

**Independent Expert Scientific Committee on Unconventional Gas Development and
Large Coal Mining Development (IESC)
Meeting 109, 2 – 3 October 2024**

**MINUTES
Videoconference**

ATTENDANCE AND APOLOGIES

IN ATTENDANCE

Dr Chris Pigram (Chair)
Dr Andrew Boulton
Professor Jenny Davis
Dr Jenny Stauber [absent agenda item 2.1]
Dr Juliette Woods
Associate Professor Phil Hayes
Professor Rory Nathan
Professor Wendy Timms

OFFICE OF WATER SCIENCE (OWS)

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

Dr Des Owen, Director [absent agenda item 2.1]	Frances Knight
Amelia Lewis	Isabelle Francis
Aranza Bulnes-Beniscelli	Jason Smith
Ben Klug	Loren Pollitt
Dylan Stinton	Tess Nelson

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 Unconventional Gas Development 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. Details on disclosures of interests are at Attachment A.

1.3 Confirmation of Agenda

The Committee endorsed the agenda for Meeting 109.

1.4 Confirmation of Out-of-Session Decisions

The Committee noted that:

- minutes of the Committee's 108th meeting on 27 – 28 August 2024 were agreed out-of-session and published on 24 September 2024.

1.5 Correspondence

The Committee noted the status of correspondence to 25 September 2024.

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 6 – 7 November 2024.

1.8 Environmental Scan

The OWS reported on recent events.

2. Advice on Projects referred by governments

2.1 Cadia Continued Operations Project

The Cadia Continued Operations Project (the 'project') is a proposed expansion of the existing Cadia Valley Operations (CVO), a polymetallic mining operation located in central New South Wales. The project is currently being reviewed by the New South Wales Mining and Petroleum Gateway Panel as it requires a Gateway Certificate due to the project's likely permanent impacts to Biophysical Strategic Agricultural Land (BSAL). The Mining and Petroleum Gateway Panel has requested the IESC's advice as required under the *State Environmental Planning Policy (Resources and Energy) 2021* (SEPP).

The project involves extension of operations to approximately 2050 via continuation of underground (cave) mining, tailings emplacement within existing and additional storages, development of an additional water storage, road realignments, and changed site infrastructure and facilities to enable the extended mining operations. This will result in disturbance of up to 1,253 hectares (ha), of which 378 ha are verified BSAL. This disturbance occurs in the Gateway Application Area, which refers to the portion of the project area outside the existing CVO boundary.

The provided documentation lacks specific details as the Gateway Certificate assessment occurs prior to project referral and assessment under the New South Wales *Environmental Planning and Assessment Act 1979* (EP&A Act). The Gateway Assessment focuses on impacts to verified BSAL in areas which have not been previously assessed by the Gateway Panel. The IESC acknowledges that additional impact assessment and documentation will be required by the New South Wales EP&A Act, and the proponent indicates that such studies are underway. The IESC previously provided advice on upgrades to the tailings dam embankment for the CVO in August 2023.

Key potential impacts from this project are:

- disturbance of up to 1,253 ha outside the existing approved CVO project boundaries;
- emplacement of tailings in existing and proposed storages which could alter the water quality, rate and/or direction of leakage, impacting nearby groundwater-dependent ecosystems (GDEs) (including high-priority ones along waterways listed in the Water Sharing Plan), surface water systems and local groundwater;
- changes to instream habitat and downstream GDEs from construction of the South Water Storage on Cadiangullong Creek, including permanent inundation of a section of the creek, leading to impacts to ecologically important components of its flow and sediment regimes and water quality, and water logging of nearby GDEs;

- modification of surface flows due to different types of cave mining and associated localised fracturing and subsidence;
- increased drawdown from extension of cave mining, reducing groundwater availability to GDEs along Flyers Creek and Cadiangullong Creek; and
- cumulative impacts with the existing CVO project.

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

- An improved understanding of surface water and groundwater resources, surface water-groundwater interactions and GDEs is required, which should include relevant baseline information on water quality, hydrological connectivity and flow regimes.
- Proposed project activities should be finalised and described in more detail so that potential impact pathways to water resources can be determined with greater certainty. Following this, an impact pathway diagram should be developed to refine and communicate understanding of how and where the project may impact water resources
- Site-specific investigations should be conducted to confirm the presence and groundwater-dependence of aquatic, terrestrial and/or subterranean GDEs in and near the project area. This information will guide assessment of likely impact pathways and potential impacts of the project on relevant GDEs.
- The likely extent and magnitude of groundwater level and water quality changes from underground mining, tailings deposition and water management infrastructure should be quantified to determine likely impacts to GDEs and surface waters.
- Further information is required regarding proposed avoidance and mitigation of potential impacts once water resources and project components have been adequately defined. This information should be complemented by detailed description of a monitoring program to assess the effectiveness of the avoidance and mitigation strategies and detect any residual impacts.
- An assessment of cumulative impacts is required that explicitly considers the existing CVO project and other relevant land and water uses in and near the project area.

The IESC strongly urges the proponent to draw on existing monitoring and information collected for the current operations to assist preparation of the Environmental Impact Statement.

2.2 Beetaloo Basin – Unconventional gas exploration and appraisal

The Committee discussed a draft framework for their advice on the potential impacts of unconventional gas exploration and appraisal activities in the Beetaloo Basin, Northern Territory. This advice has not been finalised and further assessments and discussion will continue at future meetings of the Committee.

3. Other business

There was no other business.

4. Close of Meeting

The meeting closed at 4.00 pm on Thursday 3 October 2024.

Next Meeting

The next meeting is scheduled as a videoconference on 6 – 7 November 2024.

Minutes confirmed as true and correct:

Dr Chris Pigram AM, FTSE

IESC Chair

13 October 2024

Attachment A

Item(s)	IESC Member	Disclosure	Determination
2.1	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 - Cadia mine advice (Agenda Item 2.1): I own shares in Newmont (previously Newcrest) that owns the mine.	It was determined that Dr Jenny Stauber not be present during agenda item 2.1 (Cadia Valley Operations Project), so as to not be present during any deliberation of the Committee about the matters, and to not take part in any decision of the Committee about the matters.
2.2	Dr Juliette Woods	I consider that there may be a possible conflict of interest in relation to agenda item 2.2 (Beetaloo Basin — Unconventional gas exploration and appraisal), as my sister works for Santos, one of the companies exploring the Basin’s resources.	It was determined that no actual, potential or perceived conflict of interest exists and Dr Juliette Woods can participate fully with the Committee during agenda item 2.2 (Beetaloo Basin — Unconventional gas exploration and appraisal).