

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Meeting 45, 26-27 July 2017**

**MINUTES
Canberra**

Attendance and Apologies

IN ATTENDANCE

Dr Chris Pigram (Chair)
Professor Craig Simmons
Dr Jenny Stauber
Dr Andrew Boulton
Dr Wendy Timms
Professor Joan Esterle (day 1)
Dr Glen Walker

APOLOGIES

Dr Ian Prosser
Professor Joan Esterle (day 2)

SECRETARIAT AND SUPPORT

Matthew Dadswell
Emily Grant
Peter Baker
Jason Smith
Lily Knife (day 1)

STAFF OF THE DEPARTMENT OF THE ENVIRONMENT AND ENERGY

Rod Dann (Items 2 and 4) Office of Water Science	Natasha Amerasinghe (Item 2) Office of Water Science
Carl Zimmerman (Item 2) Office of Water Science	Taysha Le Compte (Item 2) Office of Water Science
Mitchell Bouma (Item 2) Office of Water Science	Sarah Taylor (Item 2) Office of Water Science
John Higgins (Items 3, 4 and 5.1) Bioregional Assessments	Anthony Swirepik (Items 3 and 4) Geological and Bioregional Assessments
James Hill (Item 3) Bioregional Assessments	Emily Turner (Item 3) Bioregional Assessments

INVITED GUESTS

David Post (Item 3)	Russell Crosbie (Item 3)
Brent Henderson (Item 3)	Becky Schmidt (Item 3)
Julie Burke (Item 3)	Dirk Mallants (Item 4)

The meeting commenced at 8.55 am on 26 July 2017.

1. Welcome and Introductions

The Chair, Dr Chris Pigram, welcomed members of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) to the meeting.

1.1 Acknowledgement of country

The Chair acknowledged the traditional owners, past and present, on whose land this meeting was held.

1.2 Declaration of interest

Before the meeting commenced, IESC members completed the Meeting Specific Declaration of Interest. The meeting specific determinations recorded at this meeting are available at *Attachment A*. The members also completed an Advice Specific Declaration of Interest for both the Narrabri Gas Project and Wambo Coal Mine South Bates Extension Modification Project prior to receiving the advice.

1.3 Confirmation of agenda

The IESC endorsed the agenda for Meeting 45.

1.4 Action items

Completed items were noted. A number of follow-up items were listed on the forward agenda for later meetings.

1.5 Confirmation of out-of-session decisions

The Chair noted the following items have been agreed out of session:

- minutes of the IESC's forty fourth meeting on 14-15 June were confirmed and agreed for publication; and

1.6 Correspondence

The IESC noted the status of correspondence to 14 July 2017.

1.7 Forward Planning Agenda

The IESC noted the forward planning agenda, items due for consideration and the 2018 meeting dates. It was agreed the next meeting would be scheduled for 30-31 August in Brisbane and will coincide with a workshop with Queensland regulators.

1.8 Environmental scan

The Office of Water Science provided an update on policy and other developments since the June 2017 IESC meeting, including:

- Independent Review of the EPBC Act's Water Trigger tabled in Parliament by Minister Frydenberg on 19 June 2017;
- Independent Scientific Inquiry into Hydraulic Fracturing of Onshore Unconventional Reservoirs in the Northern Territory interim report published.

2. Advice on projects referred by governments

2.1 Advice on Narrabri Gas Project

The IESC was requested by the Australian Government Department of the Environment and Energy and the New South Wales Department of Planning and Environment to provide advice on the Santos Narrabri Gas Project in NSW.

The proposed project will comprise 850 production wells on 425 well pads. The estimated water production ranges from 34GL/year (Low case) to 87GL/year (High case). Project infrastructure includes a central gas processing facility for the compression, dehydration and treatment of the gas to commercial quality. Supporting infrastructure includes treatment, beneficial reuse, power generation, water and gas distribution and operational management facilities.

The IESC reviewed and discussed the information provided and considered the key potential issues as follows:

- long term release of salt to the environment and the ongoing management of brine and salt waste. There is uncertainty in the quantities of salt that will be produced. There is also limited information in relation to the location, process for storage, and the containment and monitoring measures at the point of disposal;
- declines in groundwater level in landholder bores as a result of depressurisation and drawdown in the medium to long-term (greater than 10 years);
- reductions in water availability to groundwater dependent ecosystems (GDEs) and springs as a result of groundwater depressurisation and drawdown. These reductions may also impact surface water and groundwater connectivity, particularly along Bohena Creek;
- changes in surface water flow as a result of proposed discharges into Bohena Creek and uncertainties in the management of water during project operations in the short term (less than 10 years);
- changes to surface water and groundwater quality as a result of inappropriately stored or unintentional release of chemicals or untreated co-produced water.

Consistent with the EPBC Regulations the advice will be published on the IESC's website within 10 business days of being provided to the Australian Government Department of the Environment and Energy and the New South Wales Department of Planning and Environment.

2.2 Advice on Wambo Coal Mine South Bates Extension Modification Project

The IESC was requested by the Australian Government Department of the Environment and Energy and the New South Wales Department of Planning and Environment to provide advice on Wambo Coal Pty Ltd's Wambo Coal Mine South Bates Extension Modification Project in New South Wales.

The Wambo Coal Mine South Bates Extension Modification Project (the proposed project) is located approximately 15 km west of Singleton in the NSW Hunter Valley. The proposed project will extend the South Bates Underground Mine through an additional nine longwall panels located to the west of the approved South Bates Underground Mine.

The proposed project will extract 18 Mt run-of-mine thermal coal from the Whybrow seam, extending the life of the broader Wambo Mine Site by seven years to 2039. Mining at the approved South Wambo Underground Mine will be delayed to accommodate the proposed project with mining to start in 2023 rather than 2019.

The proposed project is located in an area with an extensive mining history and a number of active mining projects. Mining has occurred at the Wambo Mine Site since 1969, consisting of both underground and open cut operations.

The IESC reviewed and discussed the information provided and considered the key issues as follows:

- drawdown in the alluvial and Permian aquifers which could affect local groundwater users, surface water flow regimes, stream biota and riparian vegetation, and potentially GDEs;
- subsidence related impacts to surface water features including changes to the geomorphology and hydrology of North Wambo Creek and the North Wambo Creek diversion such as the loss of surface water flows to the subsurface due to fracturing of the streambed, the formation of ponds, and increased turbidity due to changes in stream gradient.

Consistent with the EPBC Regulations the advice will be published on the IESC's website within 10 business days of being provided to the Australian Government Department of the Environment and Energy and the New South Wales Department of Planning and Environment.

3. Bioregional Assessment Program

3.1 Bioregional assessment update

The IESC was updated on the Bioregional Assessment Program, including the Maranoa-Balonne-Condamine and Clarence-Moreton bioregional assessments which were released earlier in the month.

The IESC noted the update.

3.2 Presentation

Results from the ongoing Namoi bioregional assessment, with a focus on groundwater modelling, were presented to the IESC by Russell Crosbie and David Post.

3.3 Receptor Impact Modelling

The IESC discussed results from Receptor Impact Modelling presented by David Post and Brent Henderson.

4. Research

4.1 Presentation on Faults, Aquitards and Models

Dirk Mallants gave a presentation on the research project "Research to improve treatment of faults and aquitards in Australian regional groundwater flow models to improve assessment of impacts of coal seam gas extraction". The objective of this research is to contribute to an improved conceptualisation, representation and parameterisation of aquitards and faults in groundwater flow models to reduce uncertainty in regional and local groundwater flow and pressure simulation.

5. Other Business

5.1 Groundwater Modelling Uncertainty Workshop

IESC member Glen Walker updated the IESC on the National Centre for Groundwater Research and Training (NCGRT) Groundwater Modelling Uncertainty Workshop that was held in Sydney earlier this month.

Close of Meeting

The Chair thanked everyone for their contribution to the meeting.

Next Meeting

The next meeting is scheduled for 30-31 August 2017 in Brisbane.

The meeting closed at 2.30 pm on Thursday 27 July 2017.

Minutes confirmed as true and correct:

Dr Chris Pigram

IESC Chair

11 August 2017

Item	IESC member	Disclosure	Determination
2.1	Wendy Timms	I consider that there may be a possible conflict of interest in relation to Santos project advice arising from research work by UNSW that is being sub-contracted by UQ for the Surat Basin in QLD. UQ (Prof Jim Undershultz and Dr Chris Leonardi) have been engaged by a consortium of CSG companies for this work, including Santos. The UNSW research focuses on ground surface movement due to non-CSG factors including soil swelling with rainfall and groundwater extraction from alluvial aquifers that may compact clay aquitards.	No actual, potential or perceived conflict of Interest
4.1	Craig Simmons	I consider that there may be a possible conflict of interest in relation to agenda items 4.1 arising from NCGRT/Flinders/CTS being involved in undertaking FAM project.	No actual, potential or perceived conflict of Interest
5.1	Craig Simmons	I consider that there may be a possible conflict of interest in relation to agenda items 5.1 as NCGRT catalysed & facilitated the National GW modelling uncertainty workshop.	No actual, potential or perceived conflict of Interest