is summarised in 5.4.1.1, and control measures to be implemented are detailed p84-85. Controls include general (e.g. notice to mariners) and fishery-specific (e.g. SBT towed pontoon shutdown zone). The controls presented are reasonable and appropriate, and the ALARP and acceptability demonstrations are methodical and reasoned against criteria presented. Consultation information has been included. Commercial shipping section (5.4.2) states implementation of a 'safe distance' control for shipping to avoid the vessel - appears that commercial vessels will be expected to detour around the seismic vessel. Controls include NTM, shipping warnings, support/escort vessels, and standard navigation controls. Clear information is provided on the use of controls. ALARP and acceptability demonstrations (5.2.4.3) are relevant, specific and address the criteria. Section 5.4.4 evaluates disruption to tourism from vessel presence. Potential temporary disruptions to recreational charter (likely only fishing) during the period of the survey, all other tourism activities closer to shore (p94-95). Controls applied are the same as for managing shipping risk, in addition to notifications to the SA Recreational Fishing Advisory Council (p95). ALARP and acceptable demonstration is relevant and appropriate to the activity.</p> <p>Section 5.5.1 evaluates impacts/risks from seismic acquisition. Noise modelling results are provided (p99 and Figs 5-2 and 5-3), and show noise levels reaching sensitive inshore areas (e.g. Kangaroo Island) at levels below those expected to cause TTS to cetaceans. Localised avoidance behaviour expected from cetaceans, turtles and pinnipeds in the survey area. Marine mammal watching occurs outside survey period (p94), so temporary avoidance behaviour of marine mammals as a result of seismic acquisition is stated as unlikely to impact these activities. Pre-survey cetacean/SBT aerial survey control (p107) will check for SBT pontoon towing, and acquisition will start in southern area to avoid conflict. Coastal breeding locations not expected to be impacted (p110) due to noise attenuation below TTS levels. Potential temporary disturbance to free-ranging sharks (e.g. great whites) (p111), and potential displacement of habitat-restricted gulper sharks; although expected SELs lower than TTS level. Great white shark diving peak season begins over/at tail end of the survey period (web search - Rodney Fox expeditions and Adventure Bay charters) when seal pups are foraging, potential displacement of this activity not evaluated. Analysis of sound effects on fish and fisheries is comprehensive and well-referenced (p111-114). Impacts expected to be localised and temporary behavioural impacts (more for demersal or site attached fish than pelagics); and negligible impacts to larvae/fish stocks as those spawning at time of survey (e.g. sardines; King George whiting) are primarily inshore. The noise modelling outputs also show low noise impacts near juvenile/sub-adult SBT movements in the inshore regions (e.g. Spencer Gulf). Sound impacts to crustacea (lobster, crab) are evaluated p113, and appropriate references used to support conclusion of low likelihood of impact from the MSS activity. Evaluation of ALARP and acceptability is relevant and appropriate for the activity, and includes controls from stakeholder consultation.</p> <p>Unplanned activities is evaluated in Section 5.7, with the only events relevant to this topic scope being vessel collision oil spill (5.7.1) and loss of streamer (5.7.5).</p> <p>Vessel collision: Preventative controls are standard navigation controls (p142-143), and contingency avoidance actions are also described. Scenario evaluated is 300m3 MDO or MGO spill from seismic vessel, and modelling conducted for closest point of survey area to sensitive locations, over January-June period. Model results predict very low probability of shoreline contact (1% at 0.5g/m2, Table 5-9; 9% at visible oil threshold, Table 3 of Appendix D), with surface oil at 10g/m2 expected to remain in project area (Fig 5-8 bottom) and to have a low probability (1-5%) of intersecting sensitive habitats at 0.5g/m2 (Fig 5-8 top). Table 5-10 contains a consequence assessment for marine sensitivities. The consequence evaluation for fish predicts localised impact to fish larvae/eggs, although spill modelling predicts little/no exposure to spawning areas for whiting/sardines. Impacts to free-swimming fish (e.g. SBT) expected to be negligible (p150). Impacts to commercial fishing are discussed p151, including gear fouling, temporary exclusion from the area, and fish tainting. Fish tainting risk discussion is confusing, as it is stated that:</p> <ul style="list-style-type: none"> <li>- fish tainting may occur at low hydrocarbon concentrations (~250ppb), which is lower than 'low' dispersed threshold used (p145) ;</li> </ul>
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- fisheries activities are not expected to be spatially in the area, but fish are;  
- dispersed oil concentrations causing tainting are expected to occur in some areas (which is supported by the modelling estimates p145-146);  
- Appendix E 'dispersed oil calculations' identifies dispersed oil movement of up to 43 km in 24 hour period at 'low threshold', which would presumably impact fish at tainting levels;  
- and concludes with 'no impacts to commercial fish species is expected' (p151). This is not supported by the other information in the plan, and does not evaluate the potential impacts to socioeconomic sensitivities (e.g. fishing industry itself, income loss, perception - especially to SBT industry).

Impacts to tourism and recreational use of the area (e.g. visitor avoidance, loss of income, perception, damage to natural values) not evaluated. Fig 5 of Appendix D (Spill Modeling) shows single worst case trajectory as impacting Neptune Islands.

Controls are presented p155-156. Most are preventative (e.g. navigation aids, notice to mariners), with some mitigative (e.g. SOPEP, drilling/testing, etc). Controls fairly standard and clear, as expected for the nature of the risk. Acceptability demonstration is relevant and appropriate, but criteria regarding social acceptability of the risk relies on spill risk concerns having been primarily related to drilling (i.e. the source risk) rather than related to the environmental consequence (i.e. the outcome of a spill); and using the shipping lane presence as comparative in risk acceptability. This contradicts the concerns raised in consultation (e.g. KI Council submission, p127 and 357 Appendix C e-copy), as it is the consequence of a spill which stakeholders are concerned about, rather than the mechanism. However, it is unlikely to change the controls applied or the acceptability test outcome, and so reasonable grounds can be found.

Streamer loss: Preventative controls reduce likelihood of lost streamer (and therefore interference to fishers/shipping) to low, and recovery/notification provisions are made (p170). The ALARP and acceptability demonstrations are robust and appropriate.

#### RFFWI:

- Impacts or perceived impacts to tourism in the area (including KI and Neptune Islands) from a vessel collision spill are not evaluated (e.g. temporary displacement, damage to natural values, visitor avoidance, loss of income, etc).

KR - RFFWI response - Additional information included on potential impacts and risks to socioeconomic values is included.

Impacts/risks to tourism from acoustic disturbance are provided in RFFWI point 3. Although the submission continues to compare the impacts/risks presented to other sources of impact in the area (e.g. shipping lanes), which is inappropriate, an evaluation of potential impacts to key socioeconomic receptors has been provided. This includes the potential deterrence of tourism-related species, as well as impacts to divers, recreational fishing, and GW shark diving. The conclusions reached are supported and negligible impact to tourism is expected as a result of the survey activities.

Impacts to tourism from a spill are detailed in RFFWI point 7. The analysis includes the potential for visible sheens near coastal waters, and potential temporary displacement of coastal/charter fishermen. The potential for perceived impact is identified, and assessed as low risk. Comparison to shipping lane risks is inappropriate, but does not change the assessment of the risk. Notifications in the event of a spill are identified to assist in deterring local vessels from the area temporarily. The assessment of impact is brief, but identifies the mechanisms of impact and the residual risks. Negligible impact to tourism is predicted. No additional controls are identified, and the ALARP and acceptability demonstrations remain as in the EP. This is appropriate for the nature and scale of the risk. [Complies].

14(9)	Consultation with relevant authorities, interested persons or organisations	Complies	KR - Rev 0 - Commercial fisheries effort is summarised in 5.4.1.1, with notations for those fisheries requiring ongoing consultation. p85 of EP identifies potential compensation to displaced fishers. This process appears to still be in draft (e.g. p27 and 214 of Appendix C e-copy), but compliance can be secured by inspection as it is captured in the EPS for fishing disturbance. Marine stakeholder consultation is described in Section 6.5.2, including triggers for future consultation as required in Table 6-1. Timing and responsibility is assigned in the table, and relevant government authorities are included. Ongoing consultation with NGOs/KI Council (i.e. 'other relevant interested persons or organisations' is also provided for, with the trigger being "any change in scope or control adoption which affects marine fauna or environment". This is appropriate and responsibility is assigned, although the process for activating this review and re-engagement is not described. However, regulation 17 provisions apply, and so compliance can be secured through inspection. This is considered reasonable,
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			given the uncertain nature of activity timeframes. [Complies]
16(b)	Contains a report on all consultations for reg 11A	Complies	<p>KR - Rev 0 - Section 6.5.5.2 of EP contains a summary of issues raised, with the full consultation report in Appendix C. P206 contains a summary of stakeholders consulted who did not provide a response. P2-3 (electronic copy) of Appendix C contains the background to the consultation undertaken. The process was commenced for this survey in late 2011, and has included public review periods associated with the EPBC referral process (subsequently withdrawn). Engagement strategy has been wide-ranging, with a large number of potential stakeholders contacted. Those who did not response were sometimes followed up by phone (dependent on function), but those with 'interests' rather than 'functions or activities' (e.g. eNGOs) were not actively chased for responses; and so Bight considers that sufficient information has been provided (p3 Appendix C e-copy). Update emails provided to stakeholders regarding the new timeframe for the activity (e.g. Record 34, p534 of Appendix C e-copy) and advising of updated information availability.</p> <p>P3-47 Appendix C (e-copy) contain a summary table of all consultation undertaken. This includes a summary of the stakeholder's response, assessment of merits of objections or claims about adverse impacts, and a statement of the operator's response. Full text of consultation is contained p49-785 of Appendix C (e-copy). The assessment of merits of objections/claims includes a reference to where in the EP a concern is addressed (where applicable). Full text exchanges are provided, with the original outgoing letters contained p49-57 of Appendix C e-copy; and stakeholder records captured as per the summary table. Some exchanges cursory and conclusive, while others (e.g. KI Council, p111-134 Appendix C e-copy) long, detailed, and encompassing large amounts of information provided to the operator on values and sensitivities. For the KI Council exchange, the operator has provided a point-by-point assessment of merits and responses to the KI Council p145-173 App C e-copy in the text rather than in the summary table. The response has utilised many references and studies to support points made, and key impacts/risks to values and sensitivities identified align with those identified in the EP. Response to KI Council provided to some other stakeholders, e.g. MWN. Some objections/claims (e.g. suggestion by IFAW to undertake aerial surveys during survey; suggestion by KI Council to collect more baseline data) have not been assessed in the consultation report, but the information has been included in the assessment of options p120-123 of EP. Full copies of both EPBC referrals and supplementary information (including copies of responses to comments) are provided in Appendix C. Assessment of merits sometimes refers to information provided to KI Council (e.g. for AMCS, p6 of Appendix C e-copy; CCSA, p11 e-copy; KI Eco-Action, p25 e-copy), or to Response to Public Comments on EPBC Referral (e.g. entire submission by Greenpeace, Humane Society, etc p288-292 App C e-copy), rather than performed for each stakeholder. This is considered appropriate for claims that are identical (e.g. that the draft EP has not been provided to a stakeholder) but not where objections/claims are different.</p> <p>RFFWI:</p> <p>Assessment of merits not performed:</p> <ul style="list-style-type: none"> <li>- One concern raised by Shipping Australia (p38 of Appendix C e-copy) - shipping having freedom of passage - is not assessed or addressed; from the controls presented it appears that the seismic vessel will not move for shipping. No response appears to have been communicated to Shipping Australia --&gt; insufficient information to make an informed assessment of the possible consequences?</li> <li>- The KI Council raised the claim that giant squid may be affected by seismic surveys (p126 App C e-copy). The merits of this claim are not assessed appropriately (p170), and the potential for impacts to cephalopods (as a food source for cetaceans or pinnipeds) is not evaluated in the EP. Potential for octopus and squid to be impacted also raised by Wilderness Society et al. p291 App C e-copy and KI Dolphin Watch p327 App C e-copy and not assessed or addressed.</li> <li>- Several claims by MWN not assessed:</li> </ul> <p>p221 App C e-copy - that secretariats of international conventions (e.g. JAMBA, CMS) are 'relevant persons' and should be consulted with.</p> <p>p244 Requests for: a. Actual dB re 1µPa2.s. and frequencies used across a staggered array cycle b. Number of array cycles/per minute/s c. Operating envelope of sound pressure levels and frequencies at different depths and water temperatures d. Specifications (including age) of the equipment to be used. e. Name of the vessel conducting the survey.</p> <p>p245 suggestions for visual monitoring of species other than cetaceans e.g. SBT, GWS, sea lions. --&gt; EP only states MMO for whales (p117 and 122 of EP) and surveillance of other species is not included in the assessment of options p122 of EP.</p>

- Claim by Pew/CCSA/Wilderness Society not assessed: p248 App C e-copy Ramp-up and soft-start protocols for all EPBC listed species (not just cetaceans)
- Claims by Wilderness Society et al. not assessed: p292 App C e-copy - cumulative seismic impacts, particularly with TGS seismic now proposed for the same year; and other cumulative impacts such as increased noise pollution from seismic, potentially increasing the risk of ship strikes through noise masking.
- IFAW objections not assessed re (for example):  
not being consulted with re new timeframes and information (p447-448 App C e-copy)  
potential deterrence of migrating whales to key habitats (466-468 App C e-copy)

Assessment of merits not appropriate:

- Some assessment of merits (e.g. IFAW, KI Council) state 'no impact' to values/sensitivities (e.g. ecotourism) which is unsubstantiated and conflicts with statements of 'low' or 'negligible' impact in EP.
- The KI Council requested that Bight commit to several monitoring and communication processes, including public updates and public environmental reporting (p113 Appendix C e-copy). Public reporting of activity status and environmental observations (point 3) is committed to on p146 of App C e-copy. However, this is not provided for in the implementation strategy nor reporting sections of the plan; and is contradicted on p173 which states only regular reporting to regulatory bodies and notification of hazards to shipping will occur.
- Some claims made by KI Dolphin Watch (p198 App C e-copy) have not had their merits assessed appropriately: e.g. statement: "There is high potential for substantial impact upon tourism activities, including recreational fishing, and ecotourism in particular", with assessment comparing KI to other petroleum activity areas around Australia (p203 App C e-copy); and "Our own research and associated research tourism activities around longitudinal studies of dolphin populations could very well be affected.", with assessment simply stating "Implausible".
- KI Council submission on EPBC referral incorporates KI Futures Association input (p417-420 App C e-copy), and raises the claim/objection that tourism is highly dependent on reputation and perception of the island, and that loss of this through association of potential impact (including from spills) would impact the industry significantly (p369-370 App C e-copy). The merits of this have not been assessed appropriately, with the response in to public comments simply stating the survey is too far from land to have an impact (p779 and 783 App C e-copy).

KR - RFFWI response - An appropriate assessment of merits is now provided for in the submission:

RFFWI point 11

- Shipping Australia (freedom of passage)
- KI Council, Wilderness Society and KI Dolphin Watch (giant squid and other cephalopods)
- MWN (convention secretariats, survey parameters, visual monitoring)
- Pew/CCSA/Wilderness Society (soft starts)
- Wilderness Society et al. (cumulative impacts)
- IFAW (consultation, migration deterrence)
- DENR (upwelling timing).

RFFWI point 12

- IFAW/KI Council (impact to tourism)
- KI Council (public reporting)
- KI Council/KI Futures Association (loss of reputation)
- KI Dolphin Watch (impact to tourism and research).

The information provided addresses the above gaps. [Complies]

Decision making criteria	Result	Recommendation	Recommendation comments	Representative of NOPSEMA	RoN Review	Review details
Environment Plan complies with the Act and regulations	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	
Environment Plan demonstrates appropriate level of consultation	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	
Environment Plan demonstrates that impacts and risks will be of an acceptable level	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	
Environment Plan demonstrates that the impacts and risks will be reduced to ALARP	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	
Environment Plan includes appropriate implementation strategy and monitoring, recording and reporting arrangements	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	
Environment Plan is appropriate for nature and scale of activity	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	
Environment Plan provides for appropriate performance outcomes, standards and measurement criteria	Agree	Accepted	N/A	Sonya Krishnan	Agree with recommendation	