

**Independent Expert Scientific Committee on Coal Seam Gas and
Large Coal Mining Development (IESC)
Minutes – Meeting 16, 8-9 April 2014**

**MINUTES – Meeting 16
8-9 April 2014**

Old Parliament House, Canberra

Attendance and Apologies

IN ATTENDANCE

Ms Lisa Corbyn (Chair)
Emeritus Professor Angela Arthington
Ms Jane Coram
Emeritus Professor Peter Flood
Dr Andrew Johnson (Day 2)
Mr Jim McDonald
Professor Dayanthi Nugegoda
Professor Craig Simmons

APOLOGIES

Dr Andrew Johnson (Day 1)

OFFICE OF WATER SCIENCE (OWS) - SECRETARIAT AND SUPPORT

Gayle Milnes
Peter Baker (by Phone)
Sean Lane
Caryn Scott
Helen Vooren

OTHER STAFF OF THE DEPARTMENT OF THE ENVIRONMENT

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| Tony Slatyer (Days 1-2) First Assistant Secretary Water Reform Division | Kimberley Hammond (Day 1-2: Item 4) Office of Water Science |
| Fiona Beynon (Days 1-2: Item 2) Office of Water Science | Mitchell Bouma (Days 1-2: Item 2) Office of Water Science |
| Mark Say (Days 1-2: Item 2) Office of Water Science | Anu Datta (Days 1-2: Item 2) Office of Water Science |
| Edwina Johnson (Day 1: Item 3) Office of Water Science | Christine McKnight (Days 1-2: Item 2) Office of Water Science |
| Geraldine Cusack (Day 1: Items 3) Office of Water Science | Pamela Finger (Day 2: Item 5,6) Office of Water Science |
| Max Collett (Days 1-2: Item 2) Office of Water Science | Anne Riesz (Day 2: Item 5,6) Office of Water Science |
| Emily Turner (Days 1-2: Item 2) Office of Water Science | Scott Lawson (Day 2: Item 5.1,6) Office of Water Science |

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| Moya Tomlinson (Days 1-2: Item 2,5,6) Office of Water Science | Sophie Alexander (Day 1: Item 1) Office of Water Science |
| Dr Ken Lawrie (Day 2: Item 5) Geoscience Australia | Dr Ross Brodie (Day 2: Item 5) Geoscience Australia |

The meeting commenced at 9.05am on 8 April 2014.

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, noting apology tendered from:

- Dr Andrew Johnson for Day 1.

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*.

1.3 Confirmation of agenda

The IESC endorsed the agenda for Meeting 16.

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 fifteenth meeting (12-14 March 2014) were agreed out-of-session and posted on the IESC's website.

1.6 Correspondence

The IESC noted the status of correspondence to 31 March 2014.

1.7 Environmental scan

A verbal update was provided by Office of Water Science (OWS) on the following items of interest:

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- i. the Senate referred an inquiry into environmental offsets to the Senate Environment and Communications References Committee;
- ii. the *Omnibus Repeal Day (Autumn 2014) Bill 2014* and the provision for the repeal of Section 255AA of the Water Act 2007. The proposed repeal is based on this section of the Act duplicating other legislative provisions;
- iii. the appointment of Dr Allan Hawke as the Commissioner of the Northern Territory Government inquiry into hydraulic fracturing;
- iv. the announcement by the NSW Government of a six month freeze on new petroleum exploration licences;
- v. in NSW, Santos and AGL have entered into a set of principles, known as the ‘Agreed Principles of Land Access’; and
- vi. feedback from the Coal Seam Gas Science Forum in Sydney, attended by IESC member Jim McDonald and Gayle Milnes, OWS. Issues raised included quality and independence of EIS’s; the need for baseline data and better modelling; well integrity; compliance; co-produced water and re-use for agriculture; and land access processes.

2. Advice on Projects referred by Governments

2.1 Red Hill Mining Lease Project, QLD

The Commonwealth regulator and the Queensland Office of the Coordinator-General sought the IESC’s advice in relation to the Red Hill Mining Lease Project, at the draft environmental impact assessment stage.

The proposed project is an extension of an existing open cut and underground coal mine in the Goonyella Riverside and Broadmeadow mining complex within the Bowen Basin, Queensland, with an operational life of 25 years and producing 14 Mtpa run-of-mine coal.

Matters of interest to the IESC included:

- the inclusion of the Isaac River in the groundwater model to allow consideration of the groundwater-surface water interaction and potential impacts on groundwater dependent ecosystems;
- subsidence impacts and the potential impacts on flow of the Isaac River and its tributaries;
- the representation of faults and modelled subsidence fractures within the groundwater model;
- the assessment of impacts related to water quality (salinity) of mine-affected water discharges and mixing zones downstream of discharge points; and

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- assessment of water quality arising from the mixing of surface water and water drainage from overlying aquifers.

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

2.2 North Surat Natural Gas Acreage Project (The Surat North Development), QLD

The Australian Government Department of the Environment requested the IESC's advice in relation to the North Surat Natural Gas Acreage Project at the assessment stage. Preliminary documentation has been provided.

The proposed project is an expansion of existing coal seam gas operations in the Surat Basin. The proposal involves the development of up to 400 coal seam gas (CSG) wells over the expected 30 year operational life of the project. The development also includes the drilling and completion of gas wells, construction of water management infrastructure, installation of well-site facilities, in-field compression and other associated infrastructure.

Matters of interest to the IESC included:

- the groundwater model's suitability for assessing impacts on springs, groundwater dependent ecosystems or quantifying surface water – groundwater interactions;
- stream ecology and geomorphology impacts from the discharge of treated CSG water downstream of Glebe Weir; and
- the impact on the unconfined shallow alluvium aquifers and the potential implications for groundwater dependent ecosystems.

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

2.3 New Acland Coal Mine, QLD

The IESC was requested by the Australian Government Department of the Environment and the Queensland Office of the Coordinator-General to provide advice on the New Acland Mine Stage 3 Project in Queensland.

The proposed project is an expansion of the existing New Acland Coal Mine in the Clarence-Moreton Basin. The proposal will increase production of coal from the Walloon Coal Measures from 4.8 Mtpa to 7.5 Mtpa run-of-mine coal. The project would extend the mine life by up to 12 years.

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Matters of interest to the IESC included:

- the hydrogeological conceptualisation;
- the numerical groundwater model, particularly the parameters and boundary conditions;
- variations in predicted drawdown and pit inflows; and
- existing surface water quality, flow and ecology data sets provided for Lagoon Creek, Myall Creek and Oakey Creek.

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

2.4 Liddell Coal Operations Extension, NSW

The IESC was requested by the Australian Government Department of the Environment to provide advice on the expansion of the Liddell Coal Operations in New South Wales.

The proposed project is an extension to an existing open cut coal mine in the Sydney Basin and will extend the life of the mine to 2023. The proposed project area is bordered by Bowmans Creek.

Matters of interest to the IESC included:

- relict connective subsidence cracking impact on Bowmans Creek and the associated alluvium;
- the dependent ecosystems of the proposed offset of Bowmans Creek;
- potential surface and groundwater interactions and drawdown predictions; and
- through flow of saline water from the final landform.

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

3. Bioregional Assessments

3.1 Bioregional Assessment Programme progress

The IESC discussed recent developments relating to the Bioregional Assessment Programme, including:

- discussions with Programme Partners regarding Gippsland, Arckaringa and Pedirka subregions;
- release of the initial context statements;
- launch of the programme's shared website;
- Coal Resource Development Pathway; and

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- data gathering process, including ecological data sets, and data transparency and accessibility.

The ongoing work on the Information Platform was also acknowledged.

4. Communications

4.1 Information Guidelines

The IESC provided final comments on the revised Information Guidelines. There was a general discussion on the comments received from members of the National Partnership Agreement Reference Group, and New South Wales, Queensland and Commonwealth regulators, and how these were incorporated into the revised document more broadly.

Additional material on mine voids and ecology will be incorporated, as well as an amendment to the reference of wording regarding analytical and numerical models.

Subject to the changes requested, the IESC endorsed the Information Guidelines, agreed to publication on the website and for the Chair to distribute to all stakeholders.

It was agreed that a formal review of the Information Guidelines will be undertaken in six months.

4.2 Guidelines for publishing IESC advice

The Chair updated the IESC on the finalisation of guidelines developed at the March 2014 meeting and the letters to regulators transmitting the guidelines. The IESC reiterated its intent that previously unpublished advice be made publicly available as soon as possible, with a staged release to be progressed by the end of April 2014.

The IESC expressed its frustration with the delay in public availability of past advices. The Department's Executive agreed to update the IESC and to provide further information on the release process, following discussion with the regulators.

5. Presentation

Dr Ken Lawrie, Section Leader, Groundwater Group, Geoscience Australia presented on the Geoscience Australia's major project 'Geodynamics: Implications for CSG and Hydrogeological Systems'. The presentation outlined work undertaken from 2009 to 2012 by Geoscience Australia and was funded by the now Department of the Environment. The research was part of the Darling Water Savings Project investigating aquifer storage options for the Menindee Lakes. This study of faulting in the Australian landscape has implications for coal seam gas exploration and the effects of water flows in aquifers.

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6. Research

6.1 Update on Research Programme

The IESC was updated by the OWS on the key developments of the Research Programme, including an agenda for the future publication of reports. The IESC highlighted the priority and importance of the timely delivery of chemical information to decision makers and advised its concern at the delays in the delivery of the NICNAS chemicals report. The OWS was requested to raise the IESC's concerns with the project partners.

It was also reported that some timelines have been extended for the delivery of milestone and final reports in research projects. This is principally due to the delays in receiving and incorporating peer review comments and additional time required to finalise material for publication prior to presenting to the IESC for endorsement.

It was noted that the new Ecology Project will be going to tender the week of 14 April 2014 and agreed that two hydrology project scopes would be circulated to relevant members of the Research Sub-committee next week for comments out of session.

6.2 Factsheets

The IESC was updated on progress of a series of factsheets under preparation. The next due for publication - 'Coal Seam Gas and Co-produced Water' draws on information gathered from two Background Reviews on co-produced water:

- Co-produced water – issues associated with quantity, timing and potential risks to aquatic ecosystems and their environmental values (Background Review 4); and
- Co-produced water – options for the management and use of co-produced water, brines and associated salts and heavy metal concentrates (Background Review 6).

The IESC provided feedback on the content and, with some fact checking and minor amendments, endorsed the fact sheet for public release in conjunction with the relevant background reviews. The IESC noted that fact sheets were lower priority than the future research projects.

6.3 Peat Swamps

The IESC provided feedback and editorial work, and endorsed the three Temperate Highland Peat Swamps on Sandstone reports for public release subject to a final edit. The IESC requested that these be progressed rapidly for release:

- Ecological Characteristics, Sensitivities to Change, and Monitoring and Reporting Techniques;

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- Longwall mining engineering design – subsidence prediction, buffer distances and mine design options; and
- Evaluation of Mitigation and Remediation Techniques.

7. Other Business

7.1 IESC Field Trip

Options for a field trip to be undertaken in conjunction with the scheduled meeting in June were discussed.

The IESC noted that themes for advice on coal mining have related to the adequacy of groundwater modelling, site water balances including discharges, water quality (in particular salinity), subsidence and landform remediation.

A field trip provides an opportunity to gain further understanding of the management of salt, rehabilitation and remediation of subsidence, voids and stream diversions and the proximity of mines to alluvium.

The OWS was requested to report back at the May 2014 meeting, having further developed options for a field trip. These options should contain opportunities to visit sites that illustrate themes identified.

7.2 Forward Planning Agenda

The IESC considered the forward agenda and discussed possible topics for consideration at the May 2014 meeting.

7.3 Departmental – announcement on organisational change

The IESC received information on the Department's recent announcement concerning its organisational change.

7.4 Other matters

- i. Theme sheets. The IESC agreed to develop a theme sheet for Ecology.
- ii. Voids. The IESC acknowledged the positive work by OWS on the void theme sheet and requested that guiding principles be further developed for use when considering project advices.

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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 13-15 May 2014 in Canberra.

The meeting closed at 3.40pm on 9 April 2014.

Minutes confirmed as true and correct:

Ms Lisa Corbyn
IESC Chair

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Attachment A

| Item(s) | IESC member | Disclosure | Determination |
|----------------|--------------------|---|--|
| 3.1 5.1 | Jane Coram | I consider that there may be a possible conflict of interest in relation to agenda items 3.1 and 5.1 arising from Geoscience Australia's involvement in bioregional assessments and Geoscience Australia's potential interest in undertaking the research activities. | No actual, potential or perceived conflict of interest exists and Jane participated fully in the Committee 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. |
| 6 | Craig Simmons | I consider that there may be a possible conflict of interest in relation to agenda item 6 (Research) arising from National Centre for Groundwater Research and Training (NCGRT) being a potential provider of R&D to the Committee/OWS. | 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. |