



Australian Government

Department of Climate Change, Energy,
the Environment and Water

Statement of Reasons for Approval under the *Environment Protection and Biodiversity Conservation Act 1999*

I, Murray Watt, Minister for the Environment and Water, provide the following statement of reasons for my decision, under subsection 130(1) and section 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**), to approve the proposed Action by Woodside Energy Ltd (**Proponent**) to continue and extend the operating life of the North West Shelf (NWS) Project through the long-term processing of third party gas and fluids and NWS Joint Venture field resources through the NWS Project facilities (EPBC 2018/8335).

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Legislation

- 1) Relevant legislation is set out in **Annexure A**.

Background

Description of the proposed action and location

- 2) Woodside Energy Ltd (the proponent) proposes to continue and extend (until November 2068) the operating life of the North West Shelf (NWS) Project through the long-term processing of third-party gas and fluids and North West Shelf Joint Venture (NWSJV) field resources through the NWS Project facilities at the Karratha Gas Plant (KGP), located approximately 18 km north-west of Karratha, WA.
- 3) The proposed action also seeks to transition the existing NWS Project facilities to facilities that are commercially capable of accepting gas for processing from other resource owners. The NWS Project facilities currently only process field resources from the NWSJV. The NWS Project is owned by the NWSJV participants.
- 4) The proponent has stated that the extension is required because the existing NWS Project facilities are currently operating under three pre-EPBC Act authorisations (under the *Environment Protection (Impact of Proposals) Act 1974 (Cth) (EPIP Act)* dated 1979, 1997 and 1998. The current approval does not permit the processing of third-party gas and the proponent expects the current resource to run out prior to 2036.
- 5) Under existing approvals (WA *Environmental Protection Act 1986 (EP Act)* and Commonwealth *EPIP Act*, only NWSJV field resources are allowed to be processed through the KGP.
- 6) At present, the existing NWS Project processes natural gas and associated fluids from NWS Joint Venture field resources to produce up to 18.5 million tonnes per annum (Mtpa) of Liquefied Natural Gas (LNG) at the KGP; this limit on production exists at the federal level under the EPBC Act following the (not a controlled action) decision in EPBC 2006/3191.
- 7) The current EPIP authorisation for the NWS project does not detail the expected emissions composition. The current EPIP authorisation is applicable until the NWSJV resource is depleted or around 2030.
- 8) The proposed action is to continue and extend until about 2070 the operating life of the NWS project to allow the long-term processing of third-party gas (e.g. from Browse to NWS development) and fluids and NWSJV field resources through the NWS Project facilities. The proposed action as described in the proponent's Environmental Review Document (ERD) includes:
 - Modifications to the KGP onshore receiving facilities to accommodate third-party gas and fluids, as well as upgrades to metering to facilitate processing of third-party gas and fluids;
 - Potential construction of additional operational equipment to accommodate changes to feed gas composition or management of discharges and emissions; and

- Changes to feed gas composition (including changed content of inerts, hydrocarbons and other components) and composition of environmental discharges and emissions (note, annual volumes of emissions and discharges are expected to be within current levels) as third-party gas and fluids may differ from existing NWSJV fields.
- 9) The ongoing operation of the NWS Project (from the date of approval to about 2070) that is part of this proposed action includes:
- Ongoing use of existing NWS Project facilities to process third-party gas and fluids and NWSJV field resources;
 - Inspection, maintenance, and repair (IMR) and improvement programs for trunklines (TL), 1TL and 2TL;
 - Maintenance dredging associated with jetties and berthing pockets;
 - Replacing equipment, plant, and machinery as required to process third-party gas and fluids, that would not otherwise be replaced if not for the proposed action;
 - Continuation of emissions and discharges to the environment;
 - Monitoring and management of environmental impacts; and
 - No additions are proposed to the disturbance footprint currently approved.
- 10) The onshore and State waters component of the existing NWS Project (which form part of this proposed action) includes: five liquified natural gas (LNG) processing trains; two domestic gas trains; six condensate stabilisation units; three liquified petroleum gas (LPG) fractionation units; LPG, LNG, and condensate storage facilities; two jetties for exporting condensate, LPG, and LNG; power generation and supporting utilities; emergency, operational, and storage and loading flares; two subsea trunklines, described as 1TL and 2TL, within State waters and crossing onshore to the KGP; an off-site supply base (KBSB), used for activities such as diesel storage, refuelling, pilotage, and logistics; and associated infrastructure necessary and incidental to conducting existing NWS Project activities.
- 11) Except for 1TL and 2TL, these key components of the NWS Project are located approximately 18 km from Karratha and are bounded by Withnell Bay to the north, Mermaid Sound to the west, Murujuga National Park to the east, and industrial land to the south.
- 12) Current NWSJV field resources are extracted by offshore facilities in Commonwealth waters. Gas and de-watered liquid hydrocarbons are then transported onshore to the KGP through two trunklines (1TL and 2TL), which run broadly parallel to each other and extend from the North Rankin Complex in Commonwealth waters, through State waters, and onshore to the KGP.
- 13) NWSJV field resources are processed at the KGP for export to international and domestic markets. Marine vessels transport LNG, LPG, and condensate to international markets. Natural gas from the KGP is supplied to the domestic market via the Dampier to Bunbury Natural Gas Pipeline (DBNGP).

- 14) The proposed action includes altering the KGP so that it may be operated and maintained to take and process gas from both the NWSJV *and* other third-party sources (including the Browse to North West Shelf Development).
- 15) Without new gas and fluids sources, the existing action (and associated emissions and discharges) would be expected to decline over the next 10 years as the NWSJV fields deplete.
- 16) During the referral stage, the proponent clarified that the existing NWS Project is within the scope of the referral, that is, within the scope of the proposed action.
- 17) The NWS Project Extension proposed action does not include the development of offshore gas fields. A separate approval is being sought under the Browse to North Shelf Development referral (EPBC 2018/8319).
- 18) The NWS Project Extension proposed action is closely related to six other projects being undertaken by the proponent. Together these form part of the proponent's larger Burrup Hub Project – except for the Browse CCS project.
- 19) The proposed action includes the ongoing use of the NWSJV field resources. One of these resources includes the existing pipelines owned by the NWSJV to the KGP from the North Rankin Platform (offshore field). The proponent has stated that the gas to be transported through the pipeline, as part of the proposed action, will be from a variety of sources.

Procedural history

Referral and Assessment Approach

- 20) On 14 November 2018, the proponent referred the action to the Minister. On that day, the proposal was published on the department's website and comments from the public and Commonwealth and State Ministers were invited.
- 21) One public submission was received on the referral and raised the following concerns:
 - the ongoing protection of heritage and environmental values within the development envelope and adjacent lands.
 - that measures to minimise the impacts of emissions be strictly adhered to and independently monitored should the proponent be granted an extension.
 - the proposed re-use of dredged material to replace sands displaced from public recreational areas at Dampier Palms Beach.
- 22) On 3 May 2019, a delegate determined under section 75 of the EPBC Act that the proposed action is a controlled action and that the controlling provisions were ss 15B and 15C (National Heritage values of a National Heritage place). The delegate further decided that the action be assessed by an accredited assessment process, being assessment by the WA Environment Protection Authority (EPA) under the *Environmental Protection Act 1986* (WA) (EP Act). The level of assessment set by the WA EPA under the WA EP Act was Public Environmental Review.

WA EPA Assessment

- 23) The WA EPA considered four key environmental factors in their assessment. These were greenhouse gas emissions, air quality, social surroundings and marine environmental quality. Each factor was assessed in relation to the WA EPA's environmental objectives for that factor.
- 24) The proponent's draft Environmental Review Document (ERD) and supporting appendices were published on the WA EPA website for public review between 18 December 2019 and 12 February 2020.
- 25) In addition to the WA EPA's and department's comments on the ERD, there were a total of 19,869 public submissions and one government agency submission received during the public review period of the draft ERD documentation. All submissions, except for seven, were against the proposal. The main issues raised were:
- Air quality including data and assessment of air emissions between 2020 and 2070, the proponent's air quality emissions should be made public, ongoing monitoring should be for the life of the project and be kept up to date with National Environment Protection Measures, and that the proponent should be required to use 'best available technologies';
 - Greenhouse gas emissions including best efforts should be implemented to minimise GHG emissions (including offsets), concerns about the proposed action emissions on climate change and human health, and comments in relation to LNG being 'cleaner' than coal;
 - Social surroundings including the unacceptable risk that the proposed action's emissions places on rock art and the world heritage listing nomination, and the potential impacts of the marine development envelope on cultural heritage sites on past islands, which are yet to be documented;
 - Marine environmental quality including requests for the proponent to consult with Traditional Owner groups to consider potential impacts on marine fauna of cultural and spiritual significance and that a marine environmental management plan developed; and
 - Other issues raised were about concerns about the technology being aged and not carbon efficient, that gas should not be considered a transitional fuel, that renewable energy technology is now available and more cost effective, that the proponent should set targets for engaging the community and employing Traditional Owners, and concerns that third-party gas could be provided by fracking and the broader impacts of fracking.
- 26) On 1 July 2020, the WA EPA received the proponent's Response to Submissions document and updated supporting appendices that addressed each of the public and agency comments on the draft ERD.
- 27) On 30 June 2022, the proponent's final Response to Submissions document and supporting appendices were published on the WA EPA website.

WA Approval Decision under EP Act - Ministerial Statement 1233

- 28) On 30 June 2022, the WA EPA published the WA EPA assessment report, including recommended conditions, for a public comment period between 30 June 2022 and 21 July 2022.
- 29) The WA EPA assessment report concluded that the impacts from the proposal on the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place are acceptable, provided the recommended conditions are implemented.
- 30) 776 appeals were lodged to the WA Office of the Appeals Convenor against the WA EPA assessment report and recommended conditions. The appellants' main concerns were regarding:
- That the WA EPA did not consider matters within the constraints of the EP Act, or it considered matters beyond those constraints;
 - The assessment undertaken by the WA EPA was inconsistent with its policy framework;
 - That information and data used in the recommended decision was flawed and that, if the WA EPA had used alternative data and information, a different conclusion would have been made;
 - That the expert advice that the WA EPA relied upon was flawed and that the recommended decision should have relied upon alternative advice, and, if it did, a different conclusion would have been arrived at;
 - That it was unclear in the WA EPA assessment report and recommended decision how the WA EPA arrived at a particular conclusion about an assessment of a particular factor; and
 - That the WA EPA did not give proper attention to the EP Act objects and principles.
- 31) On 26 November 2024, the WA Office of the Appeals Convenor published the Appeals Committee Report to the WA Minister for Environment, and the WA Environment Minister's Appeals Determination. The WA Minister for Environment recommended that the appeals be allowed in part and that certain parts of WA EPA's recommended conditions be strengthened to provide additional protections.
- 32) On 12 December 2024, the WA Minister for Environment; Climate Action published Ministerial Statement 1233 (MS 1233) that the proposed action may be implemented subject to conditions.

Reconsideration requests under the EPBC Act

- 33) Between 2022 and 2025, my department received three purported reconsideration requests (section 78(1)(a) of the EPBC Act) for the controlled action decision for this project as outlined in Table 1.

Table 1: Summary of decisions following Reconsideration Requests for EPBC 2018/8335

Requestor	Date of Submission	Grounds	Decision
Environmental Justice Australia	8 July 2022	Substantial new information - s.78(1)(a) of the EPBC Act	Controlled action decision confirmed on 28 May 2025
Conservation Council of Western Australia	11 February 2025	Substantial new information - s.78(1)(a) of the EPBC Act	Determined to be not valid on 15 May 2025.
Greenpeace	19 March 2025	Substantial new information - s.78(1)(a) of the EPBC Act	Determined to be not valid on 15 May 2025.

Request from Environmental Justice Australia

- 34) On 8 July 2022, Environmental Justice Australia (EJA) submitted a reconsideration request, on the basis of the availability of substantial new information (section 78(1)(a) of the EPBC Act).
- 35) On 18 May 2025, I determined that the information provided with the request from EJA is not about the impacts that the proposed action has or is likely to have on matters of national environmental significance (MNES) and confirmed the original controlled action decision (reconsideration decision – MS25-000488). I found that the physical effects of climate change on MNES were not ‘impacts’ of the proposed action.
- 36) I considered that the reconsideration request contained information which demonstrates in a general sense that climate change from anthropogenic sources of GHG emissions has and/or will have physical effects on protected matters. In particular, I accepted that the combustion of coal and/or gas on a global scale results in GHG emissions, which increases the effects of climate change, including the regularity, scope and intensity of climate hazards. I accepted that these effects of climate change will adversely affect the MNES identified by EJA in their application.
- 37) To the extent the information may be relevant to the physical effects of climate change caused by the proposed action, I noted that the reconsideration request contained information about emissions resulting from the processing of gas, and combustion by third parties of the gas to be processed in the proposed action. I accepted that having regard to the information provided by EJA and through the section 78B consultation process, the physical effects of climate change on MNES are, if anything, indirect consequences of the proposed action: they are events or circumstances that are removed in time and distance from the taking of the action, which is the processing of gas.
- 38) Therefore, I found that for the information in the reconsideration request to be about the impacts of the proposed action under section 527E of the EPBC Act, it must be shown that the proposed action is a substantial cause of the physical effects of climate change on MNES.
- 39) I considered that the proposed action is not a substantial cause of the stated physical effects of climate change on MNES. Therefore, I concluded that the information is not about impacts the

proposed action has or will have, or is likely to have, on these protected matters. This was because:

- a) The information did not demonstrate that the proposed action will cause any net increase in global GHG emissions and global average temperature (and so, any of the stated physical effects of climate change on MNES). Whether this will happen is subject to multiple variables; and
 - b) Even if that were demonstrated, any contribution from the proposed action to global GHG emissions would be very small. It was therefore not possible to say that the proposed action will be a substantial cause of the stated physical effects of climate change on MNES.
- 40) Reconsideration requests were also received on 11 February 2025 from the Conservation Council of Western Australia and on 19 March 2025 from Greenpeace ([Attachment F104](#)). On 15 May 2025 a delegate of the Minister determined that those requests were not validly made in accordance with section 78A.

Proposed decision on EPBC 2018/8335 under the EPBC Act

- 41) On 28 May 2025, I proposed to approve the proposed action subject to conditions.
- 42) The department considered, and I agreed, that sufficient public consultation had occurred for the proposed action and that the views of the public were well understood. I decided not to release the proposed decision for public comment under section 131A of the EPBC Act.

Consultation on the proposed decision

- 43) The same day that I proposed to approve the action, in accordance with section 131AA of the EPBC Act, I wrote to the proponent and the following Ministers inviting comments:
- The Hon Minister Swinbourn MLC, WA Minister for the Environment; Community Services; Homelessness
 - The Hon Chris Bowen MP, Minister for Climate Change and Energy
 - The Hon Madeleine King MP, Minister for Resources and Minister for Northern Australia
 - Senator the Hon Malarndirri McCarthy, Minister for Indigenous Australians
- 44) As described above, I did not invite comments from the public. However, I have considered any relevant submissions received from the public in making my decision.

Comments on the proposed decision: Minister responses

- 45) On 11 June 2025, the National Indigenous Australians Agency (NIAA) responded to the invitation to comment on the proposed decision on behalf of the Minister for Indigenous Australians. I noted that the NIAA suggested that Condition 2 be expanded to require the proponent to consult with other relevant Traditional Owners and First Nations people in addition to the Murujuga Aboriginal Corporation and Ngarluma Yindjibarndi Foundation Ltd.
- 46) I received no other comments from Ministers on the proposed decision.

Correspondence received since the proposed decision

- 47) Since I proposed to approve the action on 28 May 2025, a total of 155 items of individual ministerial correspondence were received by my office in relation to this decision. All of the correspondence stated opposition to, or had negative sentiment towards the proposed action, which included the following points:
- concerns for extending the facility’s operation to 2070 given Australia’s 2050 zero emissions target.
 - disappointment in the proposed approval decision.
 - a petition with 21,000 Australians opposing the proposed decision
 - demands to introduce new legislation for climate triggers into the EPBC Act/ reforms into the EPBC Act
 - concerns relating to the Murujuga / the Burrup Peninsula with emissions likely to degrade the rock art.
 - concerns about the environment and climate change, that the project will significantly contribute to greenhouse gas (GHG) emissions.
 - the proposed action and its connection to the algae bloom in South Australia.
 - concerns for future generations, in particular for their grandchildren/child.
- 48) The department received various submissions from Friends of Australian Rock Art (FARA) regarding potential impacts of the proposed action on the Murujuga rock art. The documents that were submitted to the department detailed concerns, including:
- Significant impacts to heritage values such as proven acidification of the rock art surface, emissions of noise and light, access restrictions, disruption to visual amenity and the heritage landscape, and effects on the health and wellbeing of Traditional Custodians and their ongoing cultural practices.
 - That the residual impacts had not been adequately assessed and the precautionary principle not applied appropriately.
 - The assessment overlooked a range of available technologies for reducing NOx emissions at the NWS facility.
 - The State assessment did not provide an assessment of the impacts of industrial emissions from the proposal on the rock art for the purposes of the EPBC Act or consider or address the heritage values as described in the listing of the National Heritage Place, or the Significant Impact Guidelines for the National Heritage Place.
 - That the conclusions of the MRAMP were misrepresented in the accompanying Executive Summary. In particular, that the hypothesis of historical impact of the Dampier Power Plant was not sufficiently supported, that the evidence of impact was minimised and that data

indicating that levels of NO_x taken in the field are already exceeding guideline level was excluded from summary.

- 49) The department also received new research undertaken as part of an unpublished PhD which demonstrates that increased porosity can occur over six years of exposure to emissions at current recorded levels and that a piece of rock removed from Murujuga in the 1990's shows absence of impacts when compared to equivalent rocks which remained in the area. The authors of this thesis state that this is another piece of evidence supporting the hypothesis that impacts have occurred after the peak of the Dampier Power Plant.
- 50) I note that some of these issues were raised during the WA assessment process and have been addressed in the WA EPA assessment report and by the department in their assessment.

Proponent's comments on the proposed decision

- 51) On 23 June 2025, the proponent made a formal response to the invitation to comment on the proposed decision. Additionally, the proponent engaged with the department in relation to the conditions in June, July and August 2025. I consider the proponent's specific comments relating to the proposed conditions further below.

Evidence or other material on which my findings were based

- 52) In making a decision under subsection 130(1) and section 133 of the EPBC Act, I have considered the final approval decision brief and all its attachments (approval decision brief) prepared by the department and dated 9 September 2025. A full list of the attachments to the approval decision brief is set out at **Annexure B** to this statement. I specifically note that the proposed decision brief dated 28 May 2025 was attached to the approval decision brief.
- 53) I consider that these documents provide sufficient information for me to decide whether or not to approve the proposed action.

Findings on material questions of fact

- 54) I have considered all impacts that the proposed action would have or is likely to have on the matter protected by the controlling provision for the proposed action. As ss 15B and 15C are controlling provisions for the action, these are the National Heritage values of National Heritage places.

National Heritage places (s15B & s15C)

- 55) I consider that the National Heritage values of the Dampier Archipelago (including the Burrup Peninsula) have the potential to be impacted by the proposed action.
- 56) The Dampier Archipelago (including the Burrup Peninsula) National Heritage Place covers an area of 36,860 hectares (ha) at Dampier and includes parts of the Burrup Peninsula and the Dampier Archipelago. The Dampier Archipelago comprises 42 islands, islets and rocks, all within a 45 km radius of Dampier, which are considered to have exceptional natural beauty, high conservation values and outstanding heritage values.

Values of the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place

57) The Dampier Archipelago (including the Burrup Peninsula) National Heritage Place was included on the National Heritage List on 3 July 2007 for the National Heritage criteria (a), (b), (c), (d) and (f). The five criteria and associated values are set out in Table 2 below:

Table 2 – Description of the values for the Dampier Archipelago National Heritage Place

National Heritage criteria	Values
A Events, Processes (a) the place has outstanding heritage value to the nation because of the place's importance in the course, or pattern of Australia's natural or cultural history.	The engravings on the Dampier Archipelago include finely executed images of a wide range of terrestrial, avian and marine fauna, many of which can be identified to species level. Most of the engravings (particularly the marine fauna) are slightly or moderately weathered and were produced following the rise of sea levels about 8000 years ago. There are a number of deeply weathered images of terrestrial fauna which date to the time when the sea was much lower. The different degrees of weathering of particular types of faunal engravings provide an outstanding visual record of the course of Australia's cultural history through the Aboriginal responses to the rise of sea levels at the end of the last Ice Age. There are a number of deeply weathered engraved 'Archaic Faces' in the Dampier Archipelago, including some images unique to the area. 'Archaic Faces' are widely distributed through arid Australia. The 'Archaic Faces' on the Dampier Archipelago demonstrate the long history of contact and shared visual narratives between Aboriginal societies.
B Rarity (b) the place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.	At the national level, the Dampier Archipelago is outstanding for its diversity of engraved human forms and the antiquity of depictions of complex scenes showing human activity (both mundane and sacred), which are rare at the national level. There is a very high density of rock engraving sites on the Dampier Archipelago, which when compared with other sites in Australia is rare. There is a high density of standing stones, stone pits and circular stone arrangements on the Burrup Peninsula, and the diversity of these stone features across the Dampier Archipelago are rare at the national level.
C Research (c) the place has outstanding heritage value to the nation because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history.	On the Dampier Archipelago, in areas where archaeological remains (middens, grinding patches, quarries) are associated with large numbers of engravings, there is an outstanding potential to yield information that will contribute to an understanding of the nation's cultural history. The 'Archaic Faces' in the Dampier Archipelago have outstanding potential to yield information contributing to an understanding of the long history of connections between the coast and the Western Desert. The Dampier Archipelago contains engravings of human figures (Anthropomorphs) characteristic of most of the major art provinces in the Pilbara. The different degrees of weathering and

National Heritage criteria	Values
	the large number of super-positioned engravings in the Dampier Archipelago provides an outstanding opportunity to establish a relative chronology for motifs characteristic of the major style provinces in the Pilbara.
D Principal characteristics of a class of places (d) the place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places or; (ii) a class of Australia's natural or cultural environments.	The Pilbara is the richest region of rock engravings in Australia. The rock engravings on the Dampier Archipelago include an extraordinarily diverse range of animal and human figures which are characteristic of regional styles that occur elsewhere in the Pilbara. The Dampier Archipelago is outstanding as a place where engravings of human forms representative of all the style provinces in the Pilbara are found. The standing stones in the Dampier Archipelago are outstanding in a national context for the number of purposes they are known to have served, for example for ceremonies and marking particular places with scarce resources. The finely executed animals identified to species level, the diversity of human forms and the panels of engravings showing scenes of human activity exhibit a high degree of creativity, particularly during the Holocene, which is unusual in Australian rock engravings.
F Creative or technical achievement (f) the place has outstanding heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period.	The finely executed animals identified to species level, the diversity of human forms and the panels of engravings showing scenes of human activity exhibit a high degree of creativity, particularly during the Holocene, that is unusual in Australian rock engravings.

58) The Dampier Archipelago (including the Burrup Peninsula) National Heritage Place is thought to contain more than one million rock engravings (petroglyphs) and represents one of the most dense and diverse collections of petroglyphs in the world.

59) The Dampier Archipelago (including the Burrup Peninsula) National Heritage Place values are primarily based on the Aboriginal rock engravings (in the form of petroglyphs), with particular emphasis on:

- weathering of the petroglyphs;
- history depicted in the petroglyph illustrations;

- diversity of the petroglyphs;
- unique complexity of the illustrations on the petroglyphs;
- contribution that the illustrations on the petroglyphs have made to understanding Australia’s cultural history; and
- contribution that the illustrations on the petroglyphs have made to understanding Australia’s natural history.

60) The Dampier Archipelago (including the Burrup Peninsula) National Heritage Place listing also recognises the high density of standing stones, stone pits, and circular stone arrangements in the National Heritage Place, which contributes to the significance that the National Heritage Place has for Aboriginal cultural heritage.

North West Shelf Project Extension proposed action area

61) I note that the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place:

- borders the northern lease boundary of the KGP for approximately 600 metres (m);
- overlaps the onshore NWS Project lease area in the north east at Withnell Bay, at Mount Wongama Road and over a section of the Mount Wongama telecommunications lease; and
- is 150 m or more from the southern edge of the KGP lease boundary.

62) The onshore development footprint, which is primarily the existing KGP, occupies a granitic land system with heavily weathered, shallow red sandy soils, comprising a mixture of boulders, cobbles, gravels and silty sand. The surface soils within the development footprint have been heavily modified through the original cutting, filling and levelling to enable construction of level, sealed areas for hard standing for roads, storage tanks, processing equipment, as well as drainage features to contain and direct surface water flows.

63) The native vegetation within the fence line of the KGP has largely been cleared with only small pockets of degraded vegetation remaining. A Buffer Zone around the plant remains largely uncleared, except for the Southern Expansion Lease (an area used for staging during construction of the KGP).

64) The WA EPA assessment report explains that Murujuga is the traditional Aboriginal name for the Dampier Archipelago and surrounds, including the Burrup Peninsula and that portions of the National Heritage Listing Area overlap the Murujuga National Park.

65) In 2023 the WA Government announced that there would be no further new greenfield developments on the Burrup Peninsula.

Burrup Strategic Industrial Area

66) The existing KGP is located within the Burrup Strategic Industrial Area (SIA), a strategic industrial estate with vacant land for strategic industry in close proximity to gas, ports and other key infrastructure in the Pilbara region.

- 67) SIAs are an initiative by the WA Government and are designed for investment in downstream processing and other heavy or strategic industrial activities. They are home to industries which generate significant investment, employment and value production for WA.
- 68) Industrial developments inside the Burrup SIA other than the KGP include Woodside's Pluto LNG plant, Yara Pilbara Fertilisers plant, Yara Pilbara Nitrates plant and Perdaman Urea Plant.
- 69) The land in the Burrup SIA is located within the City of Karratha. Under the City's Town Planning Scheme No.8 the SIA is zoned 'Strategic Industry'. The estate is managed by Development WA and the WA Department of Jobs, Tourism, Science and Innovation is the lead agency for the development of the Burrup SIA.

Murujuga Airshed

- 70) The Burrup Peninsula, the population centre of Dampier and Karratha and surrounding areas, are encompassed by the Murujuga Airshed.
- 71) I note that industrial facilities that currently release, or have approval to release, significant quantities of air emissions into the Murujuga Airshed, include:
- The existing NWS Project;
 - Woodside Pluto LNG Plant;
 - Yara Pilbara Fertilisers Pty Ltd Ammonia Plant;
 - Yara Pilbara Nitrates Pty Ltd Technical Ammonium Nitrate Production Facility (TANPF);
 - Perdaman Urea Project;
 - Pilbara Iron Yurralyi Maya Power Station;
 - Santos Devil Creek Power Station;
 - ATCO Karratha Power Station; and
 - EDL West Kimberley Power Plant (Maitland LNG Plant).
- 72) The Coogee Chemicals Pty Ltd Downstream Processing Chemical Production Facility is a future potential industrial air emissions source within the Murujuga airshed. This project is currently under assessment by the WA EPA.
- 73) In addition to the above, shipping operations mainly associated with the loading of iron ore and LNG at Dampier Port also release emissions into the Murujuga airshed.

Impacts on the Dampier Archipelago (including Burrup Peninsula) National Heritage Place

- 74) At referral, the delegate determined that the proposed action has the potential to impact on the tangible and intangible values of the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place (NHP) through:
- a) Direct impact to rock art within the development envelope from the proposed action's workforce, or through unauthorised access to the NHP. For example, accidental damage (through vehicle contact and spills from operational activities) or deliberate actions that cause damage;

- b) Ongoing air emissions causing impact to rock art through increased weathering through the following activities that were identified by the proponent:
 - i) The Extension Proposal having the potential to impact air quality through the generation of air emissions from gas turbine generators, furnaces / boilers, and flaring associated with the gas processing plant;
 - ii) There being the potential for the emissions profile to change from those which are currently assessed and approved as KGP transitions to a LNG Tolling Facility, because third-party gas field feed gas composition may differ from existing NWSJV fields, including changed content of inerts, hydrocarbons and other components; and
 - iii) The new emissions and discharges from new sources of gas and fluids being additional to any emissions and discharges that would have arisen from the existing activity, and these ongoing and additional emissions and discharges will give rise to both additional potential impacts from the emissions and discharges, and cumulative impacts.
- 75) Relevantly, the potential impacts are summarised in the department's referral brief and further summarised in the Legal Considerations report. I accept these summaries as an accurate description of how the proposed action may cause the loss of, or degrade or damage, or notably alter, modify, obscure or diminish, the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place's National Heritage values. I also note that the key issue for consideration in this assessment is the impact of air emissions on the rock art.
- 76) The WA EPA in their assessment report considers that "there may be a threat of serious or irreversible damage to that rock art from industrial air emissions (in particular NOx from the Extension Proposal) accelerating the natural weathering". I noted that the WA EPA assessment report and proponent documentation does not characterise the impacts on the rock beyond "weathering beyond natural rates".
- 77) The department expressed concerns in the Legal Considerations report with how the WA EPA assessment report and the proponent's assessment documentation discussed and characterised expected outcomes. I acknowledge that this was partially due to the unavailability of information in 2022 when those documents were prepared, and the absence of a definitive estimation of the rate of natural weathering in the scientific literature and differences in options regarding cumulative management of emissions.
- 78) The WA EPA assessment report clearly identifies the WA EPA's concern that impacts to the rock art as a result of emissions would be likely to be severe and irreversible. Therefore, the WA EPA is relying on the implementation of the Murujuga Rock Art Strategy (MRAS) and Murujuga Rock Art Monitoring Program (MRAMP) to investigate the potential impacts.
- 79) I agree with the department that I should accept the department's assessment of the proposed action as discussed below, further to the WA EPA assessment report.
- 80) I note that, for the same reasons identified above in relation to the reconsideration request from the EJA, I do not consider that the physical impacts of climate change are impacts of the proposed action within the meaning of 'impact' in section 527E of the EPBC Act.

Impact of the proposed action's air emissions on the Murujuga Rock Art

Background on the potential impacts of air emissions on Murujuga Rock Art

- 81) A rock art engraving (petroglyph) is formed by breaking through the naturally formed rock surface (patina) to expose lighter-coloured rock underneath (weathered rind). Some deeper engravings may expose the fresh rock which is usually darker than the rock surface. These colour contrasts are one factor that informs the condition of rock art engravings. The rock art images can fade over time from natural weathering, as well as weathering that has been accelerated as a result of human activities.
- 82) I note that it has been suggested that deposition of acidic dust on the rocks may, when interacting with water, create an acidic solution which may weather the surface of the rock. One of the hypothesised pathways by which this may occur is that the acidic solution causes the manganese and iron compounds (which give the rocks their characteristic red colouring) to dissolve and as a result the rock varnish and patina are damaged, exposing the weathering rind and leading to a lightening of the rock surface colour.
- 83) Since 2004, numerous independent and scientific studies and monitoring of potential cumulative impact of industrial air emissions on rock art have been undertaken. As a result of criticism of the methodologies and the interpretation of the findings from some of the research studies taken over this time, and the finding of inadequacies in the statistical analysis of the colour change data, the Department of Water and Environmental Regulation (DWER) commissioned an independent review of the monitoring program and data analysis. The review found multiple improvements could be made to provide robust, replicable and reliable results about the impact of emissions on rock art in which stakeholders and the public can have confidence.
- 84) The Murujuga Rock Art Strategy (MRAS) Monitoring Studies Data Collection and Analysis Plan discusses both the value and the uncertainty of the existing studies. The analysis demonstrates how this previous work provides a strong justification for the existence of the Murujuga Rock Art Monitoring Program (MRAMP) but also details the weaknesses and uncertainties of this existing body of work which demonstrates a strong need for deeper investigation with strengthened methodologies and analysis. Critique of the methodological and statistical weaknesses of the existing research is captured in the MRAMP and in the proponent's literature review. It is the understanding of these inadequacies that provides the basis and direction of the MRAS and MRAMP.
- 85) I note that in the context of lack of scientific consensus, the MRAS was implemented by DWER (2019) to protect rock art on Murujuga from the potential impacts of anthropogenic emissions and establish the framework for long-term monitoring and analysis of changes to the rock art to determine whether rock art is subject to accelerated change. The framework provides a risk-based and adaptive approach for the management of impacts to rock art.
- 86) The MRAMP monitors, evaluates, and reports on changes and trends in the integrity of rock art, specifically to determine whether anthropogenic emissions are accelerating the natural

weathering, alteration, or degradation of the rock art. The MRAMP ultimately aims to develop a series of Environmental Quality Criteria (EQC) as part of the Environmental Quality Management Framework (EQMF) for the ongoing management of the Murujuga region, with a focus on air quality. The EQC will consist of Guideline (early warning) and Standard (limit) levels for all key air pollutants. This management and monitoring framework is designed to ensure the long-term protection of rock art from anthropogenic emissions.

- 87) I understand that initial data and interim findings from the MRAS were anticipated in 2023 and that the first-year report (MRAMP 2023) was published in 2023 and that the second-year report (MRAMP 2024), was made available to the department in February 2025, and published by the WA Government on 23 May 2025.
- 88) The MRAMP 2023 report findings indicated that geological, mineralogical, and chemical trends have been identified, but that unexpected confounding results have also been recorded.
- 89) The MRAMP 2024 report contains the first evidence from the MRAMP program that shows likely impacts of industrial emissions. The porosity of the weathered rind of granophyre rock surfaces was found to be significantly more porous close to industrial areas, the port, and towns, and lower elsewhere in less impacted areas such as on the northern and western islands. I note these differences.
- 90) I consider that the finding from the MRAMP program shows likely impacts from industrial emissions is supported by another key finding of the MRAMP 2024 study showing that chamber studies have demonstrated a mechanism by which air pollutant exposure could lead to dissolution and increased porosity, and that this has been confirmed chemically and physically.
- 91) I understand that while other potential causes of the detected increase in porosity are yet to be ruled out, there is evidence that industrial emissions have led to the detected impact. The MRAMP 2024 report shows increases in porosity which are correlated with proximity to industry, and which cover a large area of the NHP.
- 92) When considering the spatial extent of a such an impact, I note that the MRAMP 2023 states that there are 'no sites on Murujuga where pollution is entirely absent' and that even 'remote sites in the far north of the Burrup Peninsula experience high concentrations of pollution under some conditions'. I also consider that the MRAMP 2024 report indicates that pollution may be condensed in low lying areas such as gorges which have large concentrations of petroglyphs.
- 93) The conclusions of the MRAMP 2024 report indicate that it appears that some anthropogenic impacts have occurred, and that the dominant mechanism for any effect appears to be direct impact of emissions through an increased acidity pathway.
- 94) The department considered that the MRAMP 2024 report demonstrated that a path forward to develop and refine EQC from field and chamber observations has been established. This data will also be integrated with separate experiments to investigate microbiome sensitivity to air pollutants. The contribution of the microbiome and organic acids to rock-surface processes is an important consideration which is under investigation.

- 95) The interim EQC documentation was provided to the department on 28 April 2025, which presents Interim EQC for nitrogen dioxide, sulfur dioxide and ammonia.
- 96) I note that the report states that the interim EQC established in the report will continue to be reviewed and refined as research work progresses. It is anticipated that future revisions of the EQC (incorporating research currently in progress) will include additional pollutant species as well as refining the Guideline and Standard values. While I understand that the EQC values will remain as interim EQC until the final year of MRAMP research is complete, the documentation does not lay out details on how the interim EQC will be implemented or managed and there is no indication of how the information in the report may be adapted to set emissions standards for the proposed action.

Characterisation of existing research

- 97) The present state of existing research into the potential impacts of industry on the Burrup Peninsula and that the strength of the research into this effect has been characterised variably by stakeholders throughout this assessment.
- 98) The proponent's assessment documentation has maintained that there is no peer-reviewed evidence that there have been observable changes to the petroglyphs of Murujuga as a result of industrial emissions. The proponent stated that no observable or measurable changes to the rock art have been demonstrated in the preceding 15 years (as of 2020) and that the emissions profile of the proposed action is the same that the existing action has been operating under in that time.
- 99) However, the proponent's assessment documentation also notes that the scientific uncertainty coupled with the theoretical acid deposition pathway for potential accelerated weathering presents a possibility that the proposal could cause degradation, damage, notable alteration, modification, obscuring, or diminishing of the values of the National Heritage Place.
- 100) The WA EPA assessment report notes that there is uncertainty regarding the impacts to rock art. The WA EPA considers that there is a lack of full scientific consensus about potential residual cumulative impacts on the significant environmental values (including social surroundings values) associated with rock art within Murujuga.

Conclusion on the role of emissions on rock art

- 101) I note that the proponent's assessment documentation and the WA EPA assessment report were produced prior to 2022 and therefore were unable to consider all information available to me at the time of this decision.
- 102) Further, while there are conflicting views, I agree with the department that, contrary to the proponent's submission, there is a body of peer-reviewed scientific and other literature, including the MRAMP, asserting that industrial emissions are adversely affecting the rocks of Murujuga. Further, I note that there are multiple lines of scientific and other evidence suggesting that nitrogen oxides (NO_x), sulfur oxides (SO_x), and other acidic airborne emissions are having a significant adverse impact on the rocks of Murujuga.
- 103) The MRAMP does not discuss what the impacts of increased porosity may be to the rock art. However, the department considers that there are likely impacts which have the potential to

diminish the values of the rock art which relate to the preservation of detail of the precise and intricate engravings. Specifically, there is evidence that there is a risk that increased porosity leaves the rocks susceptible to other processes. These include:

- Reduced strength as a result of structural change;
- Increased porosity of the rock varnish and patina after exposure to acids will facilitate the passage of acidic compounds and sea salts into the surface veneer/weathering rind interface and this process will weaken the bonds holding the outer hard crust to the rock. Crystallisation of nitrates, sulphates, and sea salts upon drying at this interface may lead to the visible flaking off and breaking down of the rock surface; and
- Changes in bacteria colonisation rates and types. The MRAMP contains preliminary analysis of the microbiome dataset and correlation with geochemical data that suggests there is differential abundance of bacterial species in areas of high and low porosity however it is unknown whether this is a causal relationship or opportunistic colonisation with respect to porosity. Furthermore, this analysis also suggests that surface manganese (a key component in desert varnish) is lower where porosity is elevated.

104) I note my department says that the body of available scientific information is ongoing and is not currently adequate to fully understand the likelihood and scale of the impacts on the Murujuga rocks from industrial emissions. However, I further agree with the department that there is sufficient scientific evidence to conclude that areas of the Burrup Peninsula have been exposed to industrial emissions capable of accelerating rock art weathering.

Impacts of the proposed action

Changes in composition of emissions

105) The proponent's ERD identifies the key pollutants emitted from the proposal that relate to rock art include nitrous oxides, unburnt volatile organic compounds and sulfur dioxide. I also note that, in relation to the proposed action, ozone is not directly emitted by the proposal but is formed because of anthropogenic sources via chemical reactions.

106) At referral, the proponent advised that the proposed action could, in part, be characterised by the changes in emissions due to third-party sources and that the new emissions profile had not undergone environmental assessment. I note that the ERD anticipates changes to these emissions and that the proponent considers that these 'may be limited or controlled via engineering and operational controls'. I agree with the department that the ERD does not provide information to verify the proponent's claims and that the degree of emissions similarity or difference is unknown for third party gas providers. I also consider that the ERD provides limited information on the total emissions quantity and quality for the proposed action, does not provide a project life timeline of anticipated changes in feed sources, nor how chemical composition of feed sources will change over time.

107) The proponent's Air Quality Management Plan (AQMP) describes a process to assess each potential third party source to be processed by the facility, which I consider further below.

- 108) I also note that the department requested additional information concerning emissions composition at both the referral and ESD stages. I agree with the department that only partial information was provided, as the air quality modelling described some projected volumes of emissions based on unspecified improvements rather than specific future changes.
- 109) I note that the department requested information similar to that requested by the WA EPA to inform conditions relating to a revised AQMP.
- 110) I consider that, rather than provide information on the quantity and composition of gas to be processed, the proponent's assessment documentation instead provided a commitment to reduce emissions (by 40% compared to a baseline of reported emissions). This commitment was increased to a 60% reduction in response to proposed in MS 1233, and that these commitments were used by the EPA in its assessment in lieu of more detailed information about projected emissions.

Contribution of the project to concentrations of harmful emissions on the Burrup Peninsula: Cumulative impacts

- 111) To support its proposed action, the proponent undertook an air quality impact assessment which assessed several scenarios and potential future emission sources within the Murujuga airshed, including the proponent's proposed 40% reduction.
- 112) The modelling found that in the scenarios which included the proponent's proposed 40% reduction in NO₂, that annual NO₂ deposition was predicted to increase and the SO₂ deposition was predicted to marginally increase.
- 113) I note that the WA EPA suggested that the reason for the model's finding that there would be a cumulative increase in annual NO₂ was due to projected future industry sources other than the proposed action. However, I note that the proponent would still be likely to be responsible for 60% of total NO_x emissions even under their revised 60% reduction commitment.
- 114) Despite this, I agree with the department that the WA EPA assessed the potential cumulative impacts of the proposed action and determined that residual impacts could be managed by conditions that use the cumulative MRAS approach. I also agree with the department's view that the WA EPA did not consider the impacts of the proposed action outside of a cumulative scenario, and that the WA EPA considered this approach to be appropriate due to the goals of the MRAS and MRAMP and the regulatory approaches available to the state.
- 115) I note the department's advice to me that the assessment of the proposed action and any conditions of approval could only consider the impacts of the Karratha Gas Plant and that a cumulative assessment and conditioning approach, taking into account and seeking to reduce the emissions from other projects, is not available to me and is not appropriate under the EPBC Act.

New and additional impacts attributable to the action

- 116) I considered that, to understand the likely impacts of the proposed action, it was necessary to understand what impacts have occurred, and at what rate, and what the likely impacts of the proposed action may be over the life of the action. In doing this, I:

- Note the MRAMP 2024 report which concludes that there is evidence that increased porosity has occurred, and that this is inferred to have happened during the existence of industry on the Burrup Peninsula;
- Note that the MRAMP 2024 report and the interim EQC reports hypothesise that the former Dampier Power Station was potentially a major contributor to this and suggest that industrial emissions were 2-3 times higher in the past;
- Agree with the department’s advice that there is considerable uncertainty about the MRAMP 2024 hypothesis that impacts were caused by historical emissions given the numerous existing and proposed emissions sources, and I note the department’s advice concerning apportionment of emissions loads within the Murujuga airshed;
- Agree that, although an understanding of the total Murujuga airshed load is theoretically achievable, several factors complicate understanding. These factors were detailed in advice attached to the Legal Considerations report, which also states that a review of National Pollutant Inventory data for 2022 indicates that approximately 79% of the acid gas emissions on the Burrup Peninsula were attributable to the NWS project.

117) I also note that modelling by the WA EPA suggests that, while emissions attributable to the project will go down, overall emissions will rise and that the proponent has committed to decrease NO_x emissions by 60% by 2030. This commitment is captured by Condition 3-5(1)e-f of the WA State conditions but still represents 60% of the total NO_x emissions on the Burrup Peninsula. Given this, I consider that there is a real risk that a similar or equivalent impact to that detected by the MRAMP could occur over the life of the proposed action, in circumstances where the action is a likely future majority contributor of emissions on the Burrup Peninsula.

Characterisation of potential impacts of the proposed action due to emissions

118) I note that “increases in porosity” may leave the rocks susceptible to other processes which have the potential to diminish the values of the rock art which relate to the preservation of detail of the precise and intricate engravings, including:

- an increase in the fragility of the rock;
- by causing higher permeability leading to greater exposure of the weathering rind to liquid permeation and to salt accumulation; and
- by leading to biological impacts such as changes in rate or type of bacterial colonisation. This may lead to changes in the patina or altered rates of patina formation which can in turn lead to changes in contrast between the art and the engraving which would constitute an impact to values of the NHP.

119) Noting these consequences of increased porosity, I agree with the following conclusions. In doing so, I note the advice of my department, in summary:

- The MRAMP 2024 report provides good evidence of accelerated weathering since industry began on the Burrup Peninsula.

- The WA EPA’s assessment of the proponent’s air quality monitoring indicates that concentrations of noxious emissions is projected to increase in the likely scenario conditions.
- The Dampier Power Plant is also a likely driver of the increase in porosity, but there is evidence that the KGP would likely have also been a significant or equivalent contributor to historical impacts.
- It is reasonable to consider that a further increase in porosity could reasonably occur as a consequence of the proposed action.
- The spatial extent of the overall increase could possibly be similar to that seen in Figure 7.6-8 of the MRAMP 2024.
- Increases in porosity falls within the scope of accelerated weathering.
- Increases in porosity could also lead to changes in bacterial colonization, leading to other changes; and
- There are numerous other pathways, concerning how air emissions may impact rock art, being investigated. This may include as-yet not understood processes to which the proposed action may contribute.

120) I have also considered new research undertaken as part of an as yet unpublished PhD which demonstrates that increased porosity can occur over six years of exposure to emissions at current recorded levels and that a piece of rock removed from Murujuga in the 1990s shows absence of impacts when compared to equivalent rocks which remained in the area. The authors state that this is another piece of evidence supporting the hypothesis that impacts have occurred after the peak of the Dampier Power Plant.

Physical impacts to rock art within the development envelope

121) According to the ERD there are 134 Aboriginal heritage sites within or adjacent to the proposed action, however records do not confirm the presence of submarine features. I note the sites include a number of different features and accept this information as accurate.

122) I consider that while no direct physical impacts to rock are proposed, there is a risk of accidental damage.

Avoidance and mitigation measures

Avoidance and mitigation measures from direct physical impacts

123) The proponent developed a Cultural Heritage Management Plan (CHMP) to manage the direct risk of impacts to the NHP. I note that key provisions of the CHMP are the management of:

- Potential accelerated weathering of rock art due to industrial emissions undertaken in accordance with the AQMP.
- Direct, accidental physical damage to heritage features within the development envelope through educating personnel.
- Continued restricted access to heritage features within the development envelope until around 2070 and providing access for Traditional Owners when requested.
- Reduced amenity to heritage features outside the development envelope as a result of odorous substances through investigating and responding to odour complaints; and

- Supporting the implementation of, and participation in, the DWER Murujuga Rock Art Strategy.

Avoidance and mitigation measures for impacts from emissions

124) Table 6-9 of the ERD presents existing and proposed mitigation measures for the management of impacts to air quality, including:

- existing design measures to manage NOX and VOC emissions.
- continuation of the emissions testing and verification program; and
- continuation of the Woodside management system to assess changes in feed gas sources. As detailed in the ERD, the most recent LNG trains (trains 4 and 5) constructed at the existing North West Shelf Project are already equipped with lower NOX technology for gas turbines than trains 1-3.

125) The proponent has developed the AQMP and CHMP to manage the potential impacts, to the NHP, of emissions. I note that the AQMP aims to manage the source of emissions, and the CHMP specifically focuses on the potential impacts of the air emissions on the rock art on the Burrup Peninsula.

126) The AQMP has not been updated since 2021. It describes the process the proponent will undertake when assessing each potential new third-party gas source to be processed by the facility to identify any changes that may impact the character of existing emissions and review existing approvals to identify additional requirements.

127) I understand that, based on advice from DWER, a review of emissions and discharges authorised under the proponent's license will also be undertaken in accordance with DWER's regulatory framework, and that changes to air emission composition may require the license to be reviewed.

128) Having reviewed the material before me, I agree with the concerns, described in the Assessment Report, about the effectiveness of the listed measures proposed by the proponent in the ERD and note that the WA EPA recommended significant revisions to the AQMP in the draft conditions.

129) Furthermore, I find that despite the proponent's statements to the contrary, the proponent's feasibility assessment concerning mitigations may not be properly informed and I agree with my department that numerous options to prevent impacts to the values of the NHP may exist. I note that the department is aware of several technologies of this type.

Assessment

130) The department's Significant Impact Guidelines 1.1 provides the following guidance in assessing impacts on National Heritage Places:

An action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause:

- one or more of the National Heritage values to be lost

- *one or more of the National Heritage values to be degraded or damaged, or*
- *one or more of the National Heritage values to be notably altered, modified, obscured or diminished.*

131) I consider that, when assessed against the heritage criteria for which it was listed, there is a real chance or possibility that the proposed action will cause the loss of, or degrade or damage, or notably alter, modify, obscure or diminish, the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place's National Heritage values.

132) I accept the advice of my department that, based on the available evidence and noting the gaps in information that prevent a more complete understanding of the impact, the following conclusions should be made:

- a) that the emissions of the proposed action are likely to have an impact on the NHP. The ongoing production of emissions over 45 years will apply pressure on the rock art of Murujuga, as the emissions will be produced over an area which encompasses the entire area of the NHP;
- b) that over the lifetime of the project that this impact could cause degradation, damage, notable alteration, modification, obscuring, or diminishing of the values of the National Heritage Place because the petroglyphs of Murujuga could be degraded to a level that would significantly impact the values of the NHP across Murujuga; and
- c) that degradation of the petroglyphs would impact all five values (A, B, C, D and F). Accelerated weathering would affect the different degrees of petroglyph weathering present. The different degrees of weathering are a key value as they provide an outstanding visual record of the course of Australia's cultural history through responses to the rise of sea levels. Accelerated weathering would also reduce the visual quality of all engravings, and in particular, the finely executed engravings of animals that are currently identifiable to species levels.

133) In addition, I consider that while no direct physical impacts to rock art are proposed, there is a risk of accidental damage.

Conditions

WA Ministerial Statement 1233

Direct physical impacts

134) The WA EPA assessment report concluded that direct impacts to rock art are acceptable given:

- Condition 4 of the WA EPA approval conditions prevents direct impact to Aboriginal heritage sites and features within the onshore development envelope, and facilitates ongoing traditional owner and custodian access and connection to sites, and
- The proponent must achieve the Cultural Heritage Objective. I noted that the Cultural Heritage Objective is defined as "Avoid where possible, and otherwise minimise direct impacts to social, cultural, heritage and archaeological values within the development envelopes".

135) I agree that implementation of the CHMP will be sufficient to manage the risk of direct damage to rock art within the development envelope.

Impact from emissions

136) While the proponent provided some measures to manage impacts from emissions, I note the WA EPA assessment report considered additional measures were also necessary to prevent unacceptable impacts to the rock art from emissions.

137) The WA EPA determined that with proposal-specific outcomes-based regulation, MRAMP-derived environmental quality objectives, and the environmental quality standards for cumulative impact regulation and other recommended conditions, the proposed action may be implemented in a way that is not likely to be inconsistent with EPA objectives.

138) I understand that the WA EPA approval conditions were modified following an appeals process, and that the WA Ministerial Appeals Committee found the changes necessary due to a lack of interim EQC. The Appeals Committee also noted that should the EQC not be provided as expected, it is open to the WA Minister to remit the proposed action to the EPA to ensure its objective for the protection of rock art is achieved.

139) The Appeals Committee's recommendations included a further reduction in annual NO_x emissions from 40% to 60% by 2030.

140) The Appeals Committee also considered that, in the absence of interim EQCs, further measures to reduce emissions were necessary and that this may be achieved by reducing individual stack emissions limits as well as annual emission loads, and the application of best practice measures. I note that the WA Minister's Appeals Determination stated that the WA Minister disagreed with the proposed reduction on the grounds that air emissions may be regulated under Part V of the EP Act and the CEO could amend the Part V licence by imposing contemporary emission limits based on new information, consistent with any Ministerial Statement.

141) The department summarised the final conditioning approach in MS 1233 for impacts from emissions as follows:

- Condition 3 of MS 1233 is an outcomes-based condition which requires that the proponent achieves the Air Quality Objective (AQO) which is to ensure that no air emissions from the proposal have an adverse impact accelerating the weathering of rock art of Murujuga beyond natural rates. The AQO is considered to be achieved if the proponent implements air emissions standards if instructed to do so by the Minister in writing; and
- Condition 3 requires the proponent to reduce emissions, including NO_x and VOCs and requires significant revisions of the AQMP to include measures to achieve the outcomes.

142) I consider that this summary is an accurate overview of the WA EPA approval conditions.

Department's consideration of MS 1233 conditions

143) The department considered that the WA EPA conditions contain measures which may assist in providing protection to the rock art of the NHP and noted the improvements in the revised

conditions post the WA Appeals Committee's recommendations. The improvements included a further reduction in annual NOx emissions from 40% to 60% by 2030, the requirement of the proponent to describe best practice measures, and the requirement for the proponent to review and assess the measures against international and Australian industry best practice. I agree.

- 144) The department considered that MS 1233 relies on the outcomes of future conclusions of the MRAS, including the MRAMP 2024 report which was part of the decision-making package presented before me, with the assumption that the MRAMP 2024 would provide information that was sufficient to understand and manage impacts to rock art on Murujuga. The department also considered that strategy is a cumulative approach that is not within the conditioning scope of this decision. I consider this to be an accurate understanding of the WA approval conditions.
- 145) In the department's view, as future EQC are likely to be for the Murujuga airshed as a whole, there is a lack of clarity regarding their application to any single facility. Further, the department advised that it considered that there is currently insufficient information in existing reports to define both EQC for the Murujuga airshed and to define industrial air emission limits for the proposed action that would provide sufficiently protective criteria for the rocks and hosted rock art while providing regulators and the community with a high degree of confidence. I agree.
- 146) The department considered that there is considerable uncertainty that the proposed condition set specific to air quality will be enforceable or sufficiently protective of the rock art. The department did not consider that there was sufficient evidence that a 60% emissions reduction required by MS 1233 would be sufficient to protect the values of the NHP. The department also noted that the KGP would remain the majority emitter of industrial air emissions, and that the Appeals Committee also considered that limits of stack emissions to reduce NOx were a necessary precautionary measure to protect rock art. I agree that there is considerable uncertainty and doubt that the MS 1233 conditions would protect the NHP values from impacts due to air emissions.
- 147) The department noted that the proponent has not provided information on how much gas will be processed, or the proposed technologies, and that third-party sources have not been confirmed. I agreed with the department's conclusion that given the uncertainties described by the department, there is no evidence that a 60% reduction in NOx will be adequate, or that, in the absence of production estimates, it will result in reduced NOx emissions. Given this, and the severity of potential impacts to the NHP, the department recommended a precautionary approach in the absence of the necessary information.
- 148) I note the required revisions to the AQMP required by MS 1233, however I consider that there is not enough evidence to demonstrate that the future implementation of the AQMP will be adequate to manage potential impacts, given the uncertainty around causes and pathways.
- 149) Overall, I agree that while MS 1233 contains measures that may assist in protecting the rock art, the conditions rely on future conclusions in documents that have not yet been prepared, that there is a lack of clarity around the emissions the proposed action will contribute to the Murujuga airshed and that existing reports do not provide sufficient information to define limits with a high degree of certainty.

Conditioning on unavailable/future information

150) I agree with the department that the MRAMP constitutes an exceptional research approach. However, I also agree that the WA EPA assessment and approach relies heavily on the future results and implementations of the program. I do not consider it is possible to rely on those matters for the purposes of this decision for the following reasons:

- There are risks relating to conditioning based on future environmental standards.
- The Interim EQC cannot be used to determine standards for the emissions of the proposed action.
- There is uncertainty about whether the MRAMP will be able to develop a final EQC or Environmental Quality Management Framework (EQMF) for potential inclusion in the revised Air Quality Management Plan, and whether the future EQC or EQMF will be sufficiently protective.
- In any event, other than as specifically provided for in the EPBC Act, I am constrained in my ability to impose conditions by reference to a document not yet in existence at the time I make my decision.

Proposed conditions for approval under the EPBC Act

151) I find that there is a likely risk of serious and irreversible damage to the petroglyphs as a result of emissions from the proposed action. I also find that there is uncertainty about that damage.

152) I understand that the WA EPA and the Appeals Committee consider MS 1233 is sufficient to protect the values of the NHP.

153) For the reasons above, I consider that there are constraints in the ability to condition an approval via reference to the conditions of the WA EPA and that MS 1233 is not sufficient to prevent harm to the NHP. I note the advice from my department, in summary:

- That I should have concerns around the efficacy of MS 1233 conditions due to lack of information and uncertainty of approach of conditioning on future information;
- That there are limits on my ability to rely on future documentation when setting conditions; and
- That MS 1233 conditions represent a cumulative approach to manage the Murujuga airshed emissions, which is not appropriate for the EPBC assessment.

154) Having regard to the matters discussed above, I agree that the precautionary principle is engaged. Due to the context and severity and scale of potential impacts, a precautionary approach, to require the proponent to prevent impacts to rock art, is necessary. I discuss this approach below in the section relating to conditions of approval.

Originally proposed conditions

155) In proposing to approve the taking of the action, I proposed to impose several conditions recommended by the department.

Department's recommended proposed conditions relating to physical impact

- 156) To prevent impacts to the values of the National Heritage Place (NHP) because of accidental physical damage arising from unauthorised access during the lifetime of the proposed action, I proposed to include a condition ("Proposed Condition 1") requiring compliance with MS 1233 Condition 1. MS 1233 Condition 1 specifies limits of approved clearing and construction activities to within the development envelope.
- 157) I also proposed to include a condition ("Proposed Condition 2") requiring compliance with MS 1233 Condition 4. MS 1233 Condition 4 requires the implementation of the Cultural Heritage Management Plan (CHMP). In addition, my proposed condition would have required the proponent to consult with the department in preparing the CHMP and provide copies of reports or a revised version of the CHMP required by the MS 1233 Condition 4 to the department, and that the CHMP must be made publicly available on the proponent's website until the completion of the action.

Department's recommended proposed conditions relating to impacts from emissions

- 158) I proposed to include a condition ("Proposed Condition 3") requiring the proponent to achieve the outcome of no emissions above the detectable limit of air emissions that impact rock art by 31 December 2030. "Air emissions that impact rock art" were defined as including acid forming emissions (NO_x, SO_x, VOCs, CO, CO₂, CH₄, NH₃, O₃) as well as particulate matter which may be produced by activities such as flaring. The target of 2030 aligned with the proponent's projected completion of the processing of NWSJV gas.
- 159) I proposed to include conditions ("Proposed Conditions 4 and 5") specifying the parameters within which the department considers that monitoring should be undertaken. This monitoring would need to achieve the outcome of capturing all relevant point source and fugitive emissions with a suitable methodology. The conditions would have required that the monitoring regime must be audited by an EPA accredited auditor for its suitability to achieve the monitoring outcome of no air emissions that impact rock art above the detectable limit. The condition would have further required that the monitoring be reported annually on the proponent's website. The data must be audited by an EPA-accredited auditor for accuracy and, from 2030, demonstrate achievement of the outcome no emissions above the detectable limit referred to above.
- 160) I further considered that the proponent should be required to make publicly available progress towards emissions below the level of detection by 2030. MS 1233 requires that the Air Quality Management Plan (AQMP) be revised and Condition 3-13 of MS 1233 requires the approved AQMP to be published on the proponent's website. I agreed with the department that this would be adequate for the purpose of public demonstration of progression towards approved outcomes as the MS 1233 condition requires extensive details on the project and the reduction methodologies which are not available at the time of the assessment. I proposed to include a condition ("Proposed Condition 6") requiring compliance with MS 1233 condition 3-13.
- 161) I discuss the application of the precautionary principle in relation to these conditions below.

Proponent's comments on the proposed conditions

162) The main comments made by the proponent on the proposed conditions were:

- It is not technically feasible to achieve emissions below the limit of detection and therefore Proposed Condition 3 amounts to an 'effective refusal' of the project beyond 2030;
- Not all emissions listed in the proposed conditions are relevant to the proposed action.
- Proposed Condition 4 of the proposed decision is unduly onerous and duplicative;
- Emissions are adequately regulated by MS 1233 and request that the conditions of approval be modified to align with the conditions of MS 1233.

163) The proponent did not make any material comments on other conditions.

164) I note the proponent's position on the proposed conditions is driven by their understanding of the current evidence that there has been no impact to the rock art and that there is no current risk of damage. The proponent 'is of the strong opinion, informed by both review of the MRAMP second year report and briefings received from the DWER and the MRAMP technical teams, that the MRAMP second year report does not give evidence that industrial emissions, including those from operations of the NWS Project, have impacted or are currently impacting the Murujuga rock art.'

165) I agree with the department's conclusion that emissions are not adequately managed by MS 1233.

166) I note the department's assessment of the body of evidence and the risk to rock art described in the Legal Considerations report. That is, that based on multiple lines of evidence the department considers that on the balance of probabilities it is more likely than not that industrial air emissions from the KGP (and other emitters in the surrounding area) are resulting in the accelerated and irreversible weathering of the rocks that the Murujuga art is etched into, and that accelerated weathering is likely to continue under the proposed action unless emissions are appropriately regulated.

167) I note that the department also considered new scientific research which shows evidence that impacts can occur at the current level of pollution. I agree that the inconsistency in findings between these contemporary studies supports the department's assessment that a precautionary approach which offers protection beyond the conditions of MS 1233 is required.

168) As such, I agree that I should maintain a precautionary conditioning approach to emissions.

Final conditions for approval under the EPBC Act

Conditions 1, 2, and 3

169) I noted that the proponent did not have any comments on Proposed Condition 1 of the Proposed Condition. Condition 1 of the proposed condition has been split into two conditions to ensure enforceability and is now Condition 1 and Condition 2.

170) I noted that the proponent did not have any comments on Proposed Condition 2. The NIAA suggested that Proposed Condition 2 be expanded to require the proponent to consult with other relevant Traditional Owners and First Nations people. The requirements of Proposed Condition 2 do not preclude the proponent from consulting more widely and therefore I do not consider any amendment necessary. Condition 2 of the proposed condition is now Condition 3.

171) In terms of Proposed Condition 3, the proponent stated in their comments:

“The effect of Proposed Condition 3 of the Proposed Conditions, as currently drafted, would be to prohibit a broad range of routine air emissions above the 'detection limit' from 31 December 2030 forward. This would have significant adverse operational consequences for the North West Shelf Project. One such consequence would be the cessation of 'business as usual' operations at the Karratha Gas Plant (KGP) on and from 31 December 2030.”

“Woodside considers the scientific evidence before the Minister does not support the conclusion that air emissions above the 'detection limit', as defined in the Proposed Conditions, must be prohibited in order to protect the National Heritage Values of the Dampier Archipelago (including Burrup Peninsula) National Heritage Place (referred to in this submission as Murujuga). Such a prohibition is also not supported by the precautionary principle. Proposed Condition 3 would amount to a refusal of the NWS Project Extension as it is not technically feasible to reduce air emissions from the NWS Project Extension to comply with this limit.”

172) I have considered the information provided by the proponent indicating that emissions below the limit of detection is not possible and I understand that the proponent considers this to be so because there is no technology which could reduce all listed emissions to below limits of detection. The proponent further argues that not all emissions listed in the proposed conditions are relevant to the proposal.

173) I note that the proposed conditions were developed in the context of uncertainty regarding the details of and appropriateness of the proponent's emissions reduction approach and uncertainty in the likelihood and scale of impacts of emissions on rock art as a result of the proposed action.

174) In the course of consultation, the department wrote to the proponent on several occasions to request information demonstrating that the proposed limits were not feasible and, in addition, details of the proposed emissions reductions strategies and the outcomes of feasibility studies on other emissions reductions alternatives considered by the proponent. I note that the proponent responded at different times during the consultation process and provided information regarding emissions they consider relevant to the proposed action and how they intend to achieve the reductions required by MS 1233.

175) I agree with the department's subsequent view that achieving Proposed Condition 3 was not feasible, as set out in the proponent's response. The department recommended a conditioning strategy which takes the proponent's limitations and the strength of evidence per type of emission into consideration.

176) As such, I will impose conditions on the following basis:

- gases arising from the action are likely to impact rock art,
- while the precise relationship between emissions and damage is not well understood, less emissions are likely to have a lower impact on the rock art, and
- the conditions should impose the lowest volume of emissions which can feasibly be set while still allowing the action to occur and without permitting an unacceptable impact on the NHP to occur.

Recommended amendments to Condition 3 of the proposed decision

177) Proposed Condition 3 has been split into five separate conditions, with Conditions 5, 6, 7 and 8 specific to each emission type which are likely to have an impact on rock art as follows:

- Condition 4 that requires compliance with Condition 3 (Air Quality) of MS 1233.
- Condition 5 is specific to oxides of nitrogen (NO_x).
- Condition 6 is specific to sulfur dioxide (SO₂).
- Condition 7 is specific to volatile organic compounds (VOCs).
- Condition 8 is specific to carbon oxides (CO and CO₂), methane (CH₄) and particulate matter (PM).

Condition 4 – Requiring the proponent to comply with MS 1233 Condition 3

178) To avoid and minimise harm to the Dampier Archipelago (including Burrup Peninsula) National Heritage Place, I am imposing Condition 4 requiring compliance with MS 1233 conditions 3-1 to 3-13, which requires the implementation of the Air Quality Management Plan (AQMP). In addition, Condition 4 requires the proponent to provide copies of reports or a revised version of the AQMP to the department, and that the AQMP be made publicly available on the proponent's website until the expiry of the approval.

179) Condition 3-1 of MS 1233 is an outcomes-based condition that requires the proponent to achieve the Air Quality Outcome. The Air Quality Outcome is to ensure that no air emissions from the proposal have an adverse impact accelerating the rock art within Murujuga beyond natural rates. The Air Quality Outcome is considered to be achieved if the proponent implements air quality standards if instructed by the WA Minister in writing.

180) MS 1233 condition 3 also requires the proponent to reduce emissions and specifies minimum limits for NO_x and VOCs. MS 1233 requires the revisions of the AQMP to include measures to achieve the Air Quality Outcome.

181) I agree with the intent of MS1233 Condition 3-1 that the environmental objective should be that air emissions from the project do not have an adverse impact accelerating the weathering of rock art in the NHP beyond natural rates, however, I agree with the department's view there is not currently adequate scientific understanding to determine a baseline by which this impact, as attributable to the action, can be measured. Therefore, I have accepted the department's recommendation that additional conditions (Conditions 5, 6, 7 and 8) that establish further reductions in emissions as discussed below.

182) I consider that Condition 4 may provide a pathway towards adopting suitable standards that are informed by the Murujuga Rock Art Monitoring Program or other studies in the future.

Condition 5 - Oxides of Nitrogen (NOx)

183) During consultation, the proponent confirmed that the 60% reduction in NOx (from a baseline of 7,662 tonnes per annum (tpa) which is the percentage of the National Pollutant Inventory reported emissions from KGP over the five-year annual average, covering the 2013/14 to 2017/18 financial years) to 3,065 tpa would be achieved through the strategic retirement of older higher NOx producing trains, once no longer required. In a scenario where a large new gas resource is secured, a 60% reduction by end of 2030 will be achieved via a mix of equipment upgrades using low NOx technology such as modular upgrade or replacement of turbines making them capable of operating in a Dry Low NOx (DLN) or Dry Low Emissions (DLE) regime, and/or retiring old higher NOx emitting equipment.

184) I agreed with the department that this emissions reduction approach does not demonstrate a level of impact mitigation appropriate to reduce the risk to the National Heritage Place (NHP), nor demonstrates achievement of lowest practicable emissions. I also noted that KGP contributes the majority of NOx to the Murujuga airshed and the body of evidence indicating the potential impact of NOx on the rock art. I considered that a precautionary approach which requires further reduction to NOx emissions is necessary for the protection of the values of the NHP.

185) The department advised that emissions reductions technologies such as Selective Catalytic Reduction (SCR) technology and ultra-low dry NOx technology can reduce NOx emissions by 90-98%.

186) The proponent provided information on additional approaches available to them for reducing NOx emissions, including SCR, which had been considered but were found to be not practicable.

187) The proponent stated that, “the use of SCR, and the extent of that use on the Burrup, may be driven by findings of MRAMP if it was to recommend significant NOx reduction across the airshed from current approved levels (including associated reductions) while allowing an increase in NH₃ emissions.” I note that the department understands that the proponent’s assessment of this technology as not practicable is, in part, driven by the proponent’s position on the current evidence which is not in agreement with that of the department.

188) The proponent also identified that the use of SCR would lead to an increase in ammonia (NH₃) released into the airshed. The department notes that NH₃ is identified as a chemical of concern in the MRAMP and EQC, and that under proposed operations the proposed action would not emit any NH₃.

189) I note advice from the department that any associated ammonia emissions could be regulated and controlled using existing ammonia reduction technologies, and as such, resultant impacts on rock art are likely to be negligible to very low. The department considers that the potential increase in ammonia is justified for such a significant reduction in NOx.

190) The department recommended that I impose Condition 5 which requires the approval holder to ensure that:

- a) NO_x emissions as result of the Action do not exceed the relevant NO_x concentration limits ([Table 3](#)) under normal operating conditions;
- b) Total annual NO_x emissions as a result of the action do not exceed the relevant annual NO_x limits ([Table 4](#)) in any 12-month period.

[Table 3](#): Relevant NO_x concentration limits within the period specified in Column A for the following table, is the value given in Column B and at the emission points given in Column C.

Relevant NO _x Concentration Limit		
Column A	Column B	Column C
Period	Relevant concentration	Emission points
From 1 January 2031 to 31 December 2040	30 ppmv [62 mg/m ³] at a 15% O ₂ reference level	In each stack for LNG processing trains, and turbines for power generation.
1 January 2041 to completion of the Action	30 ppmv [62 mg/m ³] at a 15% O ₂ reference level	In each stack for LNG processing trains, domestic gas processing equipment, and turbines for power generation

[Table 4](#): Relevant annual NO_x limit, for a 12-month period ending within the period specified in Column A of the following table, is the value given in Column B. Column C represents the percentage reduction from the baseline.

Relevant annual NO _x Limit		
Column A:	Column B:	Column C
Period	Relevant annual NO _x limit (tonnes)	Percentage reduction from baseline
1 January 2031 - 31 December 2035	3065	60%
1 January 2036 – 31 December 2040	2682	65%
1 January 2041 – 31 December 2045	2299	70%
1 January 2046 – 31 December 2050	1916	75%
1 January 2051 – 31 December 2055	1533	80%
1 January 2056 – 31 December 2060	1150	85%
From 1 January 2061	767	90%

191) The intent of this condition is to achieve a stronger commitment from the proponent than what has been committed to in MS 1233. The approval holder has demonstrated that stack limits in [Table 3](#) are achievable under normal operating conditions for parts of the plant that have existing low NO_x technology. This condition will require the approval holder to apply similar low

NOx technology to existing trains that do not have it (by December 2030) or retire equipment that is no longer needed. By 2031, all LNG trains in operation will be required to use Low NOx technology to achieve annual NOx limits.

192) I note that if a new resource is secured by the approval holder, they will be required to adhere to the stack limits for all domestic gas equipment by 2040.

193) The limits in Table 4 require the proponent to achieve a reduction of 60% of the current total annual NOx output (7,662 tpa) by 2030 (as per MS 1233) and also requires the approval holder to continue to reduce the total annual NOx output by a further 5% (from the baseline of 7,662 tpa) every 5 years from the end of 2030 until January 2061. This would achieve a reduction of 90% of NOx emissions from the baseline (by 2061). The limits apply to each and any 12-month period ending in the periods specified in column A in Table 4.

194) The department recommended that I attach Condition 5 having considered the following factors:

a) Proponent's submission on proposed decision:

- i) In a submission on 23 June 2025, the proponent has asserted that it is not technically feasible to meet the requirement of no air emissions above the detection limit because elements of the operation that produce emissions are required for safety purposes (e.g. flaring).
- ii) The proponent outlined in the submission that it is practicable for the proposal to achieve additional reductions in total NOx emissions by end 2030 of a 60% minimum reduction commitment to 3,065 tpa, based on a defined baseline of 7,662 tpa.
- iii) The proponent indicated that the 60% NOx reduction commitment would be achieved by altering the retirement sequence for the plant so that newer trains which already have low NOx technology are the final operational trains (LNG 4 and 5) and that the older, higher NOx producing trains (LNG 1-3) are retired before LNG 4 and 5, once no longer required. Associated higher NOx producing equipment (such as older power generation turbines) which are not needed are also planned to be retired as early as practicable.
- iv) The submission discussed the scenario where a new gas source is secured and outlined that the 60% reduction by 2030 commitment will be achieved via a mix of equipment upgrades utilising low NOx technology such as modular upgrade or replacement of turbines making them capable of operating in a Dry Low NOx (DLN) or Dry Low Emissions (DLE) regime, and/or retiring older, higher NOx emitting equipment.
- v) The proponent has indicated that KGP currently has non DLN/DLE turbines operating in LNG1-3, Power generation (GTG1-6) and Domgas. Upgrades or replacement to DLN/DLE turbines for all of these units, including Domgas, would be the subject of a feasibility study and commercial investment decisions associated with any large Other Resource Owner processing commitment, the alternative is retirement once no longer required to process NWS reserves. The feasibility study, investment decision and

execution timeframe is uncertain as it is subject to both commercial progress as well as final execution schedules for what would be significant projects.

- b) WA EPA Interim Environmental Quality Criteria and conditioning approaches:
 - i) The WA EPA, on 23 May 2025, released interim environmental quality criteria for the Murujuga Airshed. Although the criteria identified interim guidelines and standards, there is still considerable uncertainty, the final criteria will not be known until 2028, and it is unclear how the criteria will be applied to individual approval holders.
 - ii) The report from the WA Office of the Appeals Convenor also recommended emissions limits on stacks which would further reduce emissions; however, this recommendation was not adopted in MS 1233 because it could be managed under the proponent's existing state licencing requirements.
- c) Consideration of impact and evidence for conditioning:
 - i) The department considers that there is evidence that precautions beyond those in MS 1233 are necessary for the protection of the NHP and that there are additional options available to the proponent which have not been fully investigated by the proponent due to business considerations.
 - ii) Applying a limit to the air quality emitted from the stacks will require the approval holder to optimise the operation of the plant and reduce the likelihood of large spikes in NOx emissions from changes in operating modes of the plant.
 - iii) The emissions load limit aligns with the WA EPA's limit requiring the approval holder to reduce their NOx emissions by 60% of the baseline by 2030. The recommended condition to achieve a reduction in NOx emissions by 60% and achieving the stack limit by 2030 accounts for the approximate time until NWSJV gas resources are depleted. Given that the processing of NWSJV gas is authorised under the existing approval the department considers that the risk of impact during this transition time is acceptable.
 - iv) However, there is currently no evidence to indicate that a 60% reduction in NOx emissions will provide the protection necessary to avoid impact to the rock art over the duration of the approval. To manage this risk, the department is recommending that the approval holder must continue to seek reductions in NOx emissions over time through the application of best practice reductions technology, not just by reducing production of gas. A starting reduction to 3,065 tpa and an ongoing reduction every five years is an appropriate and necessary precaution for the protection of the rock art.
 - v) Noting the proponent's assertions regarding the two future scenarios for the plant (one where the plant continues to operate without a new resources and one where a new resource is secured) and that this may not be known until beyond 2030, the department considers that stepwise reductions in NOx emissions over time will allow the approval holder to meet these requirements through progressive upgrading of the facility.

- vi) Further to this, Condition 9 requires the approval holder to comply with WA EPA conditions 2-4, 2-5 and 3-5(6-7) to undertake analyses of international and Australian Industry best practice emissions reduction and implement the technology identified by these analyses. The department notes the requirement of the Air Quality Management Plant (AQMP) to consider these technologies however the proponent has not been able to provide this information to the department.

195) Having regard to all of the above, I agree to impose Condition 5 as recommended by the department.

Condition 6 - Sulfur Dioxide (SO₂)

196) I note that the proponent has characterised the current KGP's SO₂ emissions in the form of SO₂ as 'negligible' in the ERD. Shipping is the largest contributor of SO₂ to the Murujuga airshed and the 2022/23 National Pollutant Inventory Report for KGP reported 90 tonnes of annual SO₂ emissions. The assessment documentation notes that this is attributable to the low sulfur content of the NWSJV resource.

197) I note the comparatively low volume of SO₂ emissions produced by the current facility, and the interim EQC that suggests that the SO₂ guideline is not currently at risk of being exceeded but identifies SO₂ as a key chemical which is likely to impact rock art, particularly in conjunction with NO_x. The department therefore recommended Condition 6 to ensure that the current levels of SO₂ are not exceeded even in the scenario where a new resource is secured. The proponent has identified that sulfur content will be considered when assessing whether any new third-party sources will be adopted. The department considered that this is a practicable and achievable condition for the proponent that recognises the comparatively low SO₂ output of the proposed action while also taking a precautionary approach for impacts on rock art.

198) Having regard to these matters, I agree to impose this condition.

Condition 7 – Volatile Organic Compounds (VOCs)

199) I note that the proponent in their ERD identifies VOCs as a key emission in the assessment of the potential for accelerated weathering of rock art. I note that the proponent has committed to reducing, at a minimum, VOCs to 10,557 tpa from the action by 31 December 2030, which is a 40% reduction from a baseline level of 17,595 tonnes.

200) In information provided during the consultation, the proponent noted a reduction in total National Pollutant Inventory (NPI) reported VOCs since 2017/2018. For example, the 2023/24 NPI report showed that VOCs was 11,000 tonnes. The reductions are in part a result of reduced production but also reflects initiatives which have resulted in reduced VOCs emissions, such as optimisation of the acid gas removal process and installation of a Seal Oil Vent Recovery system on train 1.

201) The proponent advised that Seal Oil Vent Recovery is only applicable to trains 1-3 as trains 4 and 5 have a best practice dry gas seal design. The proponent states that this technology was contemplated when preparing the ERD and as such has been executed for LNG 1 and remains a

consideration for VOCs reduction for the other trains. The proponent also outlined other technologies which could be used to achieve the volumes specified in MS 1233 should further gas sources be secured.

- 202) I note that in addition to a maximum of 10,557 tpa of VOCs as stipulated by MS 1233 Condition 3-5(1)(f), that Condition 3-5(6) also requires the proponent to investigate and implement best practice emissions technologies/ strategies.
- 203) The department understands that application of seal oil vents to any operating trains is a practical and achievable measure to reduce VOCs to lowest practical levels.
- 204) The department identified that there are multiple emission control processes for reducing or eliminating VOCs emissions. The department identified that catalytic oxidation seems suitable to the proponent's process applications, with claimed reduction efficiencies up to 99.9%.
- 205) I note that the proponent has provided the department with very limited information on the factors driving the current and projected emissions of VOCs at the KGP.
- 206) The department recommended that I impose Condition 7, which requires that total VOCs emissions as a result of the action do not exceed the relevant annual VOCs limits (Table 5).
- 207) I noted that the limits in Table 5 require the proponent to achieve a reduction of 40% of the current total VOCs output (17595 tpa) by 2030 (as per MS 1233) and also requires the proponent to continue to reduce the total annual VOCs output in any 12-month period by a further 5% (from the baseline of 17,595 tpa) every 5 years from the end of 2030 until January 2061. This would achieve a 70% reduction in VOCs by 2061.

Table 5: Relevant annual VOCs limit, for a 12-month period ending within the period specified in Column A of the following table, is the value given in Column B. Column C shows the percentage reduction every 5 years against the baseline of 7662 tpa.

Relevant annual VOCs Limit		
Column A:	Column B:	Column C
Period	Relevant annual VOCs limit (tonnes)	Percentage reduction from baseline
1 January 2031 - 31 December 2035	10557	40%
1 January 2036 – 31 December 2040	9677	45%
1 January 2041 – 31 December 2045	8797	50%
1 January 2046 – 31 December 2050	7917	55%
1 January 2051 – 31 December 2055	7037	60%
1 January 2056 – 31 December 2060	6157	65%
From 1 January 2061	5277	70%

- 208) The department recommended that I attach Condition 7 having considered the following factors:

- a) The proponent has provided information on technological and operational options they have available for further reducing VOCs;
- b) VOCs and its impacts on rock art are still being researched and investigated under the MRAMP and the department needs to apply a precautionary approach;
- c) I noted that the emissions load limit aligns with the WA EPA's limit requiring the approval holder to reduce their VOCs emissions by 40% of the baseline if 17,595 tpa by 2030. The recommended condition to achieve a reduction in VOCs emissions by 40% by 2030 accounts for the approximate time until NWSJV gas resources are depleted. Given that the processing of NWSJV gas is authorised under the existing approval the department considers that the risk of impact during this transition time is acceptable. I agreed with this conclusion.
- d) However, there is currently no evidence to indicate that a 40% reduction in VOCs emissions will provide the protection necessary to avoid impact to the rock art over the duration of the approval.
- e) To manage this risk, the department recommended that the approval holder must continue to seek reductions in VOCs emissions over time. I note that the department considers that a starting reduction to 10,557 tpa by 31 December 2030 and an ongoing reduction every five years is an appropriate and necessary precaution for the protection of the rock art.
- f) Noting the proponent's assertions regarding the two future scenarios for the plant (one where the plant continues to operate without a new resources and one where a new resource is secured) and that this may not be known until beyond 2030, the department considered that stepwise reductions in VOCs emissions over time would allow the approval holder to meet these requirements through progressive upgrading of the facility.
- g) Further to this, Condition 9 requires the approval holder to comply with WA EPA conditions 2-4, 2-5 and 3-5(6-7) to undertake analyses of international and Australian Industry best practice emissions reduction and implement the technology identified by these analyses. The department notes the requirement of the AQMP to consider these technologies however the proponent has not been able to provide this information to the department.

209) Having regard to the above matters, I agree that Condition 7 is necessary and achievable to avoid impacts to the rock art, and I agree to impose this condition.

Condition 8 – Carbon oxides (COx), methane (CH₄) and particulate matter (PM)

210) The proponent provided comments stating that not all emissions required under the proposed conditions to be reduced to 'below the limit of detection' were relevant to the proposed action.

211) The proponent argued that interim EQC's have only been developed by the MRAMP for NO_x, SO₂ and NH₃ and that there was no evidence to support the condition to reduce levels of CO_x, CH₄ and PM to below detection limit and that this was not achievable with currently available technology.

212) I note that the role of CO_x and CH₄ and other acid forming emissions are still being studied under the MRAMP to determine the extent of their potential impact on rock art. The MRAMP second year report references research findings that suggests PM may cause micro-delamination, that methane may impact the microbiome, and in addition to CO₂ leading to acidification, CO₂ may also impact the microbiome. The MRAMP states that given the high levels from time to time in each of these emission types, further investigation is warranted. In addition, I note that the proponent has been unable to provide to the department information on the composition of emission types that are to be expected for any new third-party resource. To manage the uncertainty and risk, the department recommended, and I agree, that the approval holder must continue to seek reductions in CO, CO₂ CH₄ and PM for the duration of the approval.

213) Having regard to the above matters, I agreed that Condition 8 be applied to require the proponent to ensure that average annual emissions of CO, CO₂ CH₄ and PM (calculated as the emissions produced in the 12 months preceding the date of the approval) are not exceeded for the duration of the approval.

Condition 9

214) I noted that the proponent advised the department that they are taking action to reduce methane emissions to near zero by prioritising the mitigation of key material sources of methane. The proponent noted that Conditions 2-4 and 2-5 of MS 1233, which require the proponent to review best practice to reduce greenhouse gas emissions, will capture further reductions in methane. MS 1233 Conditions 2-4 and 2-5 require the proponent to review best practice design and operational measures that could be implemented to reduce greenhouse gas emissions and to provide a report every 5 years. The conditions do not however include a requirement to implement any of the identified best practice reduction measures.

215) Therefore, I agreed to impose Condition 9 which requires the approval holder to comply with Conditions 2-4 and 2-5 of MS 1233, and Condition 3-5(6-7) of MS 1233 which requires the approval holder to review best practice to minimise all air emissions and then implement identified international and Australian industry best practice emissions reduction technology.

216) During consultation, the proponent advised that there are no direct ozone emissions from the proposed action. I note that the department recognises that ozone is a secondary pollutant formed via chemical reactions between compounds such as VOCs and NO_x and the environment. The MRAMP also states that secondary pollutants such as ozone are an important consideration but that, 'it may prove sufficient or preferable to reduce precursor species thus inhibiting secondary pollutant formation'. The department therefore recommended, and I agree with, the removal of ozone from the emissions controlled by this approval as the required reductions in NO_x and VOCs will indirectly reduce the proposed action's ozone production.

Conditions 10 to 16

217) I noted that the proponent's submission against Proposed Condition 4 focused largely on the limit below detection levels and that this applied to a too-broad range of emissions. I noted that

this matter is now resolved due to the revisions for each emission in the revised Conditions 5, 6, 7 and 8 and so it is not necessary to further consider this aspect of the proponent's submission.

- 218) The department has revised Proposed Condition 4 (now Condition 10 and 11) to align with MS 1233 where possible, with additional requirements where considered necessary.
- 219) I noted that in the revised conditions, the department has adopted the proponent's preferred terminology of continuous over real-time monitoring, requiring continuous emissions monitoring of point source emissions that aligns with the Government of Western Australian code of practice.
- 220) The proponent has indicated that the design of a predictive emissions monitoring program is underway. Predictive emissions monitoring estimates emissions using statistical models calibrated with facility data and does not physically monitor emissions in real-time. The department considers that continuous emissions monitoring is necessary and appropriate to accurately quantify the emissions of the proposed action and that continuous monitoring of the emissions identified by the department as likely to impact rock art is an essential component to understanding and managing future uncertainty around impacts. I agree that continuous monitoring is necessary and will provide invaluable information to complement ambient air monitoring.
- 221) During consultation, the proponent indicated that it was not possible to install continuous emissions monitoring at all emissions point sources by 2030. In recognition of the work already underway to install predictive emissions monitoring in accordance with MS 1233, the department has revised Condition 10 to require predictive or continuous emissions monitoring at all emissions points sources, excluding flares, by 30 June 2030 with the subsequent requirement that continuous emissions monitoring be implemented at all point sources before commencing processing of third-party gas. I agree with this revised condition.
- 222) I noted that third-party gas has been defined in the revised conditions to exclude the processing of gas from the North West Shelf Joint Venture, and gas received through the Pluto-North West Shelf Interconnector or Burrup Extension Pipeline. This is to account for the gas from the Pluto Joint Venture and the Waitsia Gas Project Stage 2 that is currently being received at KGP, as advised by the proponent. This definition means that third-party gas constitutes any new sources of gas that are expected to commence processing at KGP beyond 2030.
- 223) The proposed conditions required monitoring of point source and fugitive emissions to demonstrate emissions were below level of detection. The proponent submitted that the broad range of emissions and the requirement to measure fugitive emissions made this condition unachievable. I agree with the department that condition 12, which requires leak detection and mitigation, be undertaken and reports on its efficacy be undertaken and made public each year under Condition 13.
- 224) Conditions 11 and 12 have been revised to address proponent's concerns regarding the requirement of a WA EPA accredited auditor to determine the suitability of the monitoring program. This condition has been changed to 'independent persons with suitable technical

expertise' to address proponent's concerns of achievability and further align with terms used in MS 1233.

225) Condition 11 has also been revised to specify the standards to which continuous emissions monitoring must adhere, once implemented.

226) I note that the proponent submitted that measuring fugitive emissions was unnecessary and outside the requirements of MS 1233. Reporting on fugitive emissions is currently undertaken as part of reporting to the National Pollutant Inventory. I therefore consider that reporting on fugitive emissions should be included in Condition 11 (which is captured in the definition for 'air emissions') and that the proponent be required to demonstrate adaptive management to continuously refine and optimise procedures which reduce fugitive emissions.

227) There have been no material changes made to conditions 14 and 15.

228) Finally, I have also included Condition 16 which requires the approval holder to notify the department of any exceedance of its emissions limits.

Administrative Conditions

229) The department recommends the administrative conditions 17 to 48 which are considered necessary and convenient for administering plans, modifications to the State approval, commencement and completion of the action, compliance and auditing.

Department conclusions on impact

230) I note the department's advice that the taking of the action, despite proposed avoidance and mitigation measures, in conjunction with referenced MS 1233 conditions and the conditions I intend to impose, is likely to result in residual impacts to the values of the Dampier Archipelago (including the Burrup Peninsula) National Heritage Place.

231) I also note that my department considers that, while it is unable to fully characterise the likelihood of the proposed action's impact on the values of the National Heritage Place, the likely impact of the proposed action is continued pressure on the rock art from emissions from the processing of KGP gas. Given the information before me, I consider this to be a sufficient and accurate summary of the likely impact of emissions.

232) Furthermore, the department considered the following in determining the acceptability of the residual impact to the NHP:

- The current state of the environment and the level of scientific uncertainty.
- The nature of potential impacts on the values of the NHP.
- Potential extent of the impact.
- Duration of impact and the existing Commonwealth approvals for the processing of NWSJV gas.

233) Based on my own review of the information before me I consider the department's conclusions to be an accurate summary.

Conclusion

- 234) I agree that the WA conditions are insufficient to manage the likely impacts to the NHP resulting from the proposed action. I therefore agree that the further conditions proposed to be attached to the approval are necessary and convenient to protect the National Heritage values of the National Heritage place.
- 235) I also agree with the department's conclusion that the taking of the action, despite proposed avoidance and mitigation measures, in conjunction with the WA conditions and the conditions I intend to impose, is likely to result in residual impacts to the values of the Dampier Archipelago (including the Burrup Peninsula) National Heritage place.
- 236) My final conclusion as to the acceptability of this residual impact, and therefore whether or not I should approve the action, is set out below.

Social and economic matters

- 237) Pursuant to section 136(1)(b) of the EPBC Act, in deciding whether or not to approve the proposed action, and what conditions to attach to an approval, I considered economic and social matters, which were not inconsistent with any other requirement of Subdivision B of Division 1 of Part 9 of the EPBC Act.

Social matters

- 238) I note the WA EPA assessment report concluded that the impacts on social surroundings would be acceptable, if the proposed action was undertaken according to the conditions of the WA Approval. The relevant state conditions covering social matters are Condition 1, Condition 3, Conditions 4-1, 4-2 and 4-4, Condition 5 and Condition 7.
- 239) I agree with the WA Appeals Committee conclusion that the WA EPA undertook the State assessment of social surroundings within the constraints of their policy and legislative framework.
- 240) I note the information supplied by the proponent in the ERD about social matters, as well as other information provided to my department. I understand that:
- Over four decades of operation the NWS Project has invested more than \$300m in social and community infrastructure in the Pilbara.
 - In 2023 the NWSJV invested more than \$5m in community contributions in the city of Karratha.
 - Woodside engages with the Karratha community quarterly through the Karratha community Liaison Group, and routinely commissions social impact assessments for the Karratha and Roebourne Regions. I noted that these recognise employment benefits, community desires for increased population, concern over housing, and other matters including socio-economic gaps between Indigenous and non-Indigenous communities and the impacts of flaring and other emissions on rock art and concerns about restricted access to areas of cultural significance.

241) I understand the proponent is of the view that the extended term of operations is not anticipated to result in an increase to the residential workforce in Karratha, and that approximately 80% of the workforce was residential in 2023. I note mitigation measures to encourage the fly-in-fly-out workforce to engage with the Karratha community. The ERD notes that management plans will be created for this, however the WA EPA Assessment report notes that these are outside the scope of assessment under Part IV of the EP Act.

242) While the department has not been provided with the described social management plans, I find that the mitigation measures proposed by the proponent are adequate and that a social impact management plan is not necessary for the assessment of the proposed action.

243) In relation to impacts of air quality on human health and amenity, I note that the WA EPA assessment report concluded that the National Environment Protection Measure standards are expected to be met at all sensitive receptors, and that the impacts from air quality on human health and amenity would be acceptable if the proposed action was undertaken in accordance with conditions and specifically Condition 2 of MS 1233. Having considered the ERD, AQMP, the WA EPA assessment report, I accept this conclusion.

Community concerns raised during the assessment

244) I note that despite the social and economic benefits presented in the ERD and its attachments, there is a significant level of public concern regarding the proposed action. I considered that this was demonstrated by the high public interest, which has included:

- One public comment on the referral.
- 19,869 comments received by the proponent during the public consultation period on the draft ERD.
- 776 appeals received during the public comment period on the WA EPA assessment report.
- Over 90 individual communications sent to the Minister for the Environment and Water since the valid 2018 referral was received.
- 2,614 comments received during the public consultation period on the reconsideration put forward by EJA.

245) The comments received regarding the original referral decision and the reconsideration decision were considered at that time and were not considered further in MS 1233. The comments received during public consultation on the draft ERD were considered by the proponent during the response to submissions.

246) Of the 92 individual communications, all stated opposition, or had negative sentiment towards, the proposed action. I understand these concerns to include:

- Concerns with extending the facility's operation to 2070.
- Inadequate and misleading information within the documents provided by Woodside.
- MNES concerns relating to Murujuga / the Burrup Peninsula.
- Concerns of carbon capture and storage.

- Concerns that the project will significantly contribute to greenhouse gas (GHG) emissions and increase the severity of impacts of climate change.
- The project requires further assessment to consider the impacts not only to the MNES, but also for human health, and to consider the health impacts to current and future generations.

247) The NWSJV established its first agreement with the Ngarluma and Yindjibarndi Foundation Limited in 1998, and that this has been supplemented by further agreements over time. The proponent stated that they support a range of community initiatives, including the delivery of the Warrgamugardi Yirdiyabura Program, which creates pathways for people in Roebourne to gain accreditation and employment in an area of their interest.

Economic matters

248) I note that the WA EPA considers economic matters to be outside the scope of assessment under Part IV of the EP Act. Consequently, the WA EPA assessment report does not provide an assessment of economic matters.

249) I note the proponent provided economic information under two scenarios: the current operation of NWS Project processing NWS resources only; and the economic impacts from developing the Browse fields (EPBC 2018-8319 under assessment) and processing via North West Shelf Project infrastructure and the North West Shelf Project Extension.

250) I consider that the proposed action would result in significant economic benefits to the regional, State and National communities, including:

- a) The NWS Project currently employs approximately 900 people and 1,300 contractor staff to support operational activities, and up to an additional 1400 contractors per annum during maintenance campaigns, and the proponent advises that this number of operating employees would continue under the proposed action. In 2023, more than 280 Karratha Gas Plant employees and their families resided in the City of Karratha, including 86 apprentices and trainees and 37 Indigenous employees. Approximately 80% of the Karratha Gas Plant workforce was residential in 2023.
- b) In 2023, the NWS Project contributed A\$1,788 million to the Australian economy, including A\$989 million of expenditure with Western Australian-based businesses. In the 2024-25 financial year, the NWS Project is expected to deliver A\$614 million in royalties to Western Australia. Over the past four decades, the NWS Project has paid more than A\$40 billion in federal royalties and excise.
- c) Combined, the Browse to North West Shelf Development and NWS Project Extension proposals is estimated to:
 - i) contribute \$6.6 billion annually to the Gross Domestic Profit of Australia between the years 2019-2063 (\$289 billion in total), of which 99% will be in Western Australia (using 2018 figures). This annual contribution is equivalent to 0.25 percent of Australia's 2023-2024 financial year GDP \$2.604.2 billion (Source ABS);

- ii) have a capital expenditure of \$36 billion in Western Australia between the years 2019-2063, including \$8.6 billion expenditure on the NWS Project Extension, and have an annual average operating expenditure in WA of \$493 million;
- iii) generate approximately 1800 jobs during construction, and an average of 720 jobs, including up to 320 jobs in the Karratha region, during operation; and
- iv) indirectly, create an average of more than 2700 jobs per annum between 2019 and 2063, with almost 1400 jobs created in Karratha and Broome (using 2018 figures), and \$50 million on localised spending in Karratha.

251) I note that the NWS Project supplied 14% of Western Australia's total domestic gas supply, and that the proponent provided estimates of future supply. On 30 August 2024, the proponent confirmed that, as required by the WA Domestic Gas Policy, 15% of the total production will be made available to WA consumers over the life of the proposed action, and I accept this figure as the likely future domestic supply outcome. I note that, as part of Woodside's potential Browse to NWS development, the proponent states that domestic gas volumes of more than 200TJ/d could be processed through KGP infrastructure, demonstrating the long-term value of this facility to the WA energy market.

252) The proponent did not state what proportion of exports would be supplied to other countries as these details are yet to be finalised. I accept the proponent's statement that, with NWS reserves in decline, and without long-term third-party gas supply being secured, it may not be economically viable to continue operating all domestic gas and LNG processing infrastructure at KGP.

Factors to be taken into account – section 136

Principles of ecologically sustainable development – section 136(2)(a)

253) I am required to consider the principles of ecologically sustainable development as required under section 136(2)(a) of the EPBC Act and the precautionary principle as required under section 391 of the EPBC Act. I accept that the precautionary principle applies. I set out below the ways in which I have considered the individual principles in making my decision.

Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social, and equitable considerations

254) Economic and social impacts of the proposed action were considered in the ERD and the further information provided by the proponent on 23 December 2024 as described in the MS 1233.

255) I consider that those documents, combined with the Legal Considerations report and the WA EPA assessment report, provide sufficient information for me to conclude that this decision-making process has effectively integrated both short and long-term social, economic and environmental considerations.

Precautionary principle

256) As discussed above, I consider that there is lack of full scientific certainty regarding the likelihood and scale of the impacts to the rock art of Murujuga from industrial emissions. As discussed, the results of the MRAMP to date present evidence that an impact in the form of increased porosity has occurred as a result of emissions, that the impact has occurred at scale, and also presents a plausible pathway by which this impact is likely to have occurred. The research, however, is unable at this time to provide certainty on emissions of interest, safe limits of emissions, or a baseline against which impacts could be measured. The proponent submits that there is no peer-reviewed evidence that industrial emissions have an impact on the rock art.

257) I note that the department advised that it considers that increased porosity constitutes an example of accelerated weathering of the rock art which may lead directly to physical changes which may harm the values of the National Heritage place through physical damage which may diminish the visibility, integrity and research values of the rock art. I agree with this and find that changes in porosity are irreversible and the damage to the values of the rock art, such as the value of the engravings as representative of culture and environment over time are unable to be restored once damaged. Furthermore, I find that the values of the NHP are irreplaceable, and damage is unable to be offset.

258) I note that in preparing the brief the department has considered additional information on the threat of serious or irreversible damage to National Heritage place and information on the lack of scientific uncertainty.

259) The precautionary principle is enlivened where there:

- are threats of serious or irreversible damage to the relevant protected matters; and
- is a lack of full scientific certainty as to the nature or scope of the threat of this damage.

260) Based on the material before me, I consider that:

- There is a threat of irreversible damage to the rock art located within the Dampier Archipelago (including the Burrup Peninsula) National Heritage place, and that this damage would adversely impact the values of the NHP, and
- For the reasons I discuss above, there is a lack of full scientific certainty as to the nature and scope of the potential threat or damage to the rock art. I also consider that the uncertainties concerning the proposed action's future emissions also demonstrate a lack of full scientific certainty as to the scope of the potential threat or damage.

261) In approving the proposed action, I have concluded that there is insufficient scientific information to know of, and understand, the likelihood and scale of the impacts of the proposed action on the National Heritage place and that there is a threat of serious or irreversible environmental damage from air emissions.

262) Consistent with the precautionary principle, I will not use the lack of scientific certainty as a reason to postpone measures to prevent environmental degradation. Consistent with this

approach, my department has recommended, and I have accepted, conditions of approval as measures to prevent such environmental degradation.

Inter-generational equity

- 263) I agree with the department that the principle of intergenerational equity has been taken into account in the assessment of the proposed action, and that approving the proposed action subject to the proposed approval conditions would maintain and enhance the health, diversity and productivity of the environment for the benefit of future generations.
- 264) In the WA EPA assessment report, the WA EPA had particular regard to the principle of intergenerational equity in the assessment of air emissions impacts on rock art, greenhouse gas emissions, and impacts to social surrounds, and the conditions to be imposed in relation to these matters.
- 265) The WA EPA concluded that impacts on rock art as a result of air emissions from the proposed action could be addressed through the conditions of approval, which will ensure that the rock art (the value of the National Heritage Place) can be maintained for the benefit of future generations.
- 266) Finally, MS 1233 requires that the proposed action avoid and minimise impacts to social, cultural, heritage and archaeological values within the development envelope and that the proponent revise the Cultural Heritage Management Plan in consultation with the Murujuga Aboriginal Corporation and Ngarluma Yindjibardi Foundation Ltd and implement the plan. The WA EPA concluded that, through these measures, there will not be inconsistency between the impacts of the proposed action on social surroundings and the health, diversity and productivity of the environment being maintained and enhanced for the benefit of future generations.
- 267) The department agreed with the WA EPA assessment report and considers that the proposed conditions of approval (both state and Commonwealth) would ensure the protection of the National Heritage place. Those conditions will allow for the proposed action to be delivered and operated in a sustainable way to protect the Dampier Archipelago (including the Burrup Peninsula) National Heritage place values for future generations and in perpetuity.
- 268) I agree with the department's assessment that approving the proposed action subject to the recommended conditions of approval will not be inconsistent with the principle of inter-generational equity.

Promotion of improved valuation, pricing and incentive mechanisms

- 269) The department's advice included reference to and consideration of a range of information on the economic costs, benefits and impacts on the proposal. The mitigation measures required under MS 1233 and the EPBC Act conditions place a financial cost upon the proponent to avoid and mitigate the impacts from the proposal. I agree with this advice.

WA EPA Assessment report - section 136(2)(b)

- 270) In making my decision, I have read and taken into account the assessment and conclusions of the WA EPA Assessment report and, where relevant to my findings, I have referred to this throughout my reasons above.
- 271) I note the WA EPA's conclusions that there is a lack of full scientific consensus about potential residual cumulative impacts on the significant environmental values (including social surroundings values) associated with rock art within Murujuga.
- 272) I also note that the report outlines the WA EPA's concern that impacts to the rock art as a result of emissions would be likely to be severe and irreversible, therefore relying on the implementation of the Murujuga Rock Art Strategy (MRAS) and Murujuga Rock Art Monitoring Program (MRAMP) to investigate the potential impacts. The department noted the WA EPA and Appeals Convenor considers that the WA conditions of approval in MS 1233 are sufficient to protect the values of the National Heritage Place.
- 273) I note and agreed with department's view of the WA EPA assessment that there is likely a risk of serious and irreversible damage to the petroglyphs as a result of emissions from the project. The department also considers that there is uncertainty about that damage.
- 274) I note and agree with the department's view that there are constraints in being able to condition via reference to all conditions of MS 1233 due to the matters referred to above at paragraphs 150 and 153.

Other information – section 136(2)(e)

275) I must also take into account any other information I have on relevant impacts of the proposed action. In this regard, I have taken into account:

- The proponent's assessment documents and other published documents in considering relevant impacts of the proposed decision.
- The WA EPA assessment report and the Recommended Environmental Conditions.
- The WA Appeals Convenor Report.
- The WA Minister's Appeal Determination.
- The WA Minister's Approval decision.
- Additional information on socio-economic benefits provided by the proponent.
- Additional information on environmental history of the proponent.
- Information from relevant line areas on the potential impacts of the proposed action on protected matters.
- The matters raised in the Ministerial correspondence (which I have summarised) and addressed those where relevant.

Relevant comments - section 136(2)(f)

- 276) No comments were invited under section 131A of the EPBC Act.
- 277) As discussed above, I have considered the response received from the NIAA, on behalf of the Minister for Indigenous Australians.

278) Additionally, I have note that public comments were invited on the referral and the WA EPA assessment process and as I have noted above, one comment was received during the referral stage, and over 19,869 were received at the assessment stage process and a further 776 through the WA Appeals process.

Other matters for decision making

Person's environmental history – section 136(4)

279) In deciding whether or not to approve the taking of an action by a person, and what conditions to attach to an approval, under section 136(4) of the EPBC Act, I may consider whether the person is a suitable person to be granted an approval, having regard to:

- a) The person's history in relation to environmental matters;
- b) If the person is a body corporate - the history of its executive officers in relation to environmental matters; and
- c) If the person is a body corporate that is a subsidiary of another body or company (the parent body) - the history in relation to environmental matters of the parent body and its executive officers.

280) The proponent advised in the referral, and subsequent additional information provided on 24 January 2025, that Woodside Energy Ltd and relevant Woodside Executive Officers have not been subject to any proceedings, either past (within the past 10 years) or present, under a Commonwealth or State law for the protection of the environment or the conservation and sustainable use of natural resources.

281) On 17 October 2022, the department undertook a history check on Woodside Energy Ltd and identified four adverse environmental history events. The department determined that two events were not applicable or had a very low likelihood of significant impact on MNES. One case regarding unauthorised operations in Exmouth Gulf is still in progress. The department found Woodside breached s74AA of the EPBC Act for continuing its action authorised under EPIP whilst being considered as part of a larger EPBC Act referral. The department decided on 2 August 2019 to not take any compliance action but recorded the contravention of section 74AA of the EPBC Act. In determining what action to take, the department considered Woodside's compliance history, whether compliance action would be in the public interest, the intent of section 74AA, the fact the project has been referred and is being assessed for the current and proposed actions, and current activities do not exceed the limits of the EPIP Authorisation.

282) On 28 January 2025, the Compliance and Enforcement Branch within the department conducted a second history check of Woodside Energy Ltd and the joint venture partners BP Developments Australia Pty Ltd, Chevron Australia Pty Ltd, China National Offshore Oil Corporation Ltd (CNOOC), Japan Australia LNG (MIMI) Pty Ltd and Shell Australia Pty Ltd.

283) The department is currently investigating an allegation that Woodside Energy Pty Ltd has been undertaking a controlled action while an EPBC referral is under assessment at its onshore gas processing facility, the North West Shelf, which is part of the proposed action. The investigation is currently open and no outcome, recommendation or result has been identified as of yet.

284) On 17 October 2022 the department's Compliance and Enforcement Branch stated that they were not aware of any contraventions by the proponent of state laws, and on 28 January 2025, stated that they could not advise on any contraventions by the proponent of state laws.

285) Based on the information above, I consider that the proponent is a suitable person to be granted an approval under the EPBC Act.

Minister not to consider other matters – section 136(5)

286) I must not consider any matters that I was not required or permitted to consider. In making this decision, I have not considered any matter beyond what was provided in the decision brief and its attachments.

National Heritage places – section 137A

287) In making my decision, I must not act inconsistently with:

- a) the National Heritage management principles (Schedule 5b of the EPBC Regulations); or
- b) an agreement to which the Commonwealth is party in relation to a National Heritage place; or
- c) a plan that has been prepared for the management of a National Heritage place under section 324S or as described in section 324X.

National Heritage management principles and management plan

288) I note that the objective of managing National Heritage places is to identify, protect, conserve, present and transmit to all generations.

289) I note that the management plan relevant to the proposed action and assessment is the Department of Environment and Conservation 2013, *Murujuga National Park Management Plan 78 2013*, Department of Environment and Conservation, Perth.

290) I note that the overall objective of the Murujuga National Management Plan is to achieve a sustainable coexistence of conservation and industrial development and Aboriginal and other Australian land ownership and use, while protecting the area's National Heritage listed values and recognising the economic and social benefits for the Burrup Peninsula.

291) I agree with the department that the Murujuga National Park Management Plan cultural, educational and research values align with the National Heritage Place values.

292) I note that air emissions from the proposed action may have impacts on the Murujuga Cultural Landscape, petroglyphs, Indigenous heritage sites and social surrounds.

293) I consider that these impacts of the proposed action will be appropriately managed by the WA conditions and the conditions imposed by my decision, including through the implementation of the Cultural Heritage Management Plan. Under the WA conditions, the Cultural Heritage Management Plan and Air Quality Management Plan plans will be iteratively reviewed and adjusted according to ongoing monitoring and guidance from the Murujuga Rock Art Monitoring Program. The Murujuga Aboriginal Corporation and Ngarluma Yindjibarndi Foundation Ltd will

also be an active participant in the on-going review of these plans. I consider that this will ensure that the proposed action will not undermine the objectives of the Murujuga National Park Management Plan.

294) I agree with the department that the proposed action is consistent with the National Heritage Management objectives since the conditions of approval for the action will be to protect the petroglyphs for future generations.

295) I am satisfied that approving the action, subject to the recommended conditions, would not be inconsistent with the National Heritage Management Principles or the Murujuga National Park Management Plan.

Agreement for a National Heritage place

296) I noted that on 3 July 2007, the Commonwealth entered into a Conservation Agreement with Woodside Energy to allow the undertaking of a specified Class of Actions within and around a designated "Green Zone", subject to measures to preserve the National Heritage Values of the DA NHP. The Green Zone is defined in the Conservation Agreement. The Class of Actions includes:

- Within the Green Zone Area:
 - The construction, operation, maintenance, modification, expansion, replacement and decommissioning of facilities for the purpose of receipt, transportation and processing of hydrocarbons including liquefaction of gas into LNG, domestic gas and other products and of any other facilities necessary for that purpose and any other activities necessary or ancillary to such Actions.
 - The storage, handling and delivery of products derived from the processing of hydrocarbons including liquefaction of gas into LNG, domestic gas and other products and any other activities necessary or ancillary to such Actions.
- Outside the Green Zone area, any activities necessary or ancillary for the purposes of:
 - access to and from the Green Zone including but not limited to the transport of heavy haulage items;
 - telecommunications;
 - undertaking surveys for environmental, cultural heritage and geotechnical purposes;
 - monitoring of emissions, discharges and other potential sources of impacts in respect of the environment (including cultural heritage);
 - including but not limited to the construction, use and maintenance of road access; and
 - the construction, operation and maintenance of infrastructure.

297) I agree that approval of the proposed action, and the recommended conditions of approval, would not be inconsistent with the Conservation Agreement with Woodside relating to the DA NHP.

Conditions of approval – section 134

298) I am satisfied that the conditions that I will attach to the approval are necessary and convenient to protect the relevant protected matter under s134(1). Considerations relating to specific conditions are also set out in detail above.

299) In recommending these conditions to me, the department considered the likely scope and severity of the impacts to MNES, and the proposed avoidance and mitigation measures, and determined that it is likely the proposed Action will result in a residual significant impact on National Heritage place. As set out above, I also considered that the conditions described in the WA Ministerial Statement 1233 are not sufficient to manage the residual impacts to matters of national environmental significance resulting from the proposed Action.

Additional considerations for conditions

300) In accordance with section 134(4), I considered the following matters.

s134(4)(a) Any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a state or self-governing territory or another law of the Commonwealth on the taking of the action.

301) In deciding to attach conditions to the approval, I have carefully considered conditions of the WA Approval in MS 1233. As discussed above, the proposed approval conditions apply and build upon MS 1233.

302) I note the department's advice that in accordance with the department's EPBC Act Condition-setting Policy (2015), the department has avoided regulatory duplication in the drafting of the proposed approval conditions where possible.

s134(4)(aa) Information provided by the person proposing to take the action or by the designated proponent of the action.

303) The proponent provided the department the following information in relation to the proposed action:

- a) Environmental Review Documentation prepared by the proponent.

304) In deciding to attach conditions to the approval, I have considered this information. I have considered comments received from the proponent on the proposed approval decision in making this decision.

s134(4)(b) The desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and the person taking the action to achieve the object of the condition.

305) I consider that the conditions imposed are commensurate with the conservation outcome the conditions are designed to achieve.

306) I have considered the desirability of ensuring as far as practicable that the conditions were a cost-effective means for the Commonwealth and the proponent to achieve the object of the

condition under section 134(4)(b) of the EPBC Act. I consider that the conditions are a practical and cost-effective means of protecting and conserving the National Heritage Place consistent with the objects of the EPBC Act.

Reasons for decision

- 307) In deciding whether or not to approve the taking of the proposed action, I have taken into account all of the matters discussed above.
- 308) In light of my findings above, I have decided to approve the taking of the action subject to conditions.
- 309) I consider that the application of stringent emissions reductions conditions means that the action will not have an unacceptable impact on the National Heritage values of the National Heritage place.
- 310) I accept that there is uncertainty in the evidence and that a consequence of imposing stringent emissions reduction obligations relating to NO_x and VOCs progressively, rather than immediately, is that there is a higher likelihood of the action having an impact on the NHP in the short-term. However, I am satisfied that any likely short-term impact on the NHP would be small and therefore outweighed by the social or economic factors.
- 311) I consider that the proposed conditions of approval adequately manage the risk of significant impact to the National Values of the Dampier Archipelago (including Burrup Peninsula) National Heritage Place.
- 312) I have specified that the approval remain valid for a period of 45 years to allow the proponent sufficient time to undertake the proposed action.

Conclusion

- 313) For the reasons set out above, I approve, subject to conditions, the taking of the proposed action.

name and position	Murray Watt Minister for the Environment and Water
Signature	
date of decision	12/9/25

Annexure A – Relevant Legislation

Section 130 of the (EPBC Act) relevantly provides:

Basic rule

314) The Minister must decide whether or not to approve, for the purposes of each controlling provision for a controlled action, the taking of the action.

1A) The Minister must make the decision within the relevant period specified in subsection (1B) that relates to the controlled action, or such longer period as the Minister specifies in writing.

Notice of extension of time

- If the Minister specifies a longer period for the purposes of subsection (1A), he or she must:
 - a) give a copy of the specification to the person proposing to take the action; and
 - b) publish the specification in accordance with the regulations.

Section 131 of the EPBC Act relevantly provides:

315) Before the Minister (the Environment Minister) decides whether or not to approve, for the purposes of a controlling provision, the taking of an action, and what conditions (if any) to attach to an approval, he or she must:

- a) inform any other Minister whom the Environment Minister believes has administrative responsibilities relating to the action of the decision the Environment Minister proposes to make; and
- b) invite the other Minister to give the Environment Minister comments on the proposed decision within 10 business days.

316) A Minister invited to comment may make comments that:

- a) relate to economic and social matters relating to the action; and
- b) may be considered by the Environment Minister consistently with the principles of ecologically sustainable development.

This does not limit the comments such a Minister may give.

Section 131AA of the EPBC Act relevantly provides:

- Before the Minister decides whether or not to approve, for the purposes of a controlling provision, the taking of an action, and what conditions (if any) to attach to an approval, he or she must:
 - a) inform the person proposing to take the action, and the designated proponent of the action (if the designated proponent is not the person proposing to take the action), of:

- i) the decision the Minister proposes to make; and
- ii) if the Minister proposes to approve the taking of the action – any conditions the Minister proposes to attach to the approval; and
- b) invite each person informed under paragraph (a) to give the Minister, within 10 business days (measured in Canberra), comments in writing on the proposed decision and any conditions.

317) If the Minister proposes not to approve, for the purposes of a controlling provision, the taking of the action, the Minister must provide to each person informed under paragraph (1)(a), with the invitation given under paragraph (1)(b):

- a) a copy of whichever of the following documents applies to the action:
 - i) an assessment report;
 - ii) a finalised recommendation report given to the Minister under subsection 93(5);
 - iii) a recommendation report given to the Minister under section 95C, 100 or 105; and
- b) any information relating to economic and social matters that the Minister has considered; and
- c) any information relating to the history of a person in relation to environmental matters that the Minister has considered under subsection 136(4); and
- d) a copy of any document, or part of a document, containing information of a kind referred to in paragraph 136(2)(e) that the Minister has considered.

318) The Minister is not required to provide under subsection (2):

- a) information that is in the public domain; or
 - b) a copy of so much of a document as is in the public domain; or
 - c) in the case of information referred to in paragraph (2)(b) or (c) – any conclusions or recommendations relating to that information included in documents or other material prepared by the Secretary for the Minister.
- In deciding whether or not to approve, for the purposes of a controlling provision, the taking of the action, the Minister must take into account any relevant comments given to the Minister in response to an invitation given under paragraph (1)(b).

Section 131A of the EPBC Act relevantly provides:

Before the Minister decides whether or not to approve, for the purposes of a controlling provision, the taking of an action, and what conditions (if any) to attach to an approval, he or she may publish on the Internet:

- d) the proposed decision and, if the proposed decision is to approve the taking of the action, any conditions that the Minister proposes to attach to the approval; and
- e) an invitation for anyone to give the Minister, within 10 business days (measured in Canberra), comments in writing on the proposed decision and any conditions.

Section 133 of the EPBC Act relevantly provides:

Approval

- After receiving the assessment documentation relating to a controlled action, or the report of a commission that has conducted an inquiry relating to a controlled action, the Minister may approve for the purposes of a controlling provision the taking of the action by a person.

1A) If the referral of the proposal to take the action included alternative proposals relating to any of the matters referred to in subsection 72(3), the Minister may approve, for the purposes of subsection (1), one or more of the alternative proposals in relation to the taking of the action.

Content of approval

319) An approval must:

- a) be in writing; and
- b) specify the action (including any alternative proposals approved under subsection (1A)) that may be taken; and
- c) name the person to whom the approval is granted; and
- d) specify each provision of Part 3 for which the approval has effect; and
- e) specify the period for which the approval has effect; and
- f) set out the conditions attached to the approval.

Persons who may take action covered by approval

2A) An approval granted under this section is an approval of the taking of the action specified in the approval by any of the following persons:

- the holder of the approval;
- g) a person who is authorised, permitted, or requested by the holder of the approval, or by another person with the consent or agreement of the holder of the approval, to take the action.

Notice of approval

320) The Minister must:

- a) give a copy of the approval to the person named in the approval under paragraph 133(2)(c); and
- b) provide a copy of the approval to a person who asks for it (either free or for a reasonable charge determined by the Minister).

Notice of refusal of approval

- If the Minister refuses to approve for the purposes of a controlling provision the taking of an action by the person who proposed to take the action, the Minister must give the person notice of the refusal.

Section 134 of the EPBC Act relevantly provides:

Condition to inform persons taking action of conditions attached to approval

1A) An approval of the taking of an action by a person (the first person) is subject to the condition that, if the first person authorises, permits, or requests another person to undertake any part of the action, the first person must take all reasonable steps to ensure:

- c) that the other person is informed of any condition attached to the approval that restricts or regulates the way in which that part of the action may be taken; and
- d) that the other person complies with any such condition.

For the purposes of this Chapter, the condition imposed by this subsection is attached to the approval.

Generally

- The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:
 - a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or
 - b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).

Conditions to protect matters from the approved action

321) The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or
- b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.

This subsection does not limit subsection (1).

Examples of kinds of conditions that may be attached

322) The conditions that may be attached to an approval include:

- aa) conditions requiring specified activities to be undertaken for:
 - i) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or
 - ii) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage may or will be, or has been, caused by the action); and
- ab) conditions requiring a specified financial contribution to be made to a person for the purpose of supporting activities of a kind mentioned in paragraph (aa); and
- conditions relating to any security to be given by the holder of the approval by bond, guarantee or cash deposit:
 - iii) to comply with this Act and the regulations; and
 - iv) not to contravene a condition attached to the approval; and
 - v) to meet any liability of a person whose taking of the action is approved to the Commonwealth for measures taken by the Commonwealth under section 499 (which lets the Commonwealth repair and mitigate damage caused by a contravention of this Act) in relation to the action; and
- b) conditions requiring the holder of the approval to insure against any specified liability of the holder to the Commonwealth for measures taken by the Commonwealth under section 499 in relation to the approved action; and
- c) conditions requiring a person taking the action to comply with conditions specified in an instrument (including any kind of authorisation) made or granted under a law of a State or self-governing Territory or another law of the Commonwealth; and
- d) conditions requiring an environmental audit of the action to be carried out periodically by a person who can be regarded as being independent from any person whose taking of the action is approved; and
- e) if an election has been made, or is taken to have been made, under section 132B in respect of the approval – conditions requiring:
 - i) an action management plan to be submitted to the Minister for approval, accompanied by the fee (if any) prescribed by the regulations; and
 - ii) implementation of the plan so approved; and

- f) conditions requiring specified environmental monitoring or testing to be carried out; and
- g) conditions requiring compliance with a specified industry standard or code of practice; and
- h) conditions relating to any alternative proposals in relation to the taking of the action covered by the approval (as permitted by subsection 133(1A)).

This subsection does not limit the kinds of conditions that may be attached to an approval.

Certain conditions require consent of holder of approval

3A) The following kinds of condition cannot be attached to the approval of an action unless the holder of the approval has consented to the attachment of the condition:

- a condition referred to in paragraph (3)(aa), if the activities specified in the condition are not reasonably related to the action;
- a) a condition referred to in paragraph (3)(ab).

3B) If the holder of the approval has given consent, for the purposes of subsection (3A), to the attachment of a condition:

- the holder cannot withdraw that consent after the condition has been attached to the approval; and
- b) any person to whom the approval is later transferred under section 145B is taken to have consented to the attachment of the condition and cannot withdraw that consent.

Conditions attached under paragraph (3)(c)

(3C) A condition attached to an approval under paragraph (3)(c) may require a person taking the action to comply with conditions specified in an instrument of a kind referred to in that paragraph:

- as in force at a particular time; or
- c) as is in force or existing from time to time;

even if the instrument does not yet exist at the time the approval takes effect.

Considerations in deciding on condition

323) In deciding whether to attach a condition to an approval, the Minister must consider:

- a) any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action; and
- aa) information provided by the person proposing to take the action or by the designated proponent of the action; and

- b) the desirability of ensuring as far as practicable that the condition is a cost effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

Effect of conditions requiring compliance with conditions specified in another instrument

4A) If:

- a condition (the principal condition) attached to an approval under paragraph (3)(c) requires a person taking the action to comply with conditions (the other conditions) specified in an instrument of a kind referred to in that paragraph; and

- c) the other conditions are in excess of the power conferred by subsection (1);

the principal condition is taken to require the person to comply with the other conditions only to the extent that they are not in excess of that power.

Validity of decision

324) A failure to consider information as required by paragraph (4)(aa) does not invalidate a decision about attaching a condition to the approval.

Section 136 of the EPBC Act relevantly provides:

Mandatory considerations

- In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Minister must consider the following, so far as they are not inconsistent with any other requirement of this Subdivision:
 - a) matters relevant to any matter protected by a provision of Part 3 that the Minister has decided is a controlling provision for the action;
 - b) economic and social matters.

Factors to be taken into account

325) In considering those matters, the Minister must take into account:

- a) the principles of ecologically sustainable development; and
- b) the assessment report (if any) relating to the action; and
- ba) if Division 3A of Part 8 (assessment on referral information) applies to the action – the finalised recommendation report relating to the action given to the Minister under subsection 93(5); and
- bc) if Division 4 of Part 8 (assessment on preliminary documentation) applies to the action:

- i) the documents given to the Minister under subsection 95B(1), or the statement given to the Minister under subsection 95B(3), as the case requires, relating to the action; and
 - ii) the recommendation report relating to the action given to the Minister under section 95C; and
- c) if Division 5 (public environment reports) of Part 8 applies to the action:
 - i) the finalised public environment report relating to the action given to the Minister under section 99; and
 - ii) the recommendation report relating to the action given to the Minister under section 100; and
- ca) if Division 6 (environmental impact statements) of Part 8 applies to the action:
 - : the finalised environmental impact statement relating to the action given to the Minister under section 104; and
 - iii) the recommendation report relating to the action given to the Minister under section 105; and
- d) if an inquiry was conducted under Division 7 of Part 8 in relation to the action – the report of the commissioners; and
- e) any other information the Minister has on the relevant impacts of the action (including information in a report on the impacts of actions taken under a policy, plan, or program under which the action is to be taken that was given to the Minister under an agreement under Part 10 (about strategic assessments)); and
- f) any relevant comments given to the Minister in accordance with an invitation under section 131 or 131A; and
- g) if a notice relating to the action was given to the Minister under subsection 132A(3) – the information in the notice.

Person's environmental history

- In deciding whether or not to approve the taking of an action by a person, and what conditions to attach to an approval, the Minister may consider whether the person is a suitable person to be granted an approval, having regard to:
 - h) the person's history in relation to environmental matters; and
 - i) if the person is a body corporate – the history of its executive officers in relation to environmental matters; and

- j) if the person is a body corporate that is a subsidiary of another body or company (the parent body) – the history in relation to environmental matters of the parent body and its executive officers.

Minister not to consider other matters

326) In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Minister must not consider any matters that the Minister is not required or permitted by this Division to consider.

Section 139 of the EPBC Act relevantly provides in part:

If:

- a) the Minister is considering whether to approve, for the purposes of a subsection of section 18 or section 18A, the taking of an action; and
- b) the action has or will have, or is likely to have, a significant impact on a particular listed threatened species or a particular listed threatened ecological community;

the Minister must, in deciding whether to so approve the taking of the action, have regard to any approved conservation advice for the species or community.

Annexure B – Documents Considered

A	Notice of Decision
B	Letters
B1	Letter to proponent
B2	Letter to Minister for the Environment; Community Services; Homelessness
B3	Letter to Minister for Climate Change and Energy
B4	Letter to the Minister for Resources and Minister for Northern Australia
B5	Letter to Minister for Indigenous Australians
B6	Letter to Minister for Industry and Innovation and Minister for Science
C	Responses to Invitation to comment on proposed decision
C1	Email from Woodside with informal feedback on proposed conditions 4 June 2025
C2	Letter from Minister for Climate Change and Energy 6 June 2025
C3	Letter from Minister for Western Australia Minister for Environment 10 June
C4	Email with informal feedback from Woodside 10 June
C5	Supporting attachment to Woodside response 10 June
C6	Letter from NIAA 11 June 2025
C7	Email from Woodside containing proponent response 23 June 2025
C8	Woodside response attachment: Supporting Technical Information 23 June 2025
C9	Woodside response attachment: Formal response submission 23 June 2025
C10	Woodside email response 07 July 2025
C11	DCCEEW response to Woodside informal response 12 June
C12	DCCEEW questions to Woodside 3 July 2025
C13	Woodside request for extension of consultation timeframe 12 June 2025
C14	Email from Woodside on NOx concentrations 31 July 2025

C15	Woodside comments on conditions 12 August 2025
C16	Woodside comment on conditions 20 August 2025
C17	Email to Woodside with revised Final Decision Notice 24 August 2025
C18	Woodside comment on conditions 26 August 2025
C19	Department email to proponent with revised Final Decision Notice 5 September 2025
C20	Woodside comment on conditions 6 September 2025
D	Note: There is no Attachment D
E	Other Information/correspondence
E1	Correspondence from FARA 27 February 2025
E2	FARA submission to DCCEEW with Attachments 27 February 2025
E3	Email from FARA with video link
E4	DCCEEW email to Office of Appeals Convenor 9 July 2025
E5	Neumann, J. PhD (2025)
E6	Email from Office of Appeals Convenor 9 July 2025
E7	Attachment from AOC – EPA Appeals report 17 May 2023
E8	Attachment from AOC – Woodside response to non forma based appeal grounds 13 December 2022
E9	Attachment from AOC – Woodside response to pro forma appeal grounds 12 November 2022
E10	Attachment from AOC – Woodside response to OAC questions 28 June 2023
E11	Attachment from AOC – Woodside response to appeals 28 September 2023
E12	Attachment from AOC – Woodside response to AOC questions 18 July 2024
E13	Attachment from AOC - Woodside response to AOC questions 20 June 2024
E14	Attachment from AOC – WA EPA GHG Environmental Factor Guideline

E15	Attachment from AOC – Air Quality Impact Assessment Benzene
E16	Request to conditions writing team 10 July 2025
E17	Response from conditions writing team 13 July 2025
E18	ECAS advice 16 July 2025
E19	Response from conditions writing team 16 July 2025
E20	Correspondence from FARA 18 July 2025
E21	Response from conditions writing team 29 July 2025
E22	Email to proponent with final decision notice draft 11 August 2025
E23	Correspondence from ACCR 16 May 2025
E24	Correspondence from Ben Smith regarding new information 5 March 2025
F	Copy of Proposed Approval Decision Brief Package
F1	Proposed Decision Brief
F2	Attachment A: Proposed approval decision notice
	Attachment B: Letters
F3	Attachment B1: <u>Letter to proponent</u>
F4	Attachment B2: <u>Letter to Western Australia Minister for Environment</u>
F5	Attachment B3: <u>Letter to Minister for Climate Change and Energy</u>
F6	Attachment B4: <u>Letter to the Minister for Resources and Minister for Northern Australia</u>
F7	Attachment B5: <u>Letter to the Minister for Indigenous Australians</u>
F8	Attachment B6: <u>Letter to the Minister for Industry and Innovation and Minister for Science</u>
F9	Attachment C: <u>Legal Considerations report</u>
	Attachment D: <u>Western Australian assessment and appeals process</u>
F10	Attachment D1: <u>Western Australian EPA Assessment Report and recommended conditions</u>

F11	Attachment D2: <u>WA Appeals Convenor Report</u>
F12	Attachment D3: <u>WA Minister's Appeal Determination</u>
F13	Attachment D4: <u>Ministerial Statement 1233</u>
F14	Attachment D5: <u>Email from proponent notification of Ministerial Statement – 12 December 2024</u>
	Attachment E: <u>Referral Documentation</u>
F15	Attachment E1: <u>Referral brief – includes links to attachments - 3 May 2019</u>
F16	Attachment E2: <u>Referral decision notice - 3 May 2019</u>
F17	Attachment E3: <u>Referral brief package combined – 3 May 2019</u>
F18	Attachment E4: <u>Heritage Branch advice on referral - 17 December 2018</u>
	Attachment F: <u>Environmental Scoping Document</u>
F19	Attachment F1: <u>Draft Environmental Scoping Document</u>
F20	Attachment F2: <u>Request for comment on ESD from WA EPA - 28 February 2019</u>
F21	Attachment F3: <u>Heritage comments on draft ESD</u>
F22	Attachment F4: <u>Department email with comments to WA EPA on draft ESD - 21 March 2019</u>
F23	Attachment F5: <u>Draft ESD and request for comment on published draft ESD from WA EPA - 6 June 2019</u>
F24	Attachment F6: <u>WA EPA email to department confirming no comments from department on the published ESD 0 - 7 August 2019</u>
F25	Attachment F7: <u>Final ESD published - 29 August 2019</u>
	Attachment G: <u>Draft Environmental Review Document – for agency review</u>
F26	Attachment G1: <u>Draft Environmental Review Document Revision 0 with appendices - September 2019</u>
F27	Attachment G2: <u>Heritage Branch comments on draft ERD Revision 0 - 19 November 2019</u>
	Attachment H: <u>Draft Environmental Review Document (ERD) - published for comment</u>

F28	Attachment H1: <u>Draft ERD - Revision 1 - 18 December 2019</u>
F29	Attachment H2: <u>ERD Appendix A – Air Quality Management Plan Revision 1</u>
F30	Attachment H3: <u>ERD Appendix B – Greenhouse Gas Management Plan Revision 1</u>
F31	Attachment H4: <u>ERD Appendix C – Cultural Heritage Management Plan Revision 1</u>
F32	Attachment H5: <u>ERD Appendix D – Marine Environmental Quality Management Plan Revision 1</u>
F33	Attachment H6: <u>ERD Appendix E – Air Quality Impact Assessment Revision 4</u>
F34	Attachment H7: <u>ERD Appendix F – Greenhouse Gas Benchmarking Report Revision 1</u>
F35	Attachment H8: <u>ERD Appendix G – KGP Wastewater Discharge Modelling Report Revision 1</u>
F36	Attachment H9: <u>ERD Appendix H – Rock Art Literature Review</u>
F37	Attachment H10: <u>Email from WA EPA to dept with WA EPA summary of submissions on ERD - 2 April 2020</u>
F38	Attachment H11: <u>Heritage Branch email with advice on draft ERD - 23 March 2020</u>
F39	Attachment H12: <u>Department comments on published ERD - 9 April 2020</u>
	Attachment I: <u>Response to Submissions (RTS)</u>
F40	Attachment I1: <u>RTS - Revision 0 - June 2020</u>
F41	Attachment I2: <u>RTS - Revision 0 - Appendix A – List of Summarised Submissions – June 2020</u>
F42	Attachment I3: <u>RTS - Revision 0 - Appendix B – Air Quality Management Plan – June 2020</u>
F43	Attachment I4: <u>RTS - Revision 0 - Appendix C – Cultural Heritage Management Plan – June 2020</u>
F44	Attachment I5: <u>RTS - Revision 0 - Appendix D – Marine Environmental Quality Management Plan – June 2020</u>
F45	Attachment I6: <u>RTS - Revision 0 - Appendix E– Greenhouse Gas Management Plan – June 2020</u>
F46	Attachment I7: <u>RTS - Revision 0 - Appendix F – Air Quality Impact Assessment – June 2020</u>

F47	Attachment I8: <u>RTS - Revision 1 - February 2021</u>
F48	Attachment I9: <u>RTS Rev 1 Appendix A - List of Summarised Submissions - February 2021</u>
F49	Attachment I10: <u>RTS Rev 1 Appendix B - Air Quality Management Plan Revision 2</u>
F50	Attachment I11: <u>RTS Rev 1 Appendix C - Cultural Heritage Management Plan - February 2021</u>
F51	Attachment I12: <u>RTS Rev 1 Appendix D - Marine Environmental Quality Management Plan - February 2021</u>
F52	Attachment I13: <u>RTS Rev 1 Appendix E - Greenhouse Gas Management Plan - February 2021</u>
F53	Attachment I14: <u>RTS Rev 1 Appendix F - Air Quality Impact Assessment Benzene - February 2021</u>
F54	Attachment I15: <u>RTS Rev 1 Appendix G - Comparative Life Cycle Assessment Browse and Scarborough - February 2021</u>
F55	Attachment I16: <u>RTS Revision O - Heritage Branch advice – 17 July 2020</u>
F56	Attachment I17: <u>RTS Revision 0 – Department comments to WA EPA – 31 July 2020</u>
F57	Attachment I18: <u>RTS Revision 1 – WA EPA request for comments – 11 February 2021</u>
F58	Attachment I19: <u>RTS Revision 1 – Department comments – 23 February 2021</u>
F59	Attachment I20: <u>RTS – Final -November 2021 – Published 30 June 2022</u>
F60	Attachment I21: <u>RTS - Final - Appendix A – List of Summarised Submissions</u>
F61	Attachment I22: <u>RTS - Final - Appendix B – Air Quality Management Plan Revision 2</u>
F62	Attachment I23: <u>RTS – Final - Appendix C – Cultural Heritage Management Plan Revision 3</u>
F63	Attachment I24: <u>RTS - Final - Appendix D – Marine Environmental Quality Management Plan Revision 4</u>
F64	Attachment I25: <u>RTS – Final - Appendix E– Greenhouse Gas Management Plan Revision 7</u>
F65	Attachment I26: <u>RTS - Final- Appendix F – Air Quality Impact Assessment Benzene</u>
F66	Attachment I27: <u>RTS - Final - Appendix G – Comparative Life Cycle Assessment Browse and Scarborough</u>

	Attachment J: <u>Departmental guidance documents and investigations</u>
F67	Attachment J1: <u>Department's EPBC Species and Communities Update (9 May 2025)</u>
F68	Attachment J2: <u>Environmental Reporting Tool Report (9 May 2025)</u>
F69	Attachment J3: <u>Murujuga Conservation Agreement with Woodside</u>
F70	Attachment J4a: <u>Murujuga Cultural Heritage Management Plan Pt1-A</u>
F71	Attachment J4b: <u>Murujuga Cultural Heritage Management Plan Pt1-B</u>
F72	Attachment J4c: <u>Murujuga Cultural Heritage Management Plan Pt1-C</u>
F73	Attachment J5a: <u>Murujuga Cultural Heritage Management Plan Pt2-A</u>
F74	Attachment J5b: <u>Murujuga Cultural Heritage Management Plan Pt2-B</u>
F75	Attachment J5c: <u>Murujuga Cultural Heritage Management Plan Pt2-C</u>
F76	Attachment J6: <u>Advice from Heritage Branch on referral – 17 December 2018</u>
	Attachment J7: <u>Note: there is no attachment J7</u>
F77	Attachment J8: <u>Australia's National Heritage: applying the principles</u>
F78	Attachment J9: <u>National Heritage List Gazette Notice No. S127 – Dampier Archipelago (including Burrup Peninsula)</u>
	Attachment J10: <u>Note: there is no attachment J10</u>
F79	Attachment J11: <u>Environmental History Check by Environment Compliance Branch – 17 October 2022</u>
F80	Attachment J12: <u>Updated Environmental History Check by Compliance and Enforcement Branch – 28 January 2025</u>
F81	Attachment J13: <u>Department request to proponent for Environmental History Check – 23 December 2024</u>
F82	Attachment J14: <u>Environmental History Check – proponent response – 24 January 2025</u>
F83	Attachment J15: <u>ECAS line area advice received 21 February 2025</u>
F84	Attachment J15a: <u>ECAS Analysis</u>

F85	Attachment J16: <u>Environment Protection (Impact of Proposals) Act 1974 (EPIP) authorisations 1979, 1997 and 1998</u>
F86	Attachment J17: <u>Scarborough Development nearshore component (EPBC 2018/8362) – Consolidated Conditions – 12 August 2019</u>
F87	Attachment J18: <u>Expansion of the existing Pluto LNG facility (EPBC 2006/2968) – Consolidated approval notice</u>
F88	Attachment J19: <u>Dampier Archipelago (including Burrup Peninsula) National Heritage Place - map</u>
F89	Attachment J20: <u>Nomination for World Heritage Tentative List - Murujuga Cultural Landscape</u>
F90	Attachment J21: <u>ECAS Line Area advice received 29 April 2025</u>
F91	Attachment J22: <u>MNES Significant Impact Guidelines 1.1</u>
F92	Attachment J23: <u>Murujuga National Park Management Plan</u>
F93	Attachment J24: <u>NCA Decision for EPBC 2006-3191</u>
F94	Attachment J25: <u>Burrup and Maitland Industrial estates Agreement</u>
	Attachment K: <u>Department comments on WA State conditions</u>
F96	Attachment K1: <u>WA EPA request for comments on draft WA EPA conditions – 23 March 2022</u>
F97	Attachment K2: <u>Assessment feedback on WA EPA condition April 2022</u>
F98	Attachment K3: <u>Heritage comments on draft WA EPA conditions – April 2022</u>
	Attachment L: <u>Reconsiderations</u>
F99	Attachment L1: <u>Request for reconsideration from Environmental Justice Australia - 8 July 2022</u>
F100	Attachment L2: <u>Validity brief for EJA request dated 3 November 2022</u>
F101	Attachment L3: <u>Request for Reconsideration Brief</u>
F102	Attachment L4: <u>Request for reconsideration from Conservation Council of Western Australia – 11 February 2025</u>

F103	Attachment L5: <u>Validity brief for CCWA request dated 15 May 2025</u>
F104	Attachment L6: <u>Request for reconsideration from Greenpeace - 19 March 2025</u>
F105	Attachment L7: <u>Validity brief for Greenpeace requested dated 15 May 2025</u>
	Attachment M: <u>Cost Recovery</u>
F106	Attachment M1: <u>Stage 3-4 Cost Recovery Brief signed 21 February 2020</u>
F107	Attachment M2: <u>Stage 3-4 Cost Recovery letter to proponent signed 21 February 2020</u>
	Attachment N: <u>Stop clock decision and extension of timeframes</u>
F108	Attachment N1: <u>Stop clock letter on approval decision – 10 August 2022</u>
F109	Attachment N2: <u>Extension to timeframe to 28 February 2025– Decision brief, notice and attachments – signed 13 December 2024</u>
F110	Attachment N3: <u>Extension to timeframe to 31 March 2025 – Decision brief, notice and attachments – signed 18 February 2025</u>
F111	Attachment N4: <u>Extension to timeframe to 31 May 2025 – Decision brief, notice and attachments – signed 24 March 2025</u>
	Attachment O: <u>Economic and social matters</u>
F112	Attachment O1: <u>Browse and North West Shelf Project Extension economic impact assessment 2019</u>
F113	Attachment O2: <u>North West Shelf Project Extension Social Impact Assessment 2019</u>
F114	Attachment O3: <u>Department letter to proponent request updated information on social and economic matters (23 December 2024)</u>
F115	Attachment O4: <u>Further information from proponent on social and economic matters (24 January 2025)</u>
F116	Attachment O5: <u>Further information from proponent on gas supplies to domestic and global markets – 30 August 2024</u>
	Attachment P: <u>Additional Public Comments</u>
F117	Attachment P1: <u>Table of Ministerial submissions direct to the Minister</u>
F118	Attachment P2: <u>Ministerial submissions direct to the Minister - includes sensitive content</u>

	Attachment Q: <u>Additional documentation</u>
F119	Attachment Q1: <u>Murujuga Rock Art Monitoring Program: Monitoring Studies Report 2023</u>
F120	Attachment Q2: <u>Murujuga Rock Art Monitoring Program: Monitoring Studies Report 2024</u>
F121	Attachment Q3: <u>Murujuga Rock Art Strategy</u>
F122	Attachment Q4: <u>Monitoring Studies Data Collection and Analysis Plan (Curtin University, 2022)</u>
F123	Attachment Q5: <u>Smith et al (2024) The effects of acidic pollution on the rock art of Murujuga, Western Australia</u>
F124	Attachment Q6: <u>Black, McLeod and Smith (2017) Theoretical effects of industrial emissions on colour change at rock art sites on Burrup Peninsula, Western Australia</u>
F125	Attachment Q7: <u>MacLeod and Fish (2021) Determining decay mechanisms on engraved rock art sites using pH, chloride ion and redox measurements with an assessment of the impact of cyclones, sea salt and nitrate ions on acidity</u>
F126	Attachment Q8: <u>Oguchi and Yu (2021) A review of theoretical salt weathering studies for stone heritage</u>
F127	Attachment Q9: <u>Pillans and Fifield (2013)</u>
F128	Attachment Q10: <u>MRAMP Interim EQC</u>
G	Note: there is no Attachment G
H	Signed brief for request for reconsideration of controlled action decisions from Environmental Justice Australia – 31 May 2025
I	Correspondence received by Minister
I01	Ministerial submissions direct to the Minister – combined
I02	Table of Ministerial submissions direct to the Minister