

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Meeting 68, 4-7 May 2020**

**MINUTES
Videoconference**

ATTENDANCE AND APOLOGIES

IN ATTENDANCE

Dr Chris Pigram (Chair)
Dr Andrew Boulton
Dr Catherine Moore
Professor Craig Simmons
Professor Jenny Davis
Dr Jenny Stauber
Associate Professor Rory Nathan
Professor Wendy Timms (except Item 2.1)

OFFICE OF WATER SCIENCE

Petah Rhynehart
Jason Smith
Praveen Sebastian
Kelly Strike (Items 1.5 - 1.8)
Sarah Taylor (Items 1, 2.1)
Mio Kuhnen (Items 1.5 - 1.8, 2.2)
Alex Hannan-Joyner (Items 1.5 - 1.7, 2.2)
Harrison Martin (Items 1.5 - 1.7, 2.1)
Dominica O’Dea (Items 1.5 - 1.7, 2.2)
Tia Stevens, Assistant Secretary Biodiversity Policy and Water Science (Items 1.1 - 1.3, 1.8, Day 1 of 2.1)

The meeting commenced at 1.00pm on Monday 4 May 2020.

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 land this meeting was held.

1.2 Disclosure of Interests

Before the meeting commenced, Committee members completed the Meeting Specific Declaration of Interests and a project advice specific declaration for the Angus Place Mine Extension Project and the Isaac Downs Project.

Details on disclosure of interests is at Attachment A.

1.3 Confirmation of Agenda

The Committee endorsed the agenda for Meeting 68.

1.4 Confirmation of Out-of-Session decisions

The Committee noted that:

- advice on the Russell Vale Revised Underground Expansion Project and the Glendell Continued Operations Project was provided to the regulator and published in accordance with agreed timeframes.
- minutes of the Committee's sixty-seventh meeting on 2-3 March were agreed out-of-session and published.
- a submission was made to the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

1.5 Correspondence

The Committee noted the status of correspondence to 16 April 2020.

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 noted the dates available for the next meeting are 17 June 2020 or 22-23 July 2020.

1.8 Environmental Scan

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

- Chair's meetings with stakeholders in South Australia via videoconference;
- EPBC Act Referrals congestion busting;
- coal mining planning in the Greater Sydney Water Catchment Special Areas; and
- postponement of APPEA 2020, originally scheduled for 18-21 May 2020 in Perth.

Advice on Projects referred by governments

2.1 Angus Place Mine Extension Project

The Angus Place Mine Extension Project is a proposed extension of longwall mining at the existing Angus Place Colliery. It is located in the Lithgow region of New South Wales and underlies the Newnes Plateau. The project will mainly use existing infrastructure located at the Angus Place Colliery and the adjacent Springvale Mine (also owned by Centennial Coal). Additional ventilation shafts and dewatering

infrastructure will be constructed on the Newnes Plateau. Coal production will be increased to approximately 4.5 million tonnes (Mt) run-of-mine (ROM) thermal coal per year, extracting it from 15 longwall panels. Tri Star Swamp and Twin Gully Swamp are two Temperate Highland Peat Swamps on Sandstone (THPSS), an ecological community listed as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), that will be directly undermined. Mining will also occur within 600 m of a further four THPSS: Japan (Trail Six) Swamp, Birds Rock Swamp, Crocodile Swamp and Wolgan River Upper Swamp. These swamps are also state-listed endangered ecological communities of Newnes Plateau Shrub Swamp (NPSS) in the Sydney Basin Bioregion. An unspecified number of hanging swamps (also EPBC Act-listed) and approximately 38 km of watercourses will also be directly undermined. The project site lies within Sydney's drinking water supply catchment and includes creeks that drain into the nearby Gardens of Stone National Park and the Greater Blue Mountains World Heritage Area.

Key potential impacts from this project have changed little from those of the original proposal reviewed by the IESC in 2014 and are:

- the severe and irreversible loss of EPBC Act-listed Tri Star Swamp, Twin Gully Swamp and Japan (Trail Six) Swamp due to mining-associated ground movements. These movements will cause the swamps to dry, in turn, adversely affecting their ecological components and processes, habitat values and capacity to form peat.
- partial drying of EPBC Act-listed Crocodile Swamp and Birds Rock Swamp and likely partial drying of the EPBC Act-listed Wolgan River Swamp and Wolgan River Upper Swamp through mining-associated ground movements. Drying of part of a swamp typically results in serious irreversible damage to the ecological condition of the entire swamp and not just the parts that dried. It also renders them highly vulnerable to severe damage by wildfire.
- the severe and irreversible loss and/or hydrological alteration of an unquantified number of hanging swamps (also included in the EPBC Act-listing of THPSS) that will be directly undermined and experience up to 2,250 mm of total vertical subsidence with likely cracking of the swamp base.
- cracking of the streambed along 38 km of watercourses that will be directly undermined by the project. This will result in potentially long-term changes to their hydrology, aquatic ecology and riparian vegetation. Cracking could also occur in the Wolgan River as parts of the river are located as close as 180 m to proposed longwall panels, and subsidence impacts are likely to be propagated along lineaments.
- the loss of THPSS will affect multiple threatened species that rely on this habitat such as Deane's Boronia (*Boronia deanei*), the Blue Mountains Water Skink (*Eulamprus leuraensis*) and the Giant Dragonfly (*Petalura gigantea*). These species have recently had large swathes of their habitat severely impacted by bushfire.
- long-term reductions in surface water flows due to the combined effects of groundwater drawdown and streambed cracking. These reductions will further impact THPSS ecological communities as well as adversely affecting aquatic and riparian ecosystems, including the streams that flow into the Greater Blue Mountains World Heritage Area as well as Warragamba Dam, Sydney's drinking water supply.

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 Isaac Downs Project

Isaac Downs Mine is a proposed coal mine 10 km southeast of Moranbah, Queensland, that will target the Rangal Coal Measures within the Bowen Basin. The proponent intends to commence mining in mid-2021 and extract approximately 3.2 million tonnes per annum (Mtpa) of run-of-mine (ROM) coking coal over the first nine years, with a steady-state production profile of 3 to 4 Mtpa. Production will then decrease to approximately 1 Mtpa over the following seven years. The project includes a single open-cut mining pit, a ROM coal haul road, an access road, a ROM coal pad, a levee and a mine infrastructure area. The

proposed project is close to a number of existing coal mining and coal seam gas operations including Moranbah South Mine, Bowen Gas Project, Isaac Plains Mine and Poitrel Mine. Most of these projects have been operational for several years, have altered the groundwater within the Permian coal measures, Tertiary sediments and Tertiary basalt, and have impacted flows and the water quality of the nearby Isaac River.

Key potential impacts from this project are:

- long-term and persistent impacts post mining to the groundwater system. The project's drawdown would contribute to existing extensive cumulative drawdown impacts. Groundwater modelling predicts drawdown in the Isaac River alluvium (up to 10 m next to the Isaac River channel where the Rangal Coal Measures subcrop beneath the alluvial sediments) and the Rangal Coal Measures from the project.
- alienation and/or altered frequency, duration and timing of inundation of the floodplain due to the levee which could affect the condition and viability (including plant recruitment) of floodplain vegetation and other water-dependent ecosystems such as Brigalow, listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as a Threatened Ecological Community (TEC).
- as a result of drawdown and some direct clearing, there will be loss of Brigalow TEC, disturbance of gilgai, and impacts to the riparian corridors and groundwater-dependent ecosystems (GDEs) which provide habitat for several EPBC Act-listed species. Species potentially impacted include the Koala (*Phascolarctos cinereus*), Squatter Pigeon (*Geophaps scripta scripta*), Greater Glider (*Petauroides volans*), Black-faced Monarch (*Monarcha melanopsis*), Satin Flycatcher (*Myiagra cyanoleuca*), Short-Beaked Echidna (*Tachyglossus aculeatus*) and Ornamental Snake (*Denisonia maculata*).
- long-term impacts associated with the final void, including poor final void water quality and ongoing groundwater losses through evaporation from the void.

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.

Close of Meeting

The Chair thanked everyone for their contribution to the meeting.

The meeting closed at 3.30 pm on Thursday 7 May 2020.

Next Meeting

The next meeting is scheduled for 17 June 2020, to be held via videoconference.

Minutes confirmed as true and correct:

Dr Chris Pigram AM, FTSE

IESC Chair

18 May 2020

Item(s)	IESC Member	Disclosure	Determination
2.1	Professor Wendy Timms	I consider that there may be a possible conflict of interest in relation to project advice arising from my extensive and varied roles in the Angus Place and the Springvale mine that is located alongside. This area is a case study demonstrating the use of water tracers for underground mining, an ACARP research project that I lead. Prior to IESC, I was one of the expert panel for NSW Planning evaluating water and environmental issues, particularly in working with company personnel to identify the relationship between water level variations, swamps and geological structures on the Newnes Plateau. I have undertaken many underground visits, sampling rockbolts and water, and sampling in the creeks and swamps overlying these mines on the Newnes Plateau.	It was determined that an actual, potential or perceived conflict of interest did exist and Wendy Timms was excluded from agenda item 2.1.