

DEPARTMENT OF AGRICULTURE, WATER AND THE ENVIRONMENT

MS20-001556

To: Minister for the Environment (For Decision)

APPROVAL DECISION BRIEF (ASSESSMENT REPORT) – NARRABRI GAS PROJECT,
NSW (EPBC 2014/7376)

Timing: 24 November 2020 - Statutory timeframe for final decision.

Recommendations:

1. That you consider the information provided in this brief and attachments, including the updated legal considerations at **Attachment B1** and the proposed decision briefing package and assessment report at **Attachment A**.

Considered / Please discuss
2. Consider the responses to the invitation for comment on the proposed decision at **Attachment C**.

Considered / Please discuss
3. That you agree to approve, for the purposes of each controlling provision, the action as summarised in the table below.

Agreed / Not agreed
4. That you agree to attach the conditions of approval as set out in **Attachment E**.

Agreed / Not agreed
5. If you agree with recommendations 3 and 4, that you agree to accept the reasoning in the departmental briefing package as the reasons for your decision.

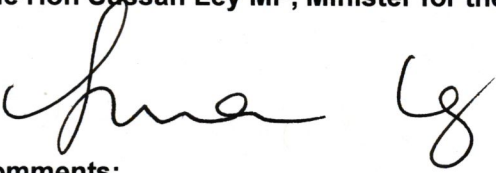
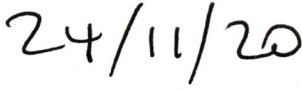
Agreed / Not agreed
6. If you agree with recommendations 3 and 4, that you sign the notice of your decision at **Attachment E**.

Signed / Not signed
7. If you agree with recommendations 3 and 4, that you sign the letters at **Attachment F** advising the person proposing to take the action, relevant Commonwealth Ministers, and the NSW Government of your decision.

Signed / Not signed

Summary of recommendations on each controlling provision:

Controlling Provisions for the action	Recommendation	
	Approve	Refuse to Approve
Listed threatened species and communities (ss 18, 18A)	Approve	

A water resource, in relation to coal seam gas development and large coal mining development (ss 24D, 24E)	Approve		
Commonwealth land (ss 26, 27A)	Approve		
The Hon Sussan Ley MP, Minister for the Environment  Comments:		Date: 	
Clearing Officer: Sent 20/11/2020	s. 22(1)(a)(ii)	A/g Assistant Secretary, Environment Assessments (NSW, ACT) Branch	Mob: s. 22(1)(a)(ii)
Contact Officer:	s. 22(1)(a)(ii)	Acting Director, Northern NSW Assessments Section	Ph: s. 22(1)(a)(ii) Mob: s. 22(1)(a)(ii)

Key Points:

1. The purpose of this brief is to seek your consideration of a final approval decision for the Narrabri Gas Project (the 'proposed action') under Part 9 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
2. Santos NSW (Eastern) Pty Ltd (Santos) – the person proposing to take the action and the proponent – proposes to progressively develop, operate and decommission a new coal seam gas (CSG) field and associated infrastructure across about 1000 hectares (ha) of a 95,000 ha area south-west of Narrabri, in north-western New South Wales (NSW).
3. On 28 October 2020, as recommended in the proposed approval decision brief (**Attachment A**) you wrote to Santos and relevant Commonwealth Ministers seeking comments on your proposed decision, as required under sections 131AA(1) and 131(1) of the EPBC Act. You also wrote to the NSW Minister for Planning and Public Spaces informing him of your proposed decision.
4. The responses to your invitation to comment are provided at **Attachment C** and summarised below. Most Ministers commented on the economic and social aspects of the project and noted your intention to approve the project with conditions.
5. On 3 November 2020, a delegate wrote to Santos requesting further information under section 136(4) about the environmental history of Santos, its parent body, and executive officers from the last ten years. The Department's consideration of environmental history is provided in the updated legal considerations report at **Attachment B1**.

6. The request for further information paused the statutory timeframe for the approval decision. The approval clock was restarted on 11 November 2020, the day after Santos provided the requested information (see **Attachment D**), with a final decision due by 24 November 2020.
7. Under section 130 of the EPBC Act you are now required to decide whether or not to approve the proposed action, and if you decide to approve under section 133, what conditions you will attach to the approval under section 134 of the EPBC Act.
8. The mandatory considerations that you must have regard to when deciding whether or not to approve the proposed action, and the Department's analysis of them, are in this brief and the updated legal considerations report at **Attachment B1**.
9. The Department considers that impacts to water resources, Commonwealth land and listed threatened species and ecological communities will not be unacceptable provided the action is undertaken in accordance with the recommended approval conditions at **Attachment E**.

Consultation

Comments from Santos

10. Following the proposed decision, the Department engaged with Santos to amend and finalise the condition set. Santos agreed to the final conditions on 13 November 2020 (see **Attachment C1**).
11. Comments from Santos were largely focused on: removing conditions that duplicated NSW conditions; aligning additional Commonwealth conditions more closely with the monitoring and reporting requirements of NSW conditions; and to clarify the intent of some conditions.
12. The Department notes that the overall intent of the conditions to protect matters of national environmental significance has not changed.
13. Santos' suggested amendments have, where considered appropriate by the Department, been incorporated into the final decision notice (**Attachment E**) and include:
 - a. Removal of the condition limiting indirect impacts to 181 ha of native vegetation. Santos advised that impacts from, but not limited to, noise, dust, light, traffic, sedimentation, fragmentation and increased weed and feral animal invasion, would be varied but geographically extensive across the project area. Indirect impacts had been converted to an equivalent vegetation impact area of 181 ha and are already required to be offset through the NSW conditions.
 - b. Removal of references to specific clearance limits and offset credit requirements for each protected matter for better streamlining with NSW conditions. The NSW biodiversity assessment and offset framework, which has been endorsed by the Commonwealth, calculates offset credits based on vegetation types (plant community types). These plant community types act as surrogates for species habitat. The NSW conditions set clearance limits based on the maximum clearance for each plant community type instead of for each species. Despite this difference in methodology, the Department considers that the NSW conditions would achieve the same result as conditions that are based on species habitat. The Department is satisfied that as long as Santos complies with the NSW conditions and retires all necessary plant community type credits, impacts to relevant Commonwealth-listed species and communities will be appropriately offset. Therefore, the Department considers that additional Commonwealth conditions for clearance limits and offset credit requirements for each protected matter is not necessary.

- c. Revised groundwater conditions so that there is greater clarity around the proponent's responsibilities to assess, monitor and manage impacts to groundwater resources. There is now a clearer escalation pathway to follow, including touchpoints for the Department's involvement, to manage groundwater impacts.
- i. The approval holder must undertake groundwater monitoring and modelling in accordance with NSW conditions. The Department has required particular hydrogeological strata to be monitored. Both the monitoring and modelling are early-warning systems of potential impacts, before any impacts in productive aquifers are realised.
 - ii. The Department (and/or Minister) only becomes involved if there is an actual incident of non-compliance of groundwater performance measures specified in the NSW conditions, or the groundwater model predicts an exceedance of performance measures.
 - iii. In such instances, the approval holder must report the incident, implement mitigation measures as per NSW conditions, and undertake mitigation and/or corrective actions. This gives the approval holder the opportunity to investigate the incident, run further models, and determine whether the incident will actually have an adverse impact on protected matters.
 - iv. If those mitigation and/or corrective actions still do not achieve the desired environmental outcomes (i.e. there is non-compliance or a predicted exceedance), or the Minister determines that the desired outcomes cannot or will not be achieved, the approval holder must undertake site-specific assessments to derive a scientifically-robust cease-work limit. This limit will be based on the approval holder's own updated modelling and monitoring data. The Minister may set an interim cease-work limit if not satisfied that the approval holder's limit will achieve the desired environmental outcomes.
 - v. The approval holder must automatically cease groundwater extraction at any gas wells identified as contributing to the exceedance of the cease-work limit and implement corrective actions. Gas extraction from those gas wells cannot recommence without Ministerial approval.
- d. Revised reporting requirements and definitions for the framework to categorise and drilling fluid chemicals. The conditions still require Santos to assess and manage any hazards and risks to the environment posed by drilling chemicals.

Comments from the Prime Minister

14. The Prime Minister's response, dated 6 November 2020, noted the central role of affordable gas to support economic recovery, and the project's role in generating regional employment and helping meet NSW's gas demand (**Attachment C2**).
15. The Prime Minister also noted the streamlined and robust assessment process undertaken for the project, and the additional conditions to protect Commonwealth matters.

Comments from the Minister for Agriculture, Drought and Emergency Management

16. On 29 October 2020, the Department replied on behalf of Minister Littleproud and stated that it had no comments on the proposed decision (**Attachment C3**).

Comments from the Minister for Employment, Skills, Small and Family Business

17. Senator Cash responded on 11 November 2020. She provided general support for the project and noted that it is significant for NSW and will increase employment opportunities for the Narrabri region (**Attachment C4**).

Comments from the Minister for Energy and Emissions Reduction

18. Minister Taylor responded on 12 November 2020 and noted the economic benefits of the project, including that it will support local industry and jobs, help deliver reliable and affordable energy to domestic consumers, and help prevent forecast gas shortfalls. (**Attachment C5**).
19. Minister Taylor supports your proposed approval of the project given its importance for NSW gas supply. He noted that the Commonwealth conditions do not duplicate or conflict with the NSW conditions and acknowledged the additional Commonwealth conditions to protect matters of national environmental significance.
20. Minister Taylor encouraged working with the Santos to minimise any regulatory burden arising from the implementation of the additional conditions, while still upholding environmental protections.
21. As discussed above, the Department has worked closely with Santos to revise the conditions to avoid unnecessary duplication, and Santos has agreed to the final condition set.

Comments from the Minister for Indigenous Australians

22. Minister Wyatt responded on 11 November 2020 (**Attachment C6**). Minister Wyatt acknowledged that the NSW Government has regulatory responsibility for protecting Aboriginal heritage and that Santos appears to have met its Aboriginal consultation obligations under those legislative requirements.
23. Minister Wyatt supports your proposed approval of the action but highlighted the need for governments to ensure adequate and comprehensive representation with consulting with Indigenous stakeholders.
24. Minister Wyatt also noted the lack of Commonwealth and NSW conditions requiring Indigenous enterprise or employment outcomes, and has asked the National Indigenous Australians Agency (NIAA) to work with Santos to support such outcomes.
25. The letter to Santos includes this advice and encourages ongoing Indigenous stakeholder consultation. The details of a relevant contact at NIAA have also been provided to help facilitate this engagement.

Comments from the Minister for Industry, Science and Technology

26. Minister Andrews responded on 17 November 2020, supporting your proposed approval and noting the project's key role in providing energy security and reliability, and supplying a key input for manufacturing (**Attachment C7**).

Comments from the Deputy Prime Minister and Minister for Infrastructure, Transport and Regional Development

27. On 16 November 2020, the Minister for Infrastructure, Transport and Regional Development noted the proposed approval of the project and the conditions, and encouraged Department officer-level consultation (**Attachment C8**).

Comments from the Minister for Regional Health, Regional Communications and Local Government

28. On 11 November 2020, the Department of Infrastructure advised that Minister Coulton had a nil response and would not be formally responding.

Comments from the Minister for Resources, Water and Northern Australia

29. On 12 November 2020, Minister Pitt responded to your letter, advising that he supported your proposed approval of the project subject to compliance with the proposed conditions (see **Attachment C9**). Minister Pitt suggested that GA's comments (discussed above) are taken into consideration and encouraged streamlining of Commonwealth and NSW conditions to avoid any conflict or overlap of conditions.
30. Minister Pitt noted the social and economic benefits expected from the project, including: improvements to east coast gas supply reliability; increased investment and jobs for the local community; competitively priced gas supply for NSW consumers; regional benefit fund for Narrabri Shire; and \$1.2 billion in royalties for the NSW Government.
31. Minister Pitt's response also noted that the project is consistent with the outcomes of the Government's \$52.9 million Gas-Fired Recovery package, and a key component of the JobMaker plan. All future gas production from the project would count towards the 70 petajoule per year gas target in the Commonwealth-NSW Energy and Emissions Reduction Agreement.
32. As discussed above, the Department has worked closely with Santos to revise the conditions and avoid unnecessary duplication in conditions.
33. Minister Pitt noted that the Department may wish to consider the comments from Geoscience Australia's (GA). GA commented on the proposed conditions relating to groundwater, particularly the practicalities of their implementation and enforceability (**Attachment C9**).
34. GA identified three main issues with the proposed conditions (and provided recommendations to address those issues):
- a. the method of developing reference values to monitor potential groundwater impacts should be specified;
 - b. the Department and Santos should agree on the methods to quantify groundwater impacts as exceedances at monitoring bores may be due to factors external to the project, like extraction by other industries; and
 - c. the timeframes for the approval holder to undertake certain actions may not be sufficient, and may need to be revised.
35. As discussed above, the Department and Santos have since agreed to substantially revised groundwater conditions that address GA's concerns. The Department is confident that the final conditions enable robust monitoring and compliance, and set appropriate timeframes for the approval holder to undertake management actions.

Further information received - Greenpeace

36. On 9 November 2020, the Department received correspondence from Greenpeace advising that it had further information about possible hydrogeological impacts from the project (see **Attachment G1**).

37. Their key concern was that evidence of groundwater and/or gas migration (from the deep target coal seams through geological faults and fractures into the shallower Namoi Alluvium) had not been adequately considered in Santos' groundwater modelling, or in the NSW Department of Planning, Industry and Environment's (DPIE) or the Independent Planning Commission of NSW's (IPC) assessments. The submission stated that the presence of faults and fractures and interconnectivity could result in greater impacts from the project than those currently predicted.
38. The submission included:
- a. an expert report on the risks to groundwater from the project, by Dr Matthew Currell, an Associate Professor of environmental engineering at RMIT University. This report was provided to the IPC for its consideration, is publicly available on the IPC website, and was considered by the Department in its assessment and proposed decision recommendation.
 - b. A journal article by Gurba and Weber (2001)¹, a presentation by Currell to the IPC about the project, and a review by Currell of Santos' final submission to the IPC. The presentation and review of Santos' final submission to the IPC, while not previously seen by the Department, were substantially based on Currell's expert report and published research (Iverach et al. 2020² and Iverach et al. 2017³). The Department reviewed both Iverach et al. papers during its assessment.
39. Consistent with the information received from Greenpeace, both the NSW assessment report (**Attachment D3 of Attachment A**) and the IPC statement of reasons (**Attachment D2 of Attachment A**) acknowledged that uncertainty remained about the role of faults and fractures on groundwater and contaminant movements.
- a. Conditions B39 and B40 of the NSW conditions of approval (**Attachment D7 of Attachment A**) specify that updated geological modelling and assessment must be undertaken within the project area and surrounds. This data must be incorporated into updated groundwater modelling.
 - b. If the predicted impacts from the updated groundwater model result in an exceedance of water management performance measures, then Phase 2 of the project (construction of gas production wells and infrastructure) cannot commence.
 - c. The Department is comfortable with the conclusions of the NSW assessment and that the relevant NSW conditions are appropriate to manage groundwater impacts. The Department's recommended conditions of approval require Santos to comply with all NSW conditions relating to water management (see **Attachment E**).

¹ Gurba LW and Weber CR (2001). Effects of igneous intrusions on coalbed methane potential in Gunnedah Basin, Australia. *International Journal of Coal Geology* 46:113-131

² Iverach CP, Cendon DI, Beckman S, Hankin SI, Manfield M, Kelly BFJ (2020). Constraining source attribution of methane in an alluvial aquifer with multiple recharge pathways. *Science of the Total Environment* 703:1-14. This paper demonstrated that methane migration into the Namoi Alluvium from the underlying coal seams through faults and fractures could be occurring in an area to the north of the Narrabri Gas Project. The scale and rate of gas migration have not been established.

³ Iverach CP, Cendon DI, Meredith KT, Wilcken KM, Hankin SL, Andersen MA, Kelly BFJ (2017). A multi-tracer approach to constraining artesian groundwater discharge into an alluvial aquifer. *Hydrology and Earth System Sciences* 21:5953-5969

- d. The Department has recommended additional conditions that require the development of an early warning monitoring system to identify if and when groundwater impacts may exceed drawdown predictions, and the calculation of a scientifically-robust cease-work limit. The approval holder must stop groundwater extraction from contributing wells if the cease-work limit is exceeded. The Department considers these additional conditions are necessary to protect water resources, and Santos has agreed to the conditions.
40. Santos was provided the opportunity to comment on the material and issues raised by Greenpeace's correspondence of 16 November 2020. On 17 November 2020, Santos provided comments on that correspondence (**Attachment G2**), noting that:
- a. The attachments provided by Greenpeace contain information that was put before the IPC during the public hearing process, on which Santos made submissions at that time.
 - b. The matters considered in those attachments were considered by the Independent Water Expert Panel. The Panel's report was included in the NSW assessment process, and the Panel were also engaged by the IPC.
 - c. Santos does not accept the issues raised by Greenpeace. Santos did not identify any new information in the attachments relevant to the assessment of the proposed action that were not considered during the assessment process.
41. The Department acknowledges that there are remaining uncertainties regarding the role of faults and fractures on groundwater and contaminant movements.
42. The Department notes that Greenpeace also considers that there is not sufficient information to draw any conclusions about the risk to shallow aquifers and to satisfy the precautionary principle.
43. In accordance with section 391 of the EPBC Act, in deciding whether or not to approve the taking of an action, you must take account of the precautionary principle to the extent that you can do so consistently with the EPBC Act. The precautionary principle is that a lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible damage.
44. In recommending approval of the proposed action, the Department considers that there is sufficient scientific information to know of, and understand, the likely impacts of the proposed action on matters protected by the controlling provisions of the proposed action.
45. The Department has applied the precautionary principle and recommended additional conditions to account for any residual uncertainty. The recommended conditions ensure that the proposed action complies with relevant performance measures and thresholds, that ongoing monitoring and updated modelling is undertaken, and that response mechanisms are in place to manage those impacts in a timely manner. The Department has also included a cease-work condition and the requirement for corrective actions to be undertaken to prevent any adverse impacts to GDEs resulting from exceedances in groundwater drawdown.
46. The Department considers that the recommended conditions are suitable measures to address the concerns and uncertainties raised by Greenpeace.

Matters for consideration

47. The matters for consideration and factors to be taken into account in making your decision are set out in the updated legal considerations report at **Attachment B1** and the proposed approval decision brief and its attachments (**Attachment A**).
48. The Department confirmed that all relevant conservation advices are still current and have not changed from the date of your proposed approval decision (**Attachment A**). You must have regard to the relevant conservation advices in making your decision.
49. The Department has also included consideration of further relevant recovery plans and threat abatement plans in the updated legal considerations report. The additional recovery and threat abatement plans are at **Attachment H** and are discussed in the updated legal considerations report at **Attachment B1**.
50. The Department has also updated the IESC advice analysis table to reflect the changes to conditions (**Attachment B2**).

Environmental history

51. The Department requested further information from Santos regarding its environmental history, and that of its parent body and executive officers, under section 136(4) of the EPBC Act. Santos' response is provided in full at **Attachment D**, and the Department's consideration is provided in the updated legal considerations report at **Attachment B1**.

Changes to conditions

52. In preparing this final decision brief, the Department has had regard to comments from all parties consulted, both internal and external.
53. As a result, the recommended conditions of approval have changed from the proposed decision (at **Attachment B** of **Attachment A**) and as outlined above in paragraph 13.
54. While the objectives of the conditions remain the same, some conditions have been removed or amended to further reduce duplication of NSW and Commonwealth conditions, or add further clarity around their intent.
55. Consistent with the requirements in subsection 134(4), in recommending the conditions of approval at **Attachment E**, the Department has considered: relevant conditions that have been imposed under the NSW approval; the information provided by Santos; and the desirability of ensuring that the conditions are a cost effective means for the Commonwealth and Santos to achieve the object of the conditions.

Line area consultation

56. The following line areas were consulted in the preparation of the final decision briefing package and conditions:
 - a. Water Resources Regulatory Support;
 - b. Office of Water Science;
 - c. Legal Division (and Australian Government Solicitor);
 - d. Post Approvals; and
 - e. Environmental Audit.

Notification of decision

57. Under section 133(3) of the EPBC Act, you must give a copy of the approval to the person named in the approval. A letter to Santos is at **Attachment F1** for your signature.
58. The Department also recommends that you write to relevant Commonwealth Ministers, and the NSW Department of Planning, Industry and Environment of your decision. The letters are at **Attachment F2-F11** for your signature.

ATTACHMENTS* (see Appendix for complete list)

- A:** Proposed decision briefing package (MS20-001405 & hard copies)
- B:** Updated legal considerations report & IESC Advice and proposed conditions
- C:** Responses to invitation for comment on proposed decision
- D:** Request for information & Santos' environmental history response
- E:** Approval decision notice (**for signature**)
- F:** Letters notifying Santos, relevant Commonwealth Ministers and the NSW Government of the final approval decision (**for signature**)
- G:** Further information received from Greenpeace & Santos' response
- H:** Additional Recovery Plans and Threat Abatement Plans

DEPARTMENT OF AGRICULTURE, WATER AND THE ENVIRONMENT

Appendix - final decision attachment list

Document	Document Description
Brief	Final decision brief - FOR SIGNATURE
Att A	Proposed decision briefing package
Att B1	Updated legal considerations report
Att B2	Consideration of IESC advice in final conditions
Att C1	Response to invitation to comment - Proponent
Att C2	Response to invitation to comment - Prime Minister
Att C3	Response to invitation to comment - Minister for Agriculture, Drought and Emergency Management
Att C4	Response to invitation to comment - Minister for Employment, Skills, Small and Family Business
Att C5	Response to invitation to comment - Minister for Energy and Emissions Reduction
Att C6	Response to invitation to comment - Minister for Indigenous Australians
Att C7	Response to invitation to comment - Minister for Industry, Science and Technology
Att C8	Response to invitation to comment - Minister for Infrastructure, Transport and Regional Development
Att C9	Response to invitation to comment - Minister for Resources, Water and Northern Australia
Att D	Request for information & Santos' environmental history response
Att E	Final decision notice - FOR SIGNATURE
Att F1	Letter to Proponent - FOR SIGNATURE
Att F2	Letter to Prime Minister - FOR SIGNATURE
Att F3	Letter to Minister for Agriculture - FOR SIGNATURE
Att F4	Letter to Minister for Employment - FOR SIGNATURE
Att F5	Letter to Minister for Energy - FOR SIGNATURE
Att F6	Letter to Minister for Indigenous Australians - FOR SIGNATURE
Att F7	Letter to Minister for Industry - FOR SIGNATURE
Att F8	Letter to Minister for Infrastructure - FOR SIGNATURE
Att F9	Letter to Minister for Regional Health, Regional Communications and Local Government - FOR SIGNATURE
Att F10	Letter to Minister for Resources, Water and Northern Australia - FOR SIGNATURE
Att F11	Letter to NSW Government - FOR SIGNATURE
Att G1	Further information from Greenpeace
Att G2	Santos' response to further information from Greenpeace
Att H1	Recovery Plan - Large-eared Pied Bat
Att H2	Recovery Plan - Box Gum Woodland
Att H3	Recovery Plan - Malleefowl
Att H4	Recovery Plan - Booroolong Frog
Att H5	Recovery Plan - Brush-tailed Rock-wallaby
Att H6	Recovery Plan - Murray Cod
Att H7	Threat Abatement Plan - Chytrid fungus

