Response to Public Comments

Statement of Response to Public Comments to Equinor’s draft Environment Plan for the Stromlo-1 Exploration Drilling Program

April 2019. © Equinor Australia B.V.
Statement of Response to Public Comments to Equinor’s draft Environment Plan for the Stromlo-1 Exploration Drilling Program

Equinor Australia B.V.
Level 15
123 St Georges Terrace
PERTH WA 6000
Australia

April 2019
Table of Contents

1. ACKNOWLEDGEMENTS ................................................................. 3
2. INTRODUCTION ........................................................................... 3
3. BACKGROUND ............................................................................ 4
4. PUBLIC COMMENTS .................................................................. 4
5. CHANGES MADE TO THE EP .................................................. 5
6. OTHER RELEVANT THEMES RAISED .................................... 9
   6.1 Ecologically Sustainable Development and the precautionary principle .................. 9
   6.2 Threats to other maritime industries .............................................. 9
   6.3 Metocean conditions ................................................................. 10
   6.4 Quality of our engagement and consultation ...................................... 10
   6.5 The area that might be affected ...................................................... 11
   6.6 Marine park ............................................................................. 11
   6.7 Drilling rig ................................................................................ 12
   6.8 Closing the well ....................................................................... 12
   6.9 Underwater volcanic seamounts .................................................... 12
   6.10 Marine life .............................................................................. 12
   6.11 Acceptability of risk ................................................................ 13
   6.12 Compensation ........................................................................ 13
   6.13 Drill fluid and cuttings ............................................................... 14
   6.14 OPEP ........................................................................................ 14
   6.15 Dispersants ............................................................................. 14
7. FURTHER READING AND WAY FORWARD .................................. 15
1 Acknowledgements

On 19 February 2019, we embarked on a journey that no other company in Australia has made before. We voluntarily published our full draft environment plan (EP) for an offshore exploration well and participated in a 30-day public comment period, where anyone interested in our project could submit feedback directly to the independent regulator, the National Offshore Petroleum Safety Management Authority (NOPSEMA).

We want to say “thank you” to all of those who took the time to read our EP and “Our EP in Brief” document. Thank you to all of those who submitted comments on our EP via NOPSEMA’s website or provided feedback directly to us. Thank you to all of those who met with us, to ask us questions and share their views. All of this has been critical to this process and has led to further improvements to our EP.

We also want to acknowledge the public discussion about exploration in the Bight. We have followed this discussion with interest, and we have contributed to several media reports to share information about our company, our experience and our project. It is natural that energy matters are subject to public debate and we see similar discussions in many countries where we operate.

Many of the public comments we received focused on energy policy, and exploration in the Bight more generally. It is important to note that these comments will not be addressed in this document because they do not relate specifically to the EP process. Our project adheres to existing policies in Australia, which support offshore oil and gas exploration, including in the Great Australian Bight.

We have also seen that aspects of our EP have been misrepresented in material circulating online, particularly the risk and consequences of a highly unlikely oil spill. These misrepresentations, which inaccurately give the impression that impossible scenarios could happen, have led to real concerns among many people in the community. This is unfortunate, and we call on all parties in the public discussion to hold themselves to a high standard of factual information.

We remain excited by the opportunity to explore the Bight. After two years of careful planning and community engagement, all our science and experience tell us we can do this safely with minimal impacts to the surrounding environment.

2 Introduction

This report outlines Equinor’s consideration of public comments that were shared during the voluntary 30-day public comment period in February 2019 for the Stromlo-1 exploration well environment plan (EP).

Equinor is aware of new regulations coming into effect shortly, which aim to increase transparency in NOPSEMA’s environment plan process. While we are submitting our EP before this regulatory change, we have aligned with the new regulations as much as possible. The new regulations require companies developing an EP to publish a draft and hold a 30-day public comment period, which is what Equinor has done. It also requires the company to publish a report describing the outcome of the public comment period.

In line with these upcoming changes, we present this public comment summary. It describes the changes that were made to our EP in response to public comments, and highlights some of the important themes that were raised by many of the submissions.

Prior to the public comment period, Equinor travelled extensively in South Australia and beyond, attending more than 130 meetings with organisations that have an interest in our plans. During the public comment
period we also hosted public “drop-in” sessions in key locations in South Australia, where anyone was welcome to meet our team and find out more about our plans. These were well-attended and generally constructive meetings.

We have met people with many views and heard a range of opinions. Some supported the project and were excited by the opportunities that will come from a commercial discovery. Others opposed our project.

We would like to thank all the people and communities who have contributed to this process.

After all our consultation, engagement and planning, Equinor has now formally submitted its full EP to NOPSEMA for assessment.

3 Background

We are planning to drill one exploration well in exploration permit EPP39, located in the Great Australian Bight. In accordance with the conditions of our permit, we plan to drill before the end of April 2021, once all the necessary safety and environmental regulatory approvals are in place. Our EP is an important part of the regulated approval process.

Since Equinor entered the area in 2013, several surveys have produced a lot of new information about the region, and the new research and learnings have been included into our comprehensive EP.

Our EP is a wide-ranging and detailed description of the environment and our plans to drill safely. It relates to one proposed exploration well, called Stromlo-1, which will be drilled over approximately 60 days. Stromlo-1 is located about 400 km off the coast of South Australia and 476 km west of Port Lincoln, in Commonwealth petroleum exploration area EPP39.

4 Public comments

Our draft EP was more than 1,500 pages and took a team of experts more than two years to prepare. We also released a shortened and simplified version, ‘Our EP in Brief’, which describes our plans and addressed comments raised during our extensive earlier dialogue and engagement with stakeholders.

For Equinor, the purpose of the public comment period was to identify opportunities to improve our EP. In all, we received 31,772 entries. This aligned with our expectations and the industry's experience for similar projects.

In March 2019, NOPSEMA published information regarding how to conduct public comment periods for EPs. This information can be found via this link. It states that certain information is irrelevant to NOPSEMA’s decision making criteria and cannot be considered. Examples include:

- statements of fundamental objection to oil and gas activity
- comments that contain personal threats or profanities
- spam mail
- comments made through online social media channels
- petitions
- comments that pose questions to NOPSEMA and or/the titleholder.
Equinor received many entries which fall into the categories above. It also received several duplicates and blank entries.

After categorising all the entries, 1039 were considered to address specific parts of our EP with questions, comments or concerns. While many of these have not led to changes in our EP, they have all been considered by our experts. In most cases, we found that our EP already addressed what was raised in the comments. To explain this further, we have made a summary of the recurring topics and our responses below.

Among the public comments, 13 comments have led to improvements or changes to our EP, and these are detailed below.

We make no references to specific entries in this report to respect the privacy of those who participated in the public comment process. We believe it is important that people can provide their feedback, regardless of their willingness to participate in a public discussion. If individuals would like to make their entries public, we invite them to do so.

5 Changes made to the EP

The entries that resulted in changes to the EP referred to the following categories:

- EP content
- Stakeholder engagement and consultation
- Description of the existing environment
- Impacts associated with planned activity
- Risk assessment methods.

The table on the next page describes how Equinor took these comments into account and made changes to the EP.

In addition to changes resulting from the public comment period, errors and typographical errors have also been corrected, some of these were also identified via public comment.
<table>
<thead>
<tr>
<th>What was raised</th>
<th>How Equinor responded</th>
<th>References to EP changes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EP CONTENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusion of a reference to the economic benefits of oil and gas development was questioned.</td>
<td>We agree, this information is not required in the EP.</td>
<td>The following statement was removed from section 1.7 of the EP: “Oil and gas will be an important part of the energy mix and economic activity in Australia for decades to come. In Western Australia (WA), major oil and gas development have made significant contributions to the economic development of the state. If a commercial discovery is made in the Great Australian Bight, the economic benefits for Australia and South Australia (SA) would be material as outlined in the ACIL Allen Report.”</td>
</tr>
<tr>
<td>Labelling of the table relating to wellhead installations.</td>
<td>This was an error in the draft EP and has been corrected in EP Revision 1. It was correctly assessed in Section 6.2 but there was a transcription error in Table 6-1.</td>
<td>Table 6-1 in the EP has been corrected to reflect the permanent presence of abandoned wellhead.</td>
</tr>
<tr>
<td>Error in table 2.9 related to the mud and drilling fluids</td>
<td>Table 2.9 was incorrect, but the correct information was shown as Table 6.32 in the EP and was used in the modelling and impact assessment.</td>
<td>Table 2.9 has been updated with correct numbers.</td>
</tr>
<tr>
<td><strong>STAKEHOLDER ENGAGEMENT &amp; CONSULTATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor inconsistencies and grammatical errors including references to Aboriginal groups.</td>
<td>In Section 3.2.2 of the EP we referred to &quot;Aboriginal&quot; as short-hand for a stakeholder group (i.e. organisations or individuals with similar interests), in the same manner we referred to fishing and tourism as stakeholder groups.</td>
<td>The EP has been improved to include references to “Aboriginal communities”.</td>
</tr>
<tr>
<td>Inclusion of economic benefits of oil and gas; comparisons with existing production areas and references to Equinor’s climate change position being out of scope for the environment plan.</td>
<td>We acknowledge that this content is outside the scope of the EP.</td>
<td>Comparisons with existing production areas and details of Equinor’s climate change position have been removed from Section 3.0 of the EP.</td>
</tr>
<tr>
<td>The inclusion of the location of offshore drilling permits, leases and licences in Figure 3.1.</td>
<td>Figure 3.1 was included to provide an indication of offshore drilling distribution in Australia, including exploration permits, retention leases, production licences, pipeline licences and infrastructure licences, not current production wells. Section 2.3 of the EP says that no significant hydrocarbon reserves have been discovered in the Ceduna sub-basin to date.</td>
<td>Figure 3.1 (in Rev. 0 of the draft EP) has been removed from the EP Rev. 1.</td>
</tr>
</tbody>
</table>
**DESCRIPTION OF THE EXISTING ENVIRONMENT**

| Beaked whales were raised as a taxon of concern that may have been overlooked. | The Protected Matters Search Tool (PMST) report in Appendix 4-1 already listed the beaked whales that may occur within the Impact EMBA. The description in Section 4 focuses on species with biologically important areas that overlap the Impact EMBA, and species which are listed as threatened which may occur in the area. Beaked whales may be present but do not fall into either category. We note in Section 4 that “other whales” may be present in the area but not in large numbers. In Section 6, the assessment of planned impacts considers potential effects on cetaceans in general and lists beaked whales as being present in the area. The underwater noise impact assessment focuses on whales that hear in low-frequency ranges as an indicator of the maximum effect on cetaceans because they are affected over larger distances by the low frequency sounds emitted from the main sources. Beaked whales are counted amongst the other toothed, mid-frequency cetaceans and the behavioural effect isopleth distances for this group are less than half compared to the whales that hear low frequencies. | For clarity, beaked whales have been specifically added to the list of mid-frequency whales in Section 6.3 (underwater sound impact assessment). |

**IMPACTS ASSOCIATED WITH PLANNED ACTIVITY**

| The treatment of transponders following drilling. | The environmental benefit of removing transponders at the end of drilling is negligible; however, Equinor has decided to remove the transponder assemblies at the end of the drilling program. | The EP has been modified to confirm that the transponders will be removed in Tables 6.8 and 6.9. |
| Marine biota “adapting” to anthropogenic sound was raised as an imprecise term. | The term “adapt” is used in the context of continuing with normal behaviours in an ocean routinely subject to anthropogenic sound. Another term is “habituation”, which is commonly used to describe animals that co-exist with humans and learn to adjust (behaviourally) to the presence of humans or their signs (e.g. sound, light, movements). As an example, there is significant oil and gas activity on the North West Shelf of Western Australia, including seismic exploration and drilling, which has not prevented the recovery of the humpback whale population along this coast. Petroleum activities off Ningaloo Reef have not affected the humpback whale population, which has significantly increased alongside the growth of oil and gas activities. Other studies in relation to this matter are listed in Section 6.3 of the EP. | The wording in Section 4.1 has been changed for clarity to say the marine fauna “habituate” or “co-exist” with anthropogenic sounds. |
The impact of acoustic transponder signals on marine species.

Transponders, MODU thrusters and the vertical seismic profile (VSP) sound sources were all modelled (Appendix 6-1) and their impacts on whales assessed in Section 6.3 of the EP. The effect zone for ensonification (i.e. the Impact EMBA) is conservatively defined as the area extending 40 km around the Stromlo-1 well location. Equinor has taken a conservative approach in defining the Impact EMBA as a 40 km radius, which encompasses the largest area of ensonification for marine fauna (i.e. 25 km for Temporary Threshold Shifts (TTS) / recoverable effects in low frequency cetaceans from MODU thruster operations, and 15 km effects of transponder sound on high-frequency cetaceans). This area of ensonification is considered conservative because it encompasses all physiological and behavioural disturbance effects to all marine fauna considered within this EP assessment, both at the seabed, sea surface and in the water column (refer to Section 6.3.3.6 of the EP). Lower levels of sound such as the transponders had not been included in the impact assessment because their zone of effect was smaller than that of the sound sources assessed (particularly MODU thruster continuous sound which set the Impact EMBA).

It was considered unclear how the number of pulses in the vertical seismic profile (VSP) contributed to cumulative sound exposure and concern that migrating whales may be impacted.

Based on the results of the extensive studies conducted for the Great Australian Bight Research Project (GABRP) and the deep waters of the Impact EMBA, it can be concluded that the Impact EMBA is not an area with important habitats for cetaceans that would cause them to remain in the area (refer to EP Section 4.6.6 Marine Mammals). Cetaceans passing through would not be displaced from key or important areas for any biological behaviours (including migration) and would continue their migratory routes around the ensonified area if disturbed. Further, the spatial extent of the predicted ensonified area is extremely conservative because it is based on the maximum propagation of sound (at ~1000 m water depth) whereas the whales are mostly in the top 200 m and it assumes animals receive a cumulative dose over a period of up to 24 hours, but it is highly unlikely that an animal would remain stationary within the ensonified area long enough to be exposed to levels that could cause harm, disturbance or displacement. While already conservative, we extended the modelling to cover more shots from the VSP within the 24-hour cumulative sound exposure period.

The underwater sound modelling (Appendix 6-1) has been updated to include the modelling of transponder sound and the risk assessment revised in Section 6.3.

<table>
<thead>
<tr>
<th>RISK ASSESSMENT METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of the impact of an oil spill on socio-economic factors including fisheries and tourism.</td>
</tr>
<tr>
<td>The socio-economic values of the Risk EMBA are described in Appendix 7-4 of the EP. Consequences to fisheries and tourism are described in Sections 7.7.12 and 8, including the description of the effects of dispersant applications based on a range of spill scenarios.</td>
</tr>
<tr>
<td>Section 7.7.12 has been augmented to include more information on recovery times for fisheries and tourism industries using the Macondo (Deep-Water Horizon) case study.</td>
</tr>
</tbody>
</table>

| Representation of all species in the risk assessment summary table. |
| The potential environmental effects listed in Tables 7.1 and 7.2 represent the greatest consequence where there is a range of receptors, with different sensitivities and exposure risks. The ones shown represent the range of effects to other taxa. |
| Text has been added to Section 7.1 to provide clarity. |
6 Other relevant themes raised

The relevant comments that did not lead to changes related to a range of topics throughout the EP. As the purpose of the public comment process is to improve the EP, Equinor has focused on reviewing the comments and determining if changes and improvements are necessary.

It rests on Equinor to make that determination, based on regulations, science and our experience. Now that we have submitted our plan, NOPSEMA must decide if it agrees with our assessments. In its work, NOPSEMA will have access to all the entries submitted in the public comment period.

Below we have listed the main themes that were raised during the public comment period that did not require any modifications to our plan, and a summarised response. We have also included references to sections of the EP that include further information on each topic.

Ecologically Sustainable Development and the precautionary principle

Several submissions have argued that Equinor’s proposed activity ignores Australia’s principles for Ecologically Sustainable Development (ESD) and that we are not adhering to the precautionary principle. These comments have not led to changes to our EP.

It is important to note that the scope of our EP is for the drilling of a single exploration well. The EP examines the impact of this single well on an ecosystem-level and considers if these impacts could last for generations (intergenerational impacts). In Section 5 of the EP, we describe how the principles of ESD were considered. The impact assessment in Section 6.0 of the EP clearly describes how we assess the level of impact as low; without long-term effects that reduce the value of the receiving environment.

Uncertainty in scientific understanding, including the distribution of marine values and resources, sensitivities and potential exposures, have been addressed in the impact and risk assessments of the EP. The potential effects of a major oil spill have not been underestimated because conservative assumptions (in line with the precautionary principle) have been made wherever uncertainty was identified. Conservatism in the spill modelling and the effects of a major spill are described in Section 7.7 of the EP.

Any lack of scientific uncertainty has not been used to justify postponing environmental protection control measures; rather controls have been identified and will be implemented that reflect the worst-case outcomes, recognising all uncertainty.

Lack of full scientific certainty is common to nearly all risk and impact assessments. The primary way of managing uncertainty is to take conservative approaches to assess risks and impacts. This supports a precautionary approach and such conservatism is outlined in each section where uncertainty has been identified, through Sections 6, 7 and 8 of the EP. Collected information and recent research programs conducted over seven years has reduced the scientific uncertainty and improved our plans for the Stromlo-1 well.

Threats to other maritime industries

Equinor acknowledges the importance of the seafood, tourism and other industries associated with the Bight; however, our experience shows the offshore petroleum and production industry can co-exist with fishing, aquaculture and tourism industries. It is important to reiterate that the petroleum industry in Australia has drilled numerous exploration and production wells in the North West Shelf of Western Australia and in Bass Strait of Victoria without compromising the environmental and economic (e.g. fishery, aquaculture, tourism) values of these regions.
Metocean conditions

We received several comments about Equinor’s metocean studies and comparisons with other areas where Equinor operates worldwide.

As part of our planning, we measured the real metocean conditions in the Great Australian Bight over a full annual cycle (2013) using several buoys. It is important to note that our assessment is not based on these data alone. We have used the data from our 2013 study combined with 40 years of weather history to model the conditions. From this, we have made a predictive model of ocean conditions in the area, allowing us to plan for extreme events. If we were to encounter extreme weather, we would simply stop operations, secure the well and wait for better conditions. Some have commented that earlier operations have experienced challenging weather conditions, and we have taken these learnings into account in our plans.

Our research has determined that the conditions in the Bight are similar to the Norwegian Sea, where we regularly operate in stronger winds, higher waves and colder waters. Equinor drills exploration wells and has field developments like Aasta Hansteen in comparatively demanding conditions. We will bring the experience we have gained over 45 years, to our activities in the Great Australian Bight. We acknowledge that the Great Australian Bight has some of the harshest conditions in Australia, but in our EP we have scientifically mapped these conditions and demonstrated how we can safely operate in these waters.

Equinor has safely drilled many wells around the world in over 2000 m water depth. Learnings from these wells are incorporated in the planning for Stromlo-1. The metocean conditions and patterns that were used in the oil spill modelling are described in more detail in Appendix 7-1 of the EP. In the unlikely event of an oil spill, we have used relevant metocean conditions for the period of response. More information on the metocean conditions and the setting for the drilling location can be found in Section 4 of the EP.

Quality of our engagement and consultation

Some entries have argued that Equinor has not engaged and consulted well enough.

We have made sincere attempts to engage broadly in order to understand the range of views held by community groups and individuals, whether they were supportive or opposed to the activity. Our engagement process has involved meeting with more than 100 organisations and representatives across a wide range of stakeholder groups.

Effective engagement and consultation across a broad geographical area necessarily involves a variety of methods: from informing stakeholders, to seeking their views, through to collaboration. Our process has sometimes necessarily involved a one-way information flow via press releases, emails, letters and fact sheets and publication of the EP itself.

We have also hosted and been invited to formal and informal face-to-face meetings, exhibitions, community sporting events, and community drop-in sessions. In addition to the public comment process, these events have allowed two-way information sharing, where both sides have had the opportunity to exchange views and information, listen, and have their issues considered.

After years of effort to engage and consult about our project, we published our full draft EP and invited to public comments. In doing this, we believe we have made information about our project widely available and facilitated an inclusive process for providing input. Some people have submitted public comments on ways the engagement could be improved. We are grateful for these contributions, which we will consider in our forward planning.

In addition to our extensive engagement work, formal consultation with relevant persons has been undertaken in accordance with Regulation 11A of the OPGGS(E) Regulations 2009. Our definition of relevant persons is provided in Section 3.0 of the EP and includes persons that may be impacted by the planned drilling activity, with the zone of potential impact defined as an area with 40 km radius around the well location (i.e. the Impact EMBA).
The area that might be affected

We received questions and comments relating to our Impact EMBA (environment that may be affected), including how we have defined it and how we have assessed potential impacts.

The Impact EMBA is the geographical area that may be affected by our planned activity for drilling the exploration well. Equinor has assessed all impacts related to our planned activities as sound, light emissions and discharge of drilling muds and cuttings to find the largest area that encompasses all the impacts. It has been conservatively set at a radius of 40 km around the well site to allow us to predict the exposure and sensitivity of marine life that might be present in the area.

The EP is written to meet the requirements for an EP under the relevant OPGGS(E) Regulations. Section 4 of the EP describes the environmental (including socio-economic) values of the Impact EMBA – an area defined in Section 4; where impacts are expected to occur because they are the result of planned activities. The impacts and consequences of planned activities are described in Section 6 of the EP.

Risks from unplanned events are described in Sections 7 and 8 of the EP. The environmental values of the area which may be affected by unplanned events (including oil spills) are described in Appendix 7-3.

For further detail on the difference between the Impact EMBA and the Risk EMBA, please see Section 4 ‘Existing environment of impact EMBA’, Section 6 ‘Impacts associated with planned activities’ and Section 7 ‘Risks associated with unplanned events’ in the EP.

Marine park

Some submissions noted that our planned activity occurs in a marine park.

The Stromlo-1 well site is located in a Multiple Use Zone (Category VI) within the Great Australian Bight Marine Park, which allows for a range of activities within the zone, including exploration drilling.

The Great Australian Bight is home to a rich marine life and sustains several other industries. The latest research results from CSIRO and our own collected dataset from this area have been included in the EP.

The location of the well site in the outer waters of the GAB Marine Park necessitates an assessment of the impacts and risks in terms of the values of the marine park and this has been factored into the assessments in the EP, particularly in Sections 6, 7 and 8. For further detail on how our exploration permit relates to the marine park management plan, please see Section 4.4.3 in the EP.
Drilling rig

We received some entries asking about the rig we will use for drilling Stromlo-1.

We will select the rig through a tendering process, which has not been conducted yet. We are not required to identify the rig in the EP but have ensured that our EP covers whichever rig we select.

We will probably use a mobile offshore drilling unit (MODU) that floats on semi-submersible pontoons. A semi-submersible MODU would be well-suited to the conditions of the Bight; this kind of rig is commonly used by the industry – including by Equinor – for drilling in deep waters.

It's important to note the requirements of the rig will be assessed in a Well Operations Management Plan, which is a separate regulatory document that will be submitted to NOPSEMA in the future. The WOMP is not required for the EP assessment process but must be approved prior to drilling.

Closing the well

Some people asked us how we plan to permanently seal the well after drilling and about leaving a wellhead on the seabed.

Once all regulatory approvals are in place, Equinor plans to start drilling in the summer of 2020/2021. The well will be drilled over approximately 60 days. After the operation is finished, the well will be permanently sealed – regardless of whether we have found hydrocarbons or not.

When developing our plans, we considered the merits of removing the wellhead compared with the benefits of leaving it behind. As the wellhead has a footprint at the seafloor of less than 1 m², rising only 2–3 m above the seabed, we have decided to seal the wellhead permanently with cement plugs and leave it in place. At this depth, leaving the wellhead in place will not affect other marine users, like trawl fishers. Our impact assessment and rationale for leaving the wellhead in place is included in Section 6.0 of the EP.

Underwater volcanic seamounts

Some people asked questions about the volcanic seamounts that are located within licence area EPP39.

Anna’s Pimple and Murray’s Mount are located approximately 20 km north of the Stromlo-1 site. These two seamounts do not appear to represent regionally significant biodiversity hotspots, but they provide locally important hard substrate in an otherwise barren muddy plain. In developing the EP we reviewed footage of these seamounts and the information from this recent study has made us more confident of their features and shapes. More details about the volcanic seamounts can be found in Section 4 and in Section 3.2 of Appendix 7.3 of the EP. The EP describes why the drilling activity will not impact the volcanic seamounts (see Section 6 and Appendix 6-2). The risks to Anna’s Pimple and Murray’s Mount following the unlikely event of a spill are detailed in Section 7.7.12 of the EP.

Marine life

We received a range of comments relating to whales, sea lions and other marine populations in the Great Australian Bight.

The marine life of the Impact EMBA is described in Section 4 of the EP and the marine life of the entire Risk EMBA is described in Appendix 7-3. These descriptions cover everything from benthic invertebrates to whales and sea lions.

The Impact EMBA is some 100 – 150 km offshore from the continental shelf slope (drop-off) and even further from the relatively shallow waters of the continental shelf itself. There are no feeding habitats, restricted migratory path habitats, aggregation habitats, calving or other critical habitats known or predicted in the Impact EMBA.
The deep, offshore habitats (including the benthos) of the central Great Australian Bight are now some of the best-known deep-water environments in Australia. The Great Australian Bight Research Program (GABRP) and the Great Australian Bight Deepwater Marine Program (GABDMP; described in Section 4) have provided valuable insights into the biodiversity of the area.

As part of the impact and risk assessment, we completed a thorough review of available literature and data on the discovered marine species that are known to be or could be within the Impact EMBA and the Risk EMBA. The sources of information and data are listed in Section 4.2 of the EP and include government databases, peer-reviewed scientific literature and reports from the GABRP and GABDMP. The assessment is therefore based on the best available knowledge.

Regionally significant species from the area are described in Section 4.6 of the EP, and a risk assessment for an unplanned loss of well control and oil spill scenarios is included in Section 7.0.

Acceptability of risk

Some entries express concern that we have underestimated the risks to the environment or disagree with our conclusion that the risks are acceptable.

We understand there are different opinions about how to assess risk and what level is acceptable, but our EP follows clear criteria which are consistent with industry standards. The process for assessing the acceptability of impacts and risks described in Section 5.5.3.1 of the EP. Guidance on levels of acceptable risk is provided by NOPSEMA in its Guidance Note N04750-GN1344.

The management measures have been designed to reduce the risks and impacts to as low as reasonably practicable (ALARP) in accordance with international and Australian risk management practice and as described in Section 5.5.3.2. and follows NOPSEMA guidance. The EP and demonstration of ALARP outcomes, will be formally reviewed by NOPSEMA.

Compensation

Some asked about Equinor’s compensation plans.

In the event of an oil spill, Equinor has developed a compensation plan as part of our financial responsibility to stakeholders in the Risk EMBA. We have worked with South Australian legal experts to develop a bespoke scheme to operate in the unlikely event that our operations cause financial loss. The scheme is designed to be fast, reliable and independent from Equinor.

Applicable regulations do not require such a scheme to be in place, but the scheme was developed voluntarily by Equinor based on our stakeholder engagement.
Drill fluid and cuttings

We received some comments about the impact that drilling would have on the environment, with reference to the drilling fluids and cuttings from our well.

It is important to note that major offshore petroleum industries in Bass Strait and the North West Shelf of Western Australia have co-existed in much closer proximity to important fisheries, aquaculture and tourism activities for many decades.

For Stromlo-1 we show through our impact assessment that discharging the muds and cuttings to the seafloor, after treatment to remove synthetic-based muds from the rock cuttings, will have a low impact.

A summary of the quantities of muds and cuttings (drill fluids and solids) to be discharged from our well has been included with modelling of how these will disperse in the marine environment, in Appendix 6-2. As described in Section 6.6 of the EP, the impacts of the drilling discharges will be limited to the area around the well and impacts can be kept at an acceptable level.

OPEP

Our EP provides an Oil Pollution Emergency Plan (OPEP), which received some feedback.

At Equinor, we are determined to prevent all accidents. For us, any oil spill is unacceptable. Nevertheless, we must be fully prepared for the highly unlikely event of an oil spill. We have prepared robust response strategies in close cooperation and consultation with state and federal agencies to ensure we are able to protect the environment in any situation. Overall our plans conclude we can drill safely, but we have also demonstrated that we are prepared to respond to any scenario.

Our oil spill modelling study is provided in Appendix 7-1 of the EP. The modelling and detailed logistics studies that we have conducted, have informed our oil spill response strategy that is reflected in the OPEP (Appendix 9-1). Refer to Appendix 7-4 for the ALARP assessment for measures to stop or mitigate a spill associated with a loss of well control (with respect to response timeframes and sources of oil rigs and vessels).

Dispersants

In the unlikely event of a spill, we would take several steps to protect the environment. Among the many proposed oil spill response techniques are subsea dispersant injections and surface dispersants. Some people had questions about these.

The chemical dispersants proposed in the EP and OPEP are approved for use in Australia by the Australian Maritime Safety Authority and are included in the register of oil spill control agents. These have been assessed as non-toxic or low-toxicity and have been subject to ecotoxicity testing on species relevant to Australia.

Our OPEP is detailed in Appendix 9-1 and the impacts associated with the use of dispersants are discussed in Section 8.5 of the EP.
Further reading and way forward

In addition to the information in this report, readers should refer to the relevant sections of the EP, particularly where references are provided above.

The updated EP (Revision 1), as submitted to NOPSEMA for assessment, is available to download from our website www.equinor.com.au. On our website you will also find additional information about our project and about Equinor as a company.

The lodgement of our EP is noted at NOPSEMA’s website and the status of NOPSEMA’s assessment will also be available there. Once the EP is accepted by NOPSEMA, the accepted version will also be published in full.

Equinor will continue to engage and consult with stakeholders throughout its project.