

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

**MINUTES – Meeting 19
Old Parliament House, Canberra ACT**

Attendance and Apologies

IN ATTENDANCE

Ms Lisa Corbyn (Chair)
Emeritus Professor Angela Arthington
Emeritus Professor Peter Flood
Mr Jim McDonald
Professor Dayanthi Nugegoda
Ms Jane Coram
Dr Andrew Johnson
Professor Craig Simmons (Deputy Chair)

APOLOGIES

Nil

OFFICE OF WATER SCIENCE (OWS) - SECRETARIAT AND SUPPORT

Gayle Milnes
Peter Baker
Sean Lane
Kimberley Hammond
Helen Vooren

OTHER STAFF OF THE DEPARTMENT OF THE ENVIRONMENT

Edwina Johnson (Days 1 -2) Office of Water Science	Scott Lawson (Day 1: Item 4.4) Office of Water Science
Mark Say (Days 1-2: Item 2) Office of Water Science	Craig Moore (Days 1-2: Item 2) Office of Water Science
Anthony Swirepik (Days 1-2: Item 4) Office of Water Science	Alistair Usher (Day 1: Item 4.4) Office of Water Science
Natasha Amerasinghe (Days 1-2: Item 2) Office of Water Science	Mitchell Bouma (Day 1: Item 2.3) Office of Water Science
Moya Tomlinson (Days 1-2: Item 2, 4) Office of Water Science	Max Collett (Days 1-2: Item 2) Office of Water Science
Geraldine Cusack (Days 1- 2: Item 3, 4.4) Office of Water Science	Emily Turner (Days 1-2: Item 2.3) Office of Water Science
Kim Bennett (Day 1: Item 2, 4.4) Office of Water Science	Ben Roudnew (Day 1: Item 2, 4.4) Office of Water Science
Sophie Alexander (Day 1: Item 5.2) Office of Water Science	Crystal Bradley (Day 1: Item 5.2, 5.3) Office of Water Science

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

Shane Hogan (Days 1-2: Item 4) Office of Water Science	Rod Dann (Day 1: Item 4.4) Office of Water Science
Olga Braga (Day 2: Item 4.3) Chemical Assessment Section Environmental Standards Branch	Andrew McNee (Day 2: Item 4.3) Assistant Secretary Environmental Standards Branch

The meeting commenced at 8.45 am on 15 July 2014.

1. Welcome and Introductions

The Chair, Lisa Corbyn, welcomed members of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) to the meeting.

There were no apologies.

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. The determinations recorded at this meeting are available at *Attachment A*.

All IESC members provided the six monthly conflict of interest declarations in accordance with the IESC's Probity Framework.

1.3 Confirmation of agenda

The IESC endorsed the agenda for Meeting 19.

1.4 Action items

Completed items were noted and follow-up items were listed on the agenda for discussion later in the meeting.

1.5 Confirmation of out-of-session decisions

The Chair noted the following out-of-session items:

- Minutes of the IESC's eighteenth meeting (10-11 June 2014) were agreed out-of-session and posted on the IESC's website.

1.6 Correspondence

The IESC noted the action taken and the status of correspondence to 2 July 2014.

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

1.7 Environmental scan

The Office of Water Science (OWS) provided an update on developments since the June IESC meeting, including the proposed *EPBC Amendment (Bilateral Agreement Implementation) Bill 2014* and the publication of IESC advice (statutory and interim) on two development proposals on the IESC's website.

1.8 Forward Planning Agenda

The IESC noted the forward planning agenda and discussed items due for consideration through to December 2014.

2. Advice on Projects referred by Governments

2.1 Baralaba North Coal Mine, QLD

The Australian Government Department of the Environment and the Queensland Department of Environment and Heritage Protection sought the IESC's advice on Cockatoo Coal's Baralaba North Combined Operations Project which is at the assessment stage.

The proposed project is an extension of the Baralaba and the Baralaba North / Wonbindi North open cut mining operation. It is located in the lower Bowen Basin of Central Queensland, approximately 115 kilometres from south-west of Rockhampton. The project area is 2 498 hectares in size and is within the catchment area of the Fitzroy River Basin. It is expected that the mine will produce 4.1 million tonnes per annum of run-of-mine coal for up to 15 years. Matters of interest to the IESC included:

- uncertainty regarding the drawdown impacts to the alluvium and the groundwater-surface water interaction;
- risks to groundwater dependent ecosystems;
- location of the development in the Dawson River floodplain and resulting risks arising from extreme flooding events including the potential realignment of the Dawson River through the final void; and
- limitations of the current ecological data and risk assessment.

The IESC's advice will be published separately on the IESC's website, in the context of the regulator's decision.

2.2 Arrow Bowen Gas Project, Qld

The Australian Government Department of the Environment sought the IESC's advice on Arrow Energy's Bowen Gas Project at the supplementary EIS stage.

The project's coal seam gas tenements are located across an area of approximately 8 000 square kilometres, 150 kilometres south-west of Mackay in central Queensland. The proposed project incorporates 4 000 wells, of which 25 per cent may need hydraulic stimulation. It is expected that this staged project will have a 40 year lifespan.

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

Matters of interest to the IESC included:

- use, storage and disposal of co-produced water;
- potential impacts to groundwater, surface water and aquatic ecology within the project region, including the springs in Blackdown Tableland National Park;
- groundwater modelling;
- the presence of faults in the region and the potential influence to groundwater flows and drawdown; and
- potential impacts of hydraulic stimulation and associated chemical use on water quality in aquifers.

The IESC's advice will be published separately on the IESC's website, in the context of the regulator's decision.

2.3 Mine Voids theme sheet

The IESC considered and accepted the theme sheet on managing final voids. The IESC noted the current state of knowledge and research findings, in particular the factors which guide the design of the final landform.

3. Bioregional Assessments

3.1 Bioregional Assessments progress

The IESC discussed and provided feedback on recent developments relating to the bioregional assessments including:

- arrangements to work collaboratively with Queensland on groundwater modelling in the Galilee subregion, arrangements to public the context statement for the Maranoa-Balonne-Condamine sub-region, and finalisation of the Central West and Gwydir subregion context statements;
- the Programme Implementation Board's approach to risk management and the role the IESC could play in monitoring scientific issues;
- the proposed approach for the Information Platform including the desirability to provide a tool that is as useful as possible for all users; and
- draft sub-methodologies on the coal resource development pathway and the identification of water-dependent assets, as well as the proposed hazard identification approach, and forward scheduling of sub-methodologies to maximise the IESC's opportunity to provide scientific input.

The IESC requested a copy of the bioregional assessment risk assessment matrix for further discussion at the August meeting.

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

4. Research

4.1 Update on Research

Key developments on research were reported to the IESC including:

- the publication of two additional background reviews (Subsidence from coal mining activities and Bore Integrity);
- an expert workshop to review the final reports of the Monitoring and Management of Subsidence induced by Longwall Mining project; and
- work on modelling water-related ecological responses to coal seam gas extraction and coal mining, including preparations for an expert workshop in July that will test different models and capture current knowledge of the water-related ecological responses.

4.2 Reports for Endorsement

i. Field Survey of EPBC listed Great Artesian Basin (GAB) springs

The IESC reviewed the key findings of the final project report that provides results of surveys of 848 GAB springs (over half of which had previously not been surveyed) including all the likely EPBC listed springs. The reports have undergone an extensive peer review process and were endorsed by the IESC for publication, noting that survey data would be incorporated into the Department's datasets.

ii. Recently Commissioned Research Stage 2

The IESC discussed the key findings of the report which updates and expands on previous work undertaken in 2013 covering research undertaken in Australia, the United States and Canada. The second stage was expanded to include research undertaken in countries identified for their reserves of coal and coal seam gas including the United Kingdom, China, Russia and India.

The IESC noted the dominant research themes of co-produced/mine water, water supply and disruption of surface water and supported the next steps proposed by the OWS regarding editing, publication and conversion to a format suitable for wider use.

iii. Groundwater modelling to simulate the impacts of CSG extraction

The IESC endorsed the final report for publication. The IESC noted research was planned by the OWS and the Office of Groundwater Impact Assessment that would respond to priorities highlighted in the report.

4.3 National Assessment of Chemicals Associated with CSG Extraction in Australia: draft Environmental Risk Assessment Report

Mr Andrew McNee, Assistant Secretary, Environmental Standards Branch of the Department of the Environment, presented on the draft Environmental Risk Assessment

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

Report (Milestone 21). The processes undertaken in the development of this final report were outlined and the IESC discussed linkages with the existing regime for managing and assessing chemicals and the bioregional assessments. Advice was also provided on potential issues including the importance of defining ways to effectively communicate the findings and linking with regulators and industry to identify ways to fill data gaps.

The Chair thanked Mr McNee for his presentation.

4.4 Faults and Aquifer connectivity

To inform the IESC's advice on the Arrow Energy Bowen Gas Project and OWS's consideration of research faults, the IESC was briefed on the research Arrow Energy had undertaken on the influence of faults on groundwater flows in response to the IESC's advice of May 2013 on the project.

5. Strategic Discussions

5.1 Hunter Valley Field trip

Feedback on the June field trip to the Hunter Valley indicated it had been a worthwhile learning experience, providing members with an opportunity to view mining operations, associated infrastructure and rehabilitation sites, as well as potentially affected ecological assets, to inform the preparation of advice by the IESC.

5.2 IESC Communication and Stakeholder Engagement Strategy

The IESC discussed updates and amendments to the Communication and Stakeholder Engagement Strategy, including taking into account the IESC's operation and experience since its commencement in November 2012. It was agreed that the Chair and nominated IESC members would work with OWS to revise the strategy incorporating comments provided by IESC members, for consideration at the IESC's August meeting.

5.3 Cumulative Impacts

The IESC discussed its expectations relating to its evaluation of water-related cumulative impacts that are included in environment assessment documentation. The IESC agreed that for its September meeting, a matrix of available tools and information to inform IESC's consideration of cumulative impacts for the Galilee and Namoi basin would be developed as an extension to its cumulative impact checklist. This would include, for example, reference to existing regional water balances, water resource plans, data or models and relevant products expected from the bioregional assessments and other research on the water-related impacts of coal seam gas and coal mining development.

5.4 Review of IESC activities: December 2013 to June 2014

The IESC endorsed the review, subject to a number of minor amendments and agreed it be published on the IESC website and circulated to stakeholders for information.

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

Close of Meeting

The Chair thanked everyone for their contribution to the meeting.

Next Meeting

The next meeting will be held over three days on 12-14 August 2014 in Canberra.

The meeting closed at 3.15pm on 16 July 2014.

Minutes confirmed as true and correct:

Ms Lisa Corbyn
IESC Chair

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 19, 15-16 July 2014**

Attachment A

Item(s)	IESC member	Disclosure	Determination
3, 4	Jane Coram	I consider that there may be a possible conflict of interest in relation to agenda items 3 and 4 arising from <i>Geoscience Australia's involvement in bioregional assessments and Geoscience Australia's potential interest in undertaking the research activities.</i>	No actual, potential or perceived conflict of interest exists and Jane participated fully in the IESC meeting. The reason for the decision is that the IESC is not making decisions on funding of research and therefore there is not conflict in relation to this meeting.
4	Craig Simmons	I consider that there may be a possible conflict of interest in relation to agenda item 4 (Research) arising from <i>National Centre for Groundwater Research and Training (NCGRT) being a potential provider of R&D to the IESC/OWS.</i>	No actual, potential or perceived conflict of interest exists and Craig participated fully in the IESC meeting. The reason for the decision is that the IESC is not making decisions on research funding therefore there is no conflict in relation to the meeting.