

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Meeting 77, 22-24 June 2021**

**MINUTES
Videoconference**

ATTENDANCE AND APOLOGIES

IN ATTENDANCE

Dr Chris Pigram (Chair) (Items 1, 2.1, 3 & 4)
Dr Andrew Boulton
Professor Craig Simmons
Professor Jenny Davis
Dr Jenny Stauber (Items 1, 2.1 & 3)
Associate Professor Phil Hayes (Items 1.1-1.4, 2.1 [Day 1], 2.2, 3 & 4)
Professor Wendy Timms

APOLOGIES

Professor Rory Nathan

OFFICE OF WATER SCIENCE (OWS)

Alison McMorrow, Assistant Secretary Biodiversity Policy and Water Science (Part of Item 2 on Day 1)
Peter Baker

Alannah Wood (Items 1.1-1.4, 2.1 [Day 1] & 3.1)
Alex Hannan-Joyner
Annabel O'Neill
Aranza Bulnes-Beniscelli
Benjamin Klug (Items 1 & 3.1)
Christina Fawns
Clara Tenniswood
Isabelle Francis (Items 1, 2, 3.1 & 4)

James Rae (Items 1, 2 [Days 1 & 3], 3.1 & 4)
Jason Smith
Kelly-Anne Lawler (Items 2 [Day 1] & 3.1)
Kelly Strike (Items 1, 2.1 [Day 1], 2.2, 3 & 4)
Mehdi Shabaninejad (Items 1, 2, 3.1 & 4)
Misty Dawn Thorose (Items 1, 2, 3.1 & 4)
Praveen Sebastian
Tim Hunt (Items 1.5-1.8, 2 [Days 2 & 3], 3.2 & 4)

INVITED GUESTS

Item 3.1

Dr Matt Garthwaite, InSAR Team Lead, Geoscience Australia

Item 3.2

Professor Grant Hose, Project Lead, Macquarie University
Dr Kathryn Korbelt, Macquarie University

The meeting commenced at 9.00 am on Tuesday 22 June 2021.

1. Welcome and Introductions

The Chair 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 lands this meeting was held.

1.2 Disclosure of Interests

Before the meeting commenced, Committee members completed a Meeting Declaration of Interests, as well as a Project Advice Declaration of Interests for the Ensham Life of Mine Extension Project and the Saraji East Mining Lease Project.

Details on disclosures of interests are at Attachment A.

1.3 Confirmation of Agenda

The Committee endorsed the agenda for Meeting 77.

1.4 Confirmation of Out-of-Session Decisions

The Committee noted that:

- minutes of the Committee's seventy-sixth meeting on 20 May 2021 were agreed out-of-session and published.

1.5 Correspondence

The Committee noted the status of correspondence to 15 June 2021.

1.6 Action Items

Ongoing items were noted and an update was 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 for 28 July 2021.

1.8 Environmental Scan

Committee members and secretariat reported back on developments in recent months, including:

- the Australian Government's release of *A pathway for reforming national environmental law* and the accompanying proposed timeline for reform; and
- upcoming conferences and workshops.

2. Advice on Projects referred by governments

2.1 Ensham Life of Mine Extension Project

The Ensham Mine is an existing open-cut and underground bord-and-pillar coal mine, located 35 kilometres east of Emerald, Queensland. The mine is in the western part of the central Bowen Basin, and the Fitzroy Basin catchment. The proposed expansion (the 'project') will see the Ensham life-of-mine extended by nine years – up to 2037, requiring expansion of underground bord-and-pillar mining into three separate zones (the 'project area'): Zone 1, Zone 2, and Zone 3. Total project area is predicted to be approximately 2,737 ha; however, no surface construction, clearing or disturbance outside of existing infrastructure will be required. Mining will progress into the three zones at different times, and it is expected that this will produce up to 4.5 million tonnes of run-of-mine thermal coal per annum. Production at this rate will be within the current Environmental Authority limit of 12 million tonnes per annum.

The project is close to other existing or proposed mines in the Bowen Basin, including the Gregory-Crinum Coal Project, Kestrel Coal Project, Wilton and Fairhill Projects, and Curragh Project. Consequently, the project may contribute to the cumulative impacts of these mines and the current Ensham Mine.

Key potential impacts from this project are:

- drawdown of groundwater levels within the alluvium; and
- altered community composition and viability of groundwater-dependent ecosystems (GDEs) and aquatic and riparian ecosystems in and downstream of the 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.

2.2 Saraji East Mining Lease Project

The proposed Saraji East Mining Lease Project (the 'project') is a single-seam underground mine development located within the Bowen Basin, Queensland. The project is expected to produce up to eight million tonnes per year of metallurgical product coal over a production schedule of approximately 20 years, from 2023 to 2042. The project is adjacent to (and in some areas overlaps) the existing open-cut mine and will require the construction of supporting infrastructure, including a Coal Handling Preparation Plant (CHPP), a Mine Infrastructure Area (MIA), a conveyor system, rail spur and balloon loop, water pipelines, dams and powerlines.

Subsidence above longwalls is predicted to affect the Brigalow (*Acacia harpophylla* dominant and codominant) Threatened Ecological Community (TEC) located within the underground mine footprint as well as Hughes, Plumtree and Boomerang creeks where the proponent predicts reduced surface water flows and increased sedimentation downstream. These changes will likely affect areas identified as providing potential habitat for the Ornamental Snake (*Denisonia maculata*), Greater Glider (*Petauroides volans*) and Koala (*Phascolarctos cinereus*) which are listed under the *Environment Protection and Biodiversity Conservation Act 1999*. The project will also contribute to groundwater drawdown, primarily within Tertiary and Permian aquifers in the area; however, impacts to groundwater users in the area are expected to be limited.

Key potential impacts from this project are detailed below:

- altered flow and sediment regimes in Plumtree, Boomerang and Hughes creeks, potentially affecting aquatic and riparian habitats and their biota, water quality (especially suspended sediments) and fish passage. In some areas, surface cracking and subsidence-induced changes to the stream profile may reduce surface flows by altering surface water-groundwater interactions. Subsidence may destabilise creek banks, promote erosion and impact on riparian vegetation that provides vital ecological corridors along watercourses in the project area;
- altered surface runoff, flooding patterns and groundwater recharge due to predicted subsidence of 1.4 – 2.5 m across much of the undermined area (and up to 3.5 m predicted above a single

southern longwall) and associated surface cracking. These alterations in surface runoff and flooding will likely change flow regimes of ephemeral streams, impact riparian and floodplain vegetation, and alter water regimes of oxbow lakes and other standing wetlands in the project area. Cracking and localised changes in topography may also impact on the approximately 246 ha of Brigalow (*Acacia harpophylla* dominant and codominant) TEC and associated Ornamental Snake habitat (e.g. gilgai);

- groundwater drawdown within the alluvium may impact the condition of riparian vegetation (potentially including terrestrial GDEs) that has been identified as likely habitat for Greater Gliders and Koalas in the project area; and
- incremental contribution to cumulative impacts of other land-uses, including nearby mines, on water quality and water-dependent ecosystems in the project area and downstream.

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 Subsidence Monitoring Presentation

Dr Matt Garthwaite, on behalf of Geoscience Australia, provided a presentation on monitoring subsidence due to coal seam gas and longwall coal mining. The presentation focused on the use of global navigation satellite systems (GNSS) and interferometric synthetic aperture radar (InSAR).

3.2 Metagenomic Research Project Presentation on Progress (Sampling)

Macquarie University, in undertaking the Metagenomic Research Project, has conducted field sampling in the Namoi River Catchment. Professor Grant Hose and Dr Kathryn Korbel presented to the Committee an update on the fieldwork and general progress of the Project.

Notes

Before the meeting on Day 2, the Committee met with the Hon Sussan Ley MP, Minister for the Environment.

A presentation on International Groundwater Research by Professor Craig Simmons was rescheduled to a meeting later in 2021.

4. Close of Meeting

The Chair thanked everyone for their contribution to the meeting.

The meeting closed at 3.40 pm on Thursday 24 June 2021.

Next Meeting

The next meeting is scheduled for 28 July 2021.

Minutes confirmed as true and correct:

Dr Chris Pigram AM, FTSE

IESC Chair

1 July 2021

Attachment A

Item(s)	IESC Member	Disclosure	Determination
2.2	Dr Chris Pigram	I have a direct or indirect pecuniary interest in a matter being considered or about to be considered by the IESC, as follows: I own shares in BHP who are in a joint venture for the operation of the Saraji Mine.	<p>It was determined that Dr Chris Pigram must not be present during any deliberation of the Committee about the Saraji East Mining Lease Project and must not take part in any decision of the Committee about the Saraji East Mining Lease Project.</p> <p>The basis for the determination was that share ownership is a pecuniary interest that requires exclusion from deliberations and decisions.</p> <p>The Committee elected Professor Craig Simmons to preside over the Committee’s deliberations of the Saraji East Mining Lease Project, as Dr Pigram wouldn’t be present to preside.</p>
2.2	Dr Jenny Stauber	I have a direct or indirect pecuniary interest in a matter being considered or about to be considered by the IESC, as follows: Saraji East mine as I jointly own shares in BHP.	<p>It was determined that Dr Jenny Stauber must not be present during any deliberation of the Committee about the Saraji East Mining Lease Project and must not take part in any decision of the Committee about the Saraji East Mining Lease Project.</p> <p>The basis for the determination was that share ownership is a pecuniary interest that requires exclusion from deliberations and decisions.</p>
2.2	Professor Craig Simmons	I consider that there may be a possible conflict of interest in relation to agenda item 2.2 Saraji East Mining Lease Project as follows: Flinders University is the Administering Organisation for the Groundwater Modelling Decision Support Initiative (GMDSI). This is co-funded by BHP and Rio Tinto. I am involved in the GMDSI project.	<p>It was determined that no actual, potential or perceived conflict of interest exists and Professor Craig Simmons can participate fully with the Committee on the Saraji East Mining Lease Project.</p> <p>The basis for the determination is that the BHP funding relationship with GMDSI is with Flinders University and not with Professor Simmons.</p>

2.2	Associate Professor Phil Hayes	I consider that there may be a possible conflict of interest in relation to agenda item 2.2 Saraji East Mining Lease Project as follows: I have never worked on the Saraji site but I have worked for BMA previously at another site, the last time 4 years ago. Saraji is operated by BMA who are part owned by BHP. I have worked for BHP on other sites in Australia and overseas, and I also have a research project at the University of Queensland, GMDSI (Groundwater Modelling Decision Support Initiative) that is funded by BHP and Rio Tinto, the main contract for which is administered via Flinders University.	It was determined that no actual, potential or perceived conflict of interest exists and Associate Professor Phil Hayes can participate fully with the Committee on the Saraji East Mining Lease Project. The basis for the determination is that i) the previous working relationship on a different BMA site isn't significant and ii) the BHP funding relationship with GMDSI is with Flinders University and not with Dr Hayes.
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