Independent Expert Scientific Committee
on Coal Seam Gas and Large Coal Mining Development

Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC)
Meeting 94, 8 – 9 March 2023

MINUTES
Brisbane

ATTENDANCE AND APOLOGIES

IN ATTENDANCE

Dr Chris Pigram (Chair)
Dr Andrew Boulton
Professor Jenny Davis
Dr Jenny Stauber
Dr Juliette Woods
Associate Professor Phil Hayes (Items 1, 2 [absent 8 March 1200-1230], 3 & 4)
Professor Rory Nathan (Items 1.1-1.4, 2 [absent 8 March 1200-1300], 3 & 4)
Professor Wendy Timms

INVITED GUESTS

Item 3.3

GasFields Commission Queensland

Warwick Squire, CEO
Randall Cox, Consultant
Jon Thomas, Director Policy & Products

Office of Groundwater Impact Assessment (OGIA)

Sanjeev Pandey, Executive Director
Gerhard Schoning, Director Modelling
Steven Flook, Director

OFFICE OF WATER SCIENCE (OWS)

Sarah Taylor, Acting Director
Ben Klug
Isabelle Francis
Jason Smith

By videoconference

Aimee McAllister
Amelia Lewis

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Andriana Stoddart
Aranza Bulnes-Beniscelli
Christina Fawns
Frances Knight
Katrina Bourke
Laura Richardson
Loren Pollitt
Mio Kuhnen
Tess Nelson

Note: OWS attendees include those with full or partial attendance.

1. Welcome and Introductions

The Chair acknowledged the traditional owners, past and present, on whose lands this meeting was held, and welcomed members of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) to the meeting.

1.1 Attendance and Apologies

IESC members in attendance and apologies are recorded above.

1.2 Disclosure of Interests

Committee members were invited to make disclosures. Committee members also completed a Meeting Declaration of Interests before the meeting commenced. No actual, potential or perceived conflicts of interest were recorded for this meeting.

1.3 Confirmation of Agenda

The Committee endorsed the agenda for Meeting 94.

1.4 Confirmation of Out-of-Session Decisions

The Committee noted that:

- minutes of the Committee's ninety-third meeting on 31 January – 2 February 2023 were agreed out-of-session and published on 21 February 2023.
- advice on the Surat Basin Carbon Capture and Storage Project was provided to the regulator on 7 February 2023 and published on 21 February 2023.
- advice on the Moolarben Coal Complex OC3 Extension was provided to the regulator on 7 February 2023 and published on 21 February 2023.

1.5 Correspondence

The Committee noted the status of correspondence to 21 February 2023.

1.6 Action Items

Ongoing items were noted and updates were provided on the timing of completion.

1.7 Forward Planning Agenda

The Committee noted the forward planning agenda.

It was agreed that the next meeting be scheduled to be a videoconference on 12 April 2023.

1.8 Environmental Scan

The OWS reported on recent events.

2. Advice on Projects referred by governments

2.1 Ulan Coal Mine Modification 6 Project

The Ulan Coal Mine Expansion Modification 6 Project (the 'project') is a proposed expansion of longwall operations in the northern extent of the existing mining lease and exploration licence areas of the Ulan Coal Mine Complex. The Ulan Coal Mine Complex is owned by Glencore Coal Pty Ltd and is located 38 km north-east of Mudgee, NSW. The proposed project will allow an additional 25 million tonnes (Mt) of thermal coal to be extracted within the currently approved rate for the Ulan Coal Mine Complex of 20 Mt per annum. The proposed project would extend the life of the mine by two years to 2035.

The proposed project will extend currently approved longwall panels LWW9, LWW10 and LWW11 to the west and LW9, LW10, LW11 and LW12 to the north. LWW11 will also be widened by 30 metres (m). The proponent will also construct additional surface infrastructure, including three vents, five dewatering bores, and a service borehole south-west of Ulan West operations.

The Ulan Coal Mine Complex is located within the headwaters of the Goulburn and Talbragar rivers which are separated by the Great Dividing Range. The proposed project area is located wholly within the Mona Creek catchment. Mona Creek is a fourth-order stream in the headwaters of the Talbragar River which forms part of the Murray-Darling Basin and is considered to be a high-potential groundwater-dependent ecosystem (GDE). Along the cliffs that line areas of Mona Creek are caves, overhangs and crevices which are habitat for *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)-listed vulnerable species of Large-eared pied-bat (*Chalinolobus dwyeri*) and Corben's long-eared bat (*Nyctophilus corbeni*).

Key potential impacts from this project are:

- permanent changes to local catchment topography of Mona Creek from vertical subsidence of up to 2.1 m leading to ponding and altered surface runoff and infiltration. These changes are likely to impact ecologically important components of the flow regime (e.g., durations of low- and zero-flow periods) of Mona Creek. The magnitude of these impacts has not been clearly defined and their potential effects on aquatic and riparian ecology have not been adequately described;
- groundwater drawdown and baseflow reduction initially, followed by long-term effects of subsidence and connected fracturing above the coal seam on groundwater and surface water, which could further alter flows in Mona Creek and reduce access to groundwater by riparian vegetation including Blakely's Red Gum;
- predicted groundwater drawdown below and near the Talbragar River, a headwater catchment in the Murray-Darling Basin, may have impacts on this high-potential GDE;
- changes in groundwater level (groundwater drawdown followed by up to 10 m of mounding) which may have impacts on vegetation vulnerable to waterlogging and may alter the direction and magnitude of groundwater-surface water exchanges along Mona Creek; and
- contributions to cumulative impacts on aquatic and riparian biota of Mona Creek and possibly Talbragar River, arising from additional changes in baseflow, flow regime and groundwater access for GDEs.

The IESC has identified key areas in which additional work is required to address the key potential impacts, as detailed in this advice. These are summarised below.

- An integrated assessment of groundwater, surface water and ecological responses to subsidence and future mine-influenced groundwater levels is required. This requires the following:
    - improvements to the groundwater modelling (e.g., improved representation of the hydraulic connection between surface water and groundwater to better predict potential changes to ecologically important flow components, further consideration of climate-change impacts through an analysis using RCP8.5) and the model's interpretation (e.g., estimation of timing and extent of maximum drawdown and subsequent mounding);

- additional field surveys to characterise the current condition of Mona Creek and Talbragar River, targeting the location of persistent pools, the aquatic biota and any potential GDEs such as riparian vegetation;
- collection of field data to determine the potential groundwater-dependence of riparian vegetation of Mona Creek and Talbragar River in the area of predicted drawdown;
- assessment of directions and magnitudes of surface water-groundwater exchanges within and alongside the channels of Mona Creek and Talbragar River; and
- the integration of these improvements into a more detailed assessment of the potential cumulative impacts on downstream environments.

- If controlled releases occur in future into the Talbragar River, aquatic biota and a broader suite of water quality parameters (e.g., dissolved metals and dissolved organic carbon) should be monitored.
- Development of the subsidence management and monitoring plan to include potential impacts to aquatic and riparian ecosystems of Mona Creek within and downstream of the proposed project area.

Consistent with the *Environment Protection and Biodiversity Conservation Regulations 2000*, advice will be published on the IESC's website within 10 business days of being provided to the regulators.

3. Other business

3.1 Ecohydrological Conceptual Models Explanatory Note

The Committee discussed the latest version of the draft Ecohydrological Conceptual Models Explanatory Note. Updates will be made and then it will be provided to external experts for review and input.

3.2 IESC Stakeholder Forum – Debrief

The Committee discussed the IESC Stakeholder Forum that was held on 7 March 2023.

3.3 Presentation: CSG-induced subsidence

The GasFields Commission Queensland (GFCQ) presented on a current project which is seeking to understand the potential consequence of coal seam gas (CSG) induced subsidence on agricultural land and a proposed management framework. The Office of Groundwater Impact Assessment (OGIA) is providing technical support to this project, co-presented with GFCQ and both the GFCQ and the OGIA discussed the presentation with the Committee.

4. Close of Meeting

The meeting closed at 1.45 pm on Thursday 9 March 2023.

Next Meeting

The next meeting is scheduled as a videoconference on 12 April 2023.

Minutes confirmed as true and correct:

Dr Chris Pigram AM, FTSE

IESC Chair

17 March 2023