INPEX Browse E&P Pty Ltd:2D Seismic Survey WA-532-P, WA-533-P and WA-50-L

1. Purpose of this report

NOPSEMA has accepted the 2D Seismic Survey WA-532-P, WA-533-P and WA-50-L (the EP) submitted by INPEX Browse E&P Pty Ltd (the titleholder) for a seismic survey activity in the Browse and Canning Basins within the period 1 November 2020 to 31 December 2021 (with an operational window between 1 November to 31 May in either year)

As required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (the Environment Regulations), the public was provided with an opportunity to comment on the EP[1]. No public comments were provided during the public comment period.

Following the public comment period, the titleholder submitted the EP for assessment by NOPSEMA on 7 September 2019. NOPSEMA has since completed its assessment of the EP and has determined that it is satisfied that the EP meets the criteria for acceptance[1] on 9 April 2020.

This report explains how NOPSEMA took into account comments received from the public during the public comment period in making its decision[2]. Comments have been grouped into 'key matters' that capture the key issues, concerns or new information considered during the assessment that may be of most interest to the public.

This report accompanies the accepted 2D Seismic Survey WA-532-P, WA-533-P and WA-50-L (Revision 3) submitted by INPEX Browse E&P Pty Ltd, which is available on the NOPSEMA website and should be referred to for further information.

1.1. Information relevant to NOPSEMA's decision:

In making the decision to accept this EP, NOPSEMA took into account:

- the Environment Regulations;
- NOPSEMA Assessment Policy (PL0050), Environment Plan Assessment Policy (PL1347) and Environment Plan Decision Making Guidelines (GL1721);
- the information raised by relevant persons, government departments and agencies that is relevant to making a decision;
- There were 0 public comment submissions received during the public comment period;
- relevant plans of management and threatened species recovery plans developed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and relevant guidance published by the Department of the Environment and Energy.

[1] Environment Regulations, Regulation 10A Criteria for acceptance of environment plan

[2] Environment Regulations, Regulation 11(3) Publication of notice, etc.

2. Next steps

Responsibility for the ongoing environmental performance of the 2D Seismic Survey WA-532-P, WA-533-P and WA-50-L activity remains, at all times, with INPEX Browse E&P Pty Ltd.

NOPSEMA has legislated responsibilities to inspect and investigate offshore petroleum and greenhouse gas storage activities, and to enforce compliance with environmental law. These functions will be applied to this activity in accordance with NOPSEMA's policies.

3. Sensitive Information

Sensitive information received during the public comment period, such as the names and contact details of commenters and specific information identified by the commenter or relevant person as 'sensitive', is not published in this report. Sensitive information is contained in a sensitive information part of the EP which has been considered by NOPSEMA during its assessment process.

4. Further information

If you would like further information about the activity, please contact the titleholder's nominated liaison person specified in the EP and on NOPSEMA's webpage for the 2D Seismic Survey WA-532-P, WA-533-P and WA-50-L.

If you would like to be notified of regulatory information on the activity, such as start and end dates and enforcement actions (if any), please subscribe to updates from the https://info.nopsema.gov.au/ on NOPSEMA's website.

How NOPSEMA has taken into account key matters raised during assessment of the 'INPEX Browse E&P Pty Ltd: 2D Seismic Survey WA-532-P, WA-533-P and WA-50-L' EP.

#	Issues raised	Titleholder response	NOPSEMA's assessment and decision
1	*There would be unacceptable impacts to pygmy blue and humpback whales within biologically important areas (BIAs)*	INPEX undertook a comprehensive assessment of the potential impacts to blue and humpback whales. This was informed by underwater acoustic modelling to account for sound propagation and predict the received sound levels in both the humpback resting BIA and pygmy blue whale migratory BIA. ANIMAT modelling was also conducted to determine the realistic exposure of whales to sound from the survey. INPEX will ensure that the activity is conducted such that there is no injury or disturbance of marine mammals utilising BIAs (p.275-276). This will be achieved through the application of EPBC Act Policy Statement 2.1 standard control measures as well as night-time and low visibility procedures. INPEX will apply an increased 1 km shut down zone for cows and calves, and will not operate from June to October inclusive to avoid overlap with humpback whale migration and calving. INPEX will also apply a 23 km buffer zone around the pygmy blue whale migratory BIA and will not operate within the BIA during both northern and southern migratory periods	NOPSEMA recognises that there is the potential for the activity, if not appropriately managed, to have an unacceptable impact on pygmy blue whales utilising the migratory BIA overlapping the operational area and humpback whales utilising the resting BIA inshore of the operational area. In making a decision regarding this matter, NOPSEMA took into account the content of INPEX's EP, relevant scientific literature, and NOPSEMA's Decision Making Guidelines (GL1721), the Conservation Management Plan for the Blue Whale (DoE, 2015), Humpback Whale Conservation Advice (DoE 2015), EPBC Act Policy Statement 2.1 (DEWHA, 2008), and the EPBC Act Significant Impact Guidelines 1.1 - Matter of National Environmental Significance (DEWHA, 2013). During the course of the assessment, NOPSEMA required INPEX to consider: • Uncertainties in the behaviour of whales in response to anthropogenic sound that may result in cumulative sound exposures; and,

		(April-Aug inclusive, October to December inclusive) to prevent any potential for cumulative TTS impacts to migrating pygmy blue whales.	• Additional control measures to address this uncertainty. This resulted in the adoption of both a pygmy blue whale exclusion zone that temporally excluded acquisition during migration, as well as temporally excluding operations during the humpback whale migration and calving season. Given the temporal and spatial control measures that have been implemented, alongside EPBC PS2.1 standard and additional mitigation measures, it is evident that the activity can be managed such that impacts to whales will be limited to short term behavioural disturbance of a small number of transient individuals. NOPSEMA has concluded that after taking into consideration all the environmental management requirements, that the activity will not cause unacceptable impacts to humpback or pygmy blue whales.
2	*There would be unacceptable impacts to flatback turtles utilising the internesting biologically important areas (BIA)*	INPEX undertook a comprehensive assessment of the potential impacts to flatback turtles utilising the internesting BIA that overlaps the operational area. This was informed by underwater acoustic modelling and peer reviewed literature. INPEX will ensure that the activity is conducted such that there is no physiological	NOPSEMA recognises that there is the potential for the activity, if not appropriately managed, to have an unacceptable impact on flatback turtles utilising the internesting BIA overlapping with the operational area. In making a decision regarding this matter, NOPSEMA took into account the content of INPEX's EP, the Recovery Plan for Marine

		injury to marine turtles within the operational area, or behavioural disturbance of inter-nesting flatback turtles within the BIA. This will be achieved through the application of a 250 m shut down zone for marine turtles, soft starts as required by EPBC Act Policy Statement 2.1, and temporal avoidance of the flatback internesting BIA during nesting periods.	Turtles In Australia (DoE 2013), relevant scientific literature and NOPSEMA's Decision Making Guidelines (GL1721). During the course of the assessment, NOPSEMA required INPEX to consider: • Uncertainties in habitat use and response to anthropogenic noise by flatback turtles; • The most conservative threshold for physiological injury to marine turtles (Popper et al., 2014); and, • The farthest range to physiological effects based on the above threshold. This resulted in INPEX implementing control measures to temporally avoid acquisition of seismic in internesting BIAs during nesting periods, and applying a conservative 250 m shutdown zone which is greater than the largest range to physiological impacts based on the most conservative threshold. NOPSEMA is satisfied that with the proposed control measures in place, impacts to flatback turtles will be limited to behavioural disturbance of isolated, transient turtles. Consequently, NOPSEMA has concluded that the activity will not result in unacceptable impacts to flatback turtles or disturbance of nesting internesting behaviour.

3	*There would be unacceptable impacts to commercial fisheries.*	INPEX undertook a comprehensive assessment of the potential impacts to commercial fisheries. This included using a scientifically supported conservative threshold Popper et al. (2014). The EP explains how the Popper et al. (2014) effect thresholds were derived and why they are conservative (Section 7.1.6). Therefore, the INPEX 2D seismic survey is highly unlikely to result in mortality or mortal injury to fishes. The impact and risk assessment for fish includes a spatial analysis of the percentage of demersal fish habitat that may be exposed to potential mortality or injury during the survey based on the conservative Popper et al. (2014) effect thresholds. The analysis has considered the percentage of habitat and commercial fisheries that may be exposed within the acquisition area (Section 7.2.1). Based on the maximum 'conservative' predicted effects, less than 2.17% of the seabed habitat within the depth ranges of the wider Kimberley stocks (of any of the key commercial fish species) would be potentially affected. In the highly unlikely event such effects occur, the extent of impact is considered to be low and will not be of any ecological significance in the context of natural variability, resilience and recoverability (Section 7.1.6).	NOPSEMA recognises that there is the potential for the activity, if not appropriately managed, to have an unacceptable impact on commercial fisheries within the operational area. In making a decision regarding this matter, NOPSEMA took into account the content of INPEX's EP, the relevant scientific literature and NOPSEMA's Decision Making Guidelines (GL1721). During the course of the assessment, NOPSEMA required INPEX to consider: • A detailed description of relevant habitat distribution within the acquisition area; • The area of benthic habitat receiving sound at levels above the mortality/injury effects thresholds; and, • The recovery of potentially affected commercial fish species in the unlikely event mortality/injury occurred. As part of the evaluation of impacts, INPEX has considered the conservative sound propagation modelling presented in the EP and has applied effect thresholds for mortality and/or potential mortal injury based on Popper et al. (2014). The modelling outputs have been adequately integrated into the evaluation of impacts to clearly define the localised spatial extent in which mortality and/or potential mortal

			injury may occur within acquisition area (i.e. approx. 2% of commercial fishery stocks). Noting NOPSEMA's review and consideration of all third party correspondence, NOPSEMA is satisfied with the demonstration of acceptability, and proposed control measures in place that if any potential impacts to commercial fisheries occur they will be recoverable. Consequently, NOPSEMA has concluded that the activity will not result in unacceptable impacts to commercial fisheries.