

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Meeting 49, 12-14 December 2017**

**MINUTES
Canberra**

Attendance and Apologies

IN ATTENDANCE

Dr Chris Pigram (Chair)
Professor Joan Esterle
Dr Andrew Boulton
Dr Wendy Timms
Dr Ian Prosser
Dr Glen Walker
Professor Craig Simmons (Day 2 & 3 - via teleconference)

APOLOGY

Professor Craig Simmons (Day 1)
Dr Jenny Stauber

SECRETARIAT AND SUPPORT

Matthew Dadswell
Emily Grant
Jason Smith
Benjamin Klug
Lily Knife

STAFF OF THE DEPARTMENT OF THE ENVIRONMENT AND ENERGY

Peter Baker Office of Water Science	Sarah Taylor (Item 2.1, 2.4 & 2.5) Office of Water Science
David Thomas (Item 2.1) Office of Water Science	Mio Kuhnen (Item 2.2) Office of Water Science
Mitchell Bouma (Item 2.1, 2.4 & 2.5) Office of Water Science	Mick Welsh (Item 2.2) Office of Water Science
Carl Zimmermann (Item 2.3) Office of Water Science	Taysha Le Compte (Item 2.3) Office of Water Science
Jo Brennan (Item 1.8, 2.4, 2.5, 4.1, 4.2 & 4.3) Office of Water Science	Ann Hartley (Item 4.1) Office of Water Science

INVITED GUESTS

Hugh Middlemis (Item 2.5) Hydrogeologic Pty Ltd	
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The meeting commenced at 12pm on Tuesday 12 December 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.

The Chair congratulated IESC member Dr Jenny Stauber for being awarded the CSIRO *Medal for Lifetime Achievement award*.

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 and an Advice Specific Declaration of Interest for Central Queensland Coal Project, Moolarban Coal Mine Open Cut Optimisation Project and Ironbark No.1 Project.

Declarations of interest are recorded at *Attachment A*.

1.3 Confirmation of agenda

The IESC endorsed the agenda for Meeting 49.

1.4 Action items

Ongoing items were noted and an update was provided on the timing of completion.

1.5 Confirmation of out-of-session decisions

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

- Advice on Alfredson Block CSG Project was finalised consistent with the IESC's deliberations and provided to the decision makers; and
- Minutes of the IESC's forty-eighth meeting on 14-15 November were confirmed and agreed for publication.

1.6 Correspondence

The IESC noted the status of correspondence to 4 December 2017. The IESC also received an update on the web statistics for the IESC's website.

1.7 Forward planning agenda

The IESC noted the forward planning agenda. It was agreed the next meeting would be scheduled for 7-8 March 2018.

1.8 Environmental scan

The Office of Water Science provided an update on developments since the November meeting, including:

- The release of the National Assessment of Chemicals Associated with Coal Seam Gas Extraction in Australia;
- The Australian Government's announcement of a Geological and Bioregional Assessment of the Cooper Basin; and
- Scientific inquiries into fracking in Western Australia and the Northern Territory.

Dr Pigram provided a report of his meeting with key stakeholders in Melbourne on 8 December 2017, including the Victorian:

- Department of Economic Development, Jobs, Transport and Resources; and
- Department of Environment, Land, Water and Planning.

2. Advice on projects referred by governments

2.1 Central Queensland Coal Project – New Development

The IESC was requested by the Australian Government Department of the Environment and Energy and the Queensland Department of Environment and Heritage Protection to provide advice on the Central Queensland Coal Project in Queensland.

The project is an open-cut coal mine to be located 130 km north-west of Rockhampton. The project is targeting a maximum extraction of up to 10 million tonnes per annum (Mtpa) with a project life of 20 years.

The proposed mine presents significant risks to areas of high ecological value, including, the Great Barrier Reef World Heritage Area and Marine Park, the Broad Sound Fish Habitat Area, the Styx River Estuary, two state-listed wetlands and the riparian habitat of Tooloombah Creek and Deep Creek.

The IESC reviewed and discussed information provided and considered the key potential impacts on water resources as follows:

- Surface water quality could be diminished by controlled and uncontrolled discharges. This includes potential spills from the mine water storages and flooding of the proposed coal conveyor.
- Groundwater drawdown from the proposed project will extend beyond the project site and will impact groundwater-dependent ecosystems (GDEs).
- Groundwater drawdown may increase the tidal-affected stream length which could impact fish breeding, particularly in Tooloombah Creek, and cause the loss of riparian vegetation if it is not tolerant of brackish conditions.
- Project construction, operation and long-term management has the potential to expose highly sodic soils, and potentially acid-forming material and mobilise metals through the development of acid sulfate soils.

2.2 Moolarban Coal Mine Open Cut Optimisation Project – Extension

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 Moolarben Coal Project – Optimisation Modifications in New South Wales.

The project is an expansion to the existing Moolarben Coal Complex, an open cut and underground (longwall) coal mine. The mine is approximately 40 km north of Mudgee in the Western Coalfields on the north-western edge of Sydney-Gunnedah Basin of New South Wales. The proposed expansion will disturb a net additional area of approximately 81.5 ha and will extract an additional 3 Mtpa from open cut operations over the expected 21 years remaining of the life of the mine. The proposed project will increase coal production from 13 to 16 Mtpa.

The proposed project will increase the amount of waste water produced from the Moolarben Coal Complex. The key surface water receptor within the region potentially impacted by the proposed project is the upper Goulburn River.

The IESC reviewed and discussed information provided and considered the key potential impacts on water resources as follows:

- Increased mine water production which will lead to a greater need for controlled water discharges and a heightened risk of uncontrolled water discharges. This could lead to changes to hydrology, water quality and aquatic ecology of the Goulburn River.

- Other mines are discharging water into the upper Goulburn River so the impact of this proposal can only be assessed by considering whether the cumulative impact of all discharges is within acceptable limits.

2.3 Ironbark No. 1 Project Coal Mine – New Development

The IESC was requested by the Australian Government Department of the Environment and Energy to provide advice on the Ironbark No. 1 Project in Queensland. This project was previously known as the Ellensfield Coal Project.

The Project is a new underground coal mine, located approximately 35 km north-east of Moranbah, Queensland. The proposed project will cover an area of 3400 ha and extract approximately 5 million tonnes per year of run-of-mine coal for approximately 20 years.

The proposed project may impact on riparian vegetation, watercourses, downstream water quality, and farm dams. The IESC has suggested additional mitigation measures that will reduce the likely impacts of the project.

The main impacts of this project on water resources will be through subsidence. This will affect the morphology of watercourses and will likely lower the water table, affecting groundwater-dependent ecosystems (GDEs).

The IESC reviewed and discussed information provided and considered the key potential impacts on water resources as follows:

- Impacts to riparian vegetation as a result of subsidence and fracturing, including an area of endangered Brigalow ecological community.
- Impacts to riparian vegetation as a GDE from drawdown of the water table.
- Impacts to surface water quality from increased erosion as a result of subsidence.
- Reduced surface water flows.

Consistent with the EPBC Regulations, each advice will be published on the IESC's website within 10 business days of being provided to the regulators.

2.4 Information Guidelines and Template Update

The IESC agreed to changes to update the Information Guidelines and the advice template.

2.5 Explanatory Note on Groundwater Uncertainty Analysis

Mr Hugh Middlemis, Hydrogeologic Pty Ltd, provided an update on the Explanatory Note on Uncertainty in Groundwater Modelling. The Explanatory Note will be included in the consultation process with the Information Guidelines.

3. **Bioregional Assessments**

There were no Bioregional Assessments items on the agenda.

4. Other Business

4.1 Research Symposium Update

The Committee agreed the approach to its Research Symposium to be held in Brisbane mid-2018. The Symposium aims to increase stakeholders awareness of the of advances since 2013 in the understanding of the impacts of coal seam gas extraction and coal mining on water resources.

4.2 Committee Operating Protocol

The IESC agreed to changes to update the IESC Committee Operating Protocol.

4.3 Climate Change and Australian Groundwater

IESC member Dr Glen Walker gave a presentation on climate change and Australian groundwater.

Close of Meeting

The meeting closed at 12pm on Thursday 14 December 2017.

The Chair thanked everyone for their contribution to the meeting.

Next Meeting

The next meeting is scheduled for 7-8 March 2017.

Minutes confirmed as true and correct:

Dr Chris Pigram

IESC Chair

20 December 2017

ATTACHMENT A

Item(s)	IESC member	Disclosure	Determination
2.3	Joan Esterle	I consider that there may be a possible conflict of interest in relation to Agenda Item 2.3 Ironbark No. 1 Underground Coal Mine Project, arising from association with Fitzroy Australia Resources geological staff and assisting in putting together exploration reports for MDL359 and 354 to the south of the Ironbark No 1 Project. The Fitzroy leases were purchased from Vale Australia, who fund my chair at the University of Queensland. I do not receive any funding from Fitzroy Australia Resources, but have informally proposed projects in regional to minescale geological modelling.	No actual, potential or perceived conflict of interest exists that would preclude Professor Esterle from the project advice to be discussed at meeting 49 or properly performing her duties as a member of the committee.