

Actions from GISERA NSW Regional Research Advisory Committee Meeting 27 October 2016

Key

Action Open
Action Due/overdue
Action complete/in train

	Item	Action	Owner	Due	Status
1.	26-05-16 Item 3	Action 4 : Members 1 & 15 to talk to Regional Development Authority, NSW Farmers' Association and Local Land Services more broadly and maintain regular communication with the Centre for Balanced Land Use and NSW Chief Scientist and Engineer.	Member 1/ Member 15	Ongoing	
2.	26-05-16 Item 4E	Action 21 : The proponent to contact Member 3 to understand work that has already been done and explore opportunities for collaboration.	Research Proponent	7 June 2016	Will be considered by the RRAC out of session
3.	26-05-16 Item 4E	Action 22 : The proponent needs rework the proposal to include both agriculture section (Narrabri and Camden gas fields) and Pilliga Forest and must be explicit on value add.	Research Proponent	10 June 2016	Will be considered by the RRAC out of session
4.	27-10-16 Item 3A	Action 1 : The proponent to amend first sentence in 'Importance and Necessity' section to provide greater clarification on impacts.	Research Proponent	10 November 2016	

5.	27-10-16 Item 3A	<u>Action 2</u> : The proponent to interact with NSW Chief Scientist Office about how these project results might impact on their plans to drill the remaining monitoring wells. The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group.	Research Proponent	10 November 2016	
6.	27-10-16 Item 3A	<u>Action 3</u> : The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.	Research Proponent	10 November 2016	
7.	27-10-16 Item 3A	<u>Action 4</u> : The proponent to re-visit project timing to determine if it can be brought forward or if work can be front-loaded.	Research Proponent	10 November 2016	
8.	27-10-16 Item 3A	<u>Action 5</u> : Member 14 to update the fiscal year column.	Member 14	10 November 2016	
9.	27-10-16 Item 3B	<u>Action 6</u> : The proponent to define the geographical boundaries of this model.	Research Proponent	10 November 2016	
10.	27-10-16 Item 3B	<u>Action 7</u> : The Member 1 to check whether recharge into the alluvium is included in this project or the 'Spatial design of groundwater monitoring networks' project.	Member 1	10 November 2016	
11.	27-10-16 Item 3B	<u>Action 8</u> : The proponent to review the findings of the OGIA and QGC work done in Queensland to determine how it will relate to Narrabri and Gunnedah.	Research Proponent	10 November 2016	

12.	27-10-16 Item 3B	<u>Action 9</u> : The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.	Research Proponent	10 November 2016	
13.	27-10-16 Item 3B	<u>Action 10</u> : The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results	Research Proponent	10 November 2016	
14.	27-10-16 Item 3B	<u>Action 11</u> : Member 14 to update the fiscal year column.	Member 14	10 November 2016	
15.	27-10-16 Item 3C	<u>Action 12</u> : The proponent to look at wording around AGL's decision to cease production, physical infrastructure, social licence, value judgements, work done by government, industry and abroad	Research Proponent	10 November 2016	
16.	27-10-16 Item 3C	<u>Action 13</u> : The proponent to clarify what project is looking to achieve.	Research Proponent	10 November 2016	
17.	27-10-16 Item 3C	<u>Action 14</u> : The proponent to clarify objectives of workshop.	Research Proponent	10 November 2016	
18.	27-10-16 Item 3C	<u>Action 15</u> : The proponent to clarify what is meant by "recommendations that can inform socially acceptable decommissioning for CSG wells in other contexts".	Research Proponent	10 November 2016	

19.	27-10-16 Item 3C	<u>Action 16</u> : The proponent to include background information on seismology and risks over long term (reactivation of faults) if this is to be included in the proposal.	Research Proponent	10 November 2016	
20.	27-10-16 Item 3C	<u>Action 17</u> : The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.	Research Proponent	10 November 2016	
21.	27-10-16 Item 3C	<u>Action 18</u> : The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.	Research Proponent	10 November 2016	
22.	27-10-16 Item 3C	<u>Action 19</u> : It is also recommended that a representative from NIER Centre for Balanced Land Use be invited on the TRG.	Research Proponent	10 November 2016	
23.	27-10-16 Item 3C	<u>Action 20</u> : Member 14 to update the fiscal year column.	Member 14	10 November 2016	
24.	27-10-16 Item 3D	<u>Action 21</u> : The proponent will amend the proposal to look at HF in Queensland only and barrier and well failure in both Queensland and NSW.	Research Proponent	10 November 2016	
25.	27-10-16 Item 3D	<u>Action 22</u> : The proponent will check whether the above change will result in a reduced budget.	Research Proponent	10 November 2016	

26.	27-10-16 Item 3D	<u>Action 23</u> : The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.	Research Proponent	10 November 2016	
27.	27-10-16 Item 3D	<u>Action 24</u> : The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.	Research Proponent	10 November 2016	
28.	27-10-16 Item 3D	<u>Action 25</u> : Member 14 to update the fiscal year column.	Member 14	10 November 2016	
29.	27-10-16 Item 3E	<u>Action 26</u> : The proponent to engage with NSW Health.	Research Proponent	10 November 2016	
30.	27-10-16 Item 3E	<u>Action 27</u> : The proponent to re-visit budget to see if there is scope for reduction.	Research Proponent	10 November 2016	
31.	27-10-16 Item 3E	<u>Action 28</u> : The proponent to confirm what area in NSW this project will focus on.	Research Proponent	10 November 2016	
32.	27-10-16 Item 3E	<u>Action 29</u> : The proponent will add word 'human' i.e. 'human health'.	Research Proponent	10 November 2016	
33.	27-10-16 Item 3E	<u>Action 30</u> : The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.	Research Proponent	10 November 2016	

34.	27-10-16 Item 3E	<u>Action 31</u> : The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.	Research Proponent	10 November 2016	
35.	27-10-16 Item 3E	<u>Action 32</u> : Member 14 to update the fiscal year column.	Member 14	10 November 2016	
36.	27-10-16 Item 4	<u>Action 33</u> : Member 15 will prepare ToR for a pilot study for external market.	Member 15	30 November 2016	
37.	27-10-16 Item 5	<u>Action 34</u> : Member 15 to prepare 1 page executive summary as outlined in the minutes.	Member 15	30 November 2016	
38.	27-10-16 Item 6.1	<u>Action 35</u> : GISERA Communications will include NSW EPA, NSW Farmers Federation and NIER to stakeholder list.	GISERA Communications	10 November 2016	

Minutes
GISERA NSW Regional Research Advisory Committee Meeting No. 2
Thursday, 27 October 2016
CSIRO offices, level 4 meeting room 502/503, 11 Julius Avenue, North Ryde

OPENING

The meeting of the GISERA NSW Regional Research Advisory Committee was called to order at 9.10 am on Thursday, 27 October 2016 at CSIRO offices, 11 Julius Avenue, North Ryde by Damian Barrett, GISERA Director.

PARTICIPANTS

Damian Barrett: GISERA Director (*CSIRO*)
Peter Wallbrink: Research Director – Basin Management Outcomes – Land and Water (*CSIRO*)
Michael Braunack: Research Scientist, Agriculture (*CSIRO*)
Jock Laurie: NSW Land and Water Commissioner (NSW Department of Industry)
Ken Flower: General Manager (*North West Local Land Services*)
Deborah Hailstones: Manager Science Strategy (*NSW Department of Primary Industries*) – for Philip Wright
Jack Warnock: Lower Namoi Cotton Growers’ Association and Managing Director (*Warnock Agronomics Pty Limited*)
Aaron Clifton: NSW Environment Manager, Gas Operations (*AGL*)
Neale House: Manager Environment and Water ENSW (*Santos*) – *via telephone*
Dan O’Sullivan: Onshore Gas and Sustainability Advisor (*CSIRO*)
Jizelle Khoury: GISERA Executive Officer (*CSIRO*)

Apologies:

Annette Turner: President (*Country Women’s Association of NSW*)
Alison Sheridan: Head of School, UNE Business School (*University of New England*) – *provided comments via email*

ITEMS FOR DISCUSSION

1 Welcome, Apologies and Adoption of Agenda

- The GISERA Director welcomed all members to the meeting and provided a safety and evacuation overview.
- The GISERA Director noted in recent media, there was reference to an article published by The Australia Institute. The article reports to have examined the make-up and governance structure of GISERA and concluded there was potential for significant conflict of interest. These claims are unsubstantiated and there was no evidence put forward in the articles of actual conflict of interest despite the public availability of all minutes from past Research Advisory Committee meetings. The author made a number of accusations and CSIRO have identified

8 serious errors in the article. This was followed by a second article from The Australia Institute, who commissioned the Melbourne Energy Institute, on fugitive emissions from the gas industry. CSIRO have forwarded a letter to the Director of The Australia Institute identifying the errors and asking that the article be corrected. We are also working on a piece around conflict of interest for CSIRO and GISERA. CSIRO continues to support the work being done in GISERA.

2 Minutes and Actions

- The GISERA NSW Regional Research Advisory Committee approved the minutes from NSW RRAC meeting No. 1.

3A Project Proposal – Spatial design of groundwater monitoring networks for early detection and minimizing uncertainty in the prediction of groundwater impacts in the Narrabri Gas Project Area

Key points raised:

- Under the ‘Importance and Necessity’ section the first sentence ‘It has been well-established that coal seam gas development will result in significant changes in groundwater pressure ...’ should be amended so that it is more qualified in terms of what the impacts might be for both coal seams and the adjacent aquifer. We know there is depressurisation in coal seams, but what about the adjacent aquifers?
- As this project will apply optimization and uncertainty analysis tools to develop the design of groundwater bore networks, it will be important to interact with NSW Chief Scientist’s office about how these project results might impact on their plans to drill the remaining monitoring wells.
- The RRAC would like immediately relevant groups and government departments to be invited on the Technical Reference Group to be listed in the project order as part of the communications plan.
- The RRAC would like the project proponent to invite a representative from the NSW Chief Scientist’s office to participate on the Technical Reference Group. Otherwise the project proponent is required to actively engage with the Office on this project and any developments/results.
- The RRAC would like the project proponent to revisit the timing to determine if it can be brought forward. Can any of the work be front-loaded. This would need to take into account the GAB flux project and where the Bioregional Assessments are up to.
- In the budget section, update the fiscal year column to reflect when payment of milestone will be made.

Outcome: The RRAC approved this project subject to the above comments being met to the GISERA Director’s satisfaction.

Following the above discussion, it was resolved that:

Action 1: The proponent to amend first sentence in 'Importance and Necessity' section to provide greater clarification on impacts.

Action 2: The proponent to interact with NSW Chief Scientist Office about how these project results might impact on their plans to drill the remaining monitoring wells. The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group.

Action 3: The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.

Action 4: The proponent to re-visit project timing to determine if it can be brought forward or if work can be front-loaded.

Action 5: Member 14 to update the fiscal year column.

3B Project Proposal – Improving groundwater models to better represent coal seam gas extraction impacts in the Namoi region

- The RRAC questioned whether this method will be applicable elsewhere and requested that the geographical boundaries of this model/project (i.e. the geologic formation being studied) be defined in the project order.
- The RRAC asked whether this includes recharge into the alluvium as well as the GAB. If not, the GISERA Director will confirm that first project 'Spatial design of groundwater monitoring networks' does include alluvium.
- The key findings from OGIA and QGC work done in Queensland determined that there was more change of the horizontal propagation of the effects (i.e. in the target coal seams). It is important for the researchers to take those findings and do a sensitivity test on the geology of the Narrabri area because the geology is confined. Before we get to the decision point in the project, the researchers should have a good look at the work that was done, the findings and how it relates to the Narrabri and Gunnedah Basin scenario, so that before we proceed with further investment in a future stage, we clearly know what we are going to find (i.e. will reflect further horizontal propagation or otherwise).
- The RRAC would like the immediately relevant groups and government departments to be invited on the Technical Reference Group to be listed in the project order as part of the communications plan.
- The RRAC would like the project proponent to invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the project proponent will be expected to actively engage with the Office on this project and any developments/results.

Outcome: The RRAC approved this project subject to the above comments being met to the GISERA Director's satisfaction.

Following the above discussion, it was resolved that:

Action 6: The proponent to define the geographical boundaries of this model.

Action 7: The GISERA Director to check whether recharge into the alluvium is included in this project or the 'Spatial design of groundwater monitoring networks' project.

Action 8: The proponent to review the findings of the OGIA and QGC work done in Queensland to determine how it will relate to Narrabri and Gunnedah.

Action 9: The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.

Action 10: The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.

Action 11: Member 14 to update the fiscal year column.

3C Project Proposal – Decommissioning CSG wells and impacts on social licence

Key points raised:

- Researchers need to be aware of each local region's calendar when scheduling workshop dates. Will also be good where possible, for workshops across the various projects to be co-ordinated.
- The project description states that 'this research is a novel first step' which doesn't reflect the work done by government, industry and abroad.
- Chief Scientist notes that the NSW requirements for well decommissioning are consistent with international standards.
- The sentence in the background section that states AGL ceased production due to changing public values, requires amendment as it wasn't the only reason for the decision (was a complex decision).
- The scope is written around infrastructure and is silent on the biophysical environment (e.g. possible legacy issues with contaminants in the ground). Should be made clear that this project is focused towards physical infrastructure (specifically wells) associated with extracting gas as this was identified as a community concern.
- Any issues with a well head or pad can be easily seen and fixed, but the infrastructure underground and out of sight can cause concern to the community. There needs to be confidence in the integrity of the steel and concrete over time, that regulations for closing them off is right and that the wells are being regularly monitored. What recommendations can be put in place or suggested that can cover off social concerns - are there fail-safe mechanisms that can be used that can add to the reduction in community concern? There needs to be some strong rigour around those points in the terminology at finalisation.
- What are the risks over the long term including increased seismic events?
- There are value judgements in the language used and these should be rephrased in neutral language.

- Concerns proposal undersells the work that government and industry have put into developing best in-school decommissioning strategies going forward.
- Recommendations for this project should not be around obtaining social licence. GISERA's purpose is not to obtain social licence for industry. Therefore the reference to this should be removed including in the project title.
- The current draft of the proposal is a little unclear about what the project is looking to achieve – is it about communicating the regulatory requirements more effectively to community and explaining how the requirements minimise risk? E.g.(first para) *“community.. concerns indicate that regulatory requirements alone may not be an adequate guideline for decommissioning”*. What status will the project outcome of guidelines have in terms of actually influencing policy and be enacted? Some clarification from the researchers is required.
- The workshop with industry, policy stakeholders and local residents to *“consider how the CSG industry has responded to regulatory frameworks”* – what is being sought? CSG companies are required to ensure decommissioning is carried out in accordance with the regulatory requirements, so is the workshop intended to be an assessment of compliance or something else? This is not the role of GISERA. Some further clarification from the researchers on this point is required.
- First outputs of literature review of regulatory environments – isn't this what the Chief Scientist did? What will this task add to knowledge?
- Project is more of an extension program in reinforcing the regulatory frameworks that the government has and informing the community that the government has access to best available technology and world's best practise information and that they apply it readily and regularly throughout developing of policy, as opposed to asking the community to describe to the government what it feels should be done.
- Second deliverable *“recommendations that can inform socially acceptable decommissioning for CSG wells in other contexts”* – what is meant by this? As the current government decommissioning requirements align with international standards (per Chief Scientist's findings), further thought from the researchers on how, or whether or not, this deliverable can be achieved would be useful for the proposal. Need to consider that there may be a disconnect in the engineering and what people think is socially acceptable (i.e. what if engineering is highly proficient but still socially unacceptable?).
- The RRAC would like immediately relevant groups and government departments to be invited on the Technical Reference Group to be listed in the project order as part of the communications plan.
- The RRAC would like the project proponent to invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the project proponent will be expected to actively engage with the Office of this project and any developments/results. It is also recommended that a representative from NIER Centre for Balanced Land Use be invited on the TRG.

Outcome: The RRAC approved this project subject to the above comments being met to the GISERA Director's satisfaction.

Following the above discussion, it was resolved that:

Action 12: The proponent to look at wording around AGL's decision to cease production, physical infrastructure, social licence, value judgements, work done by government, industry and abroad

Action 13: The proponent to clarify what project is looking to achieve.

Action 14: The proponent to clarify objectives of workshop.

Action 15: The proponent to clarify what is meant by "recommendations that can inform socially acceptable decommissioning for CSG wells in other contexts".

Action 16: The proponent to include background information on seismology and risks over long term (reactivation of faults) if this is to be included in the proposal.

Action 17: The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.

Action 18: The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.

Action 19: It is also recommended that a representative from NIER Centre for Balanced Land Use be invited on the TRG.

Action 20: Member 14 to update the fiscal year column.

3D Project Proposal – Water contamination risk assessment on hydraulic fracturing in unconventional gas extraction

Key points raised:

- The RRAC questioned where an appropriate sub-region in NSW might be given that:
 - Santos currently has no plans to use hydraulic fracture stimulation in the Narrabri project area. Geological data indicates it would not increase gas flows in the coal seams that are being targeted. Santos is not seeking approval to use hydraulic fracture stimulation for the proposed development.
 - AGL have not fracture stimulated in Camden since 2008 and have no future plans of doing so.
 - Gloucester has finished up
- As there is no intention to use hydraulic fracturing in NSW, it was agreed that the researchers would only look at barrier and well failure in NSW and not HF. In the Queensland sub-region, they would do both the well bore component and HF.
- The proponent should revisit the budget to see if this change will reduce the overall budget.
- Researchers need to look at risk, likelihood, consequence and risk mitigation.

- The RRAC would like immediately relevant groups and government departments to be invited on the Technical Reference Group to be listed in the project order as part of the communications plan.
- The RRAC would like the project proponent to invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the project proponent is required to actively engage with the Office on this project and any developments/results.

Outcome: The RRAC approved this project subject to the above comments being met to the GISERA Director's satisfaction. This project will be forwarded to the QLD RRAC for approval.

Following the above discussion, it was resolved that:

Action 21: The proponent will amend the proposal to look at HF in Queensland only and barrier and well failure in both Queensland and NSW.

Action 22: The proponent will check whether the above change will result in a reduced budget.

Action 23: The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.

Action 24: The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.

Action 25: Member 14 to update the fiscal year column.

3E Project Proposal – Health effects of coal seam gas activity: Review and study design

Key points raised:

- Important not to overlook international research
- NSW Health recently did some high-level study and produced a factsheet on the health impacts of CSG in the Camden project area. It was suggested that the proponent engage with NSW Health as they have some experience in this area.
- There was some concern at the high costs associated with of coming up with this study design. The proponent should re-visit the budget to see if there is any scope for reduction.
- The GISERA Director to seek clarification on what parts of NSW the project will focus on – Narrabri or Camden.
- For clarity, it was suggested that the word 'human' be added to the title 'Human Health effects of Coal Seam Gas Activity Study Design'. This will eliminate any confusion or thoughts that livestock would also be included.

Outcome: The RRAC approved this project subject to the above comments being met to the GISERA Director's satisfaction.

Following the above discussion, it was resolved that:

Action 26: The proponent to engage with NSW Health.

Action 27: The proponent to re-visit budget to see if there is scope for reduction.

Action 28: The proponent to confirm what area in NSW this project will focus on.

Action 29: The proponent will add word 'human' i.e. 'human health'.

Action 30: The proponent to update the 'Communications Plan' section to include names of groups and government departments that will be invited to participate in the Technical Reference Group.

Action 31: The proponent will also invite a representative from the NSW Chief Scientist's office to participate on the Technical Reference Group. Otherwise the proponent will actively engage with the Office on this project and any developments/results.

Action 32: Member 14 to update the fiscal year column.

4 Terms of reference for proposed 'Building a Learning Community' project

Key points raised:

- This project is about facilitating a learning exercise.
- It was suggested that this start as a smaller project with a budget of \$50-75K. This pilot study that would come up with the terms of reference and research/engagement options. This would then be followed by a second larger project that would involve the engagement.

Outcome: The RRAC approved the pilot study going out to the external market subject to the above comments being met to the GISERA Director's satisfaction.

Following the above discussion, it was resolved that:

Action 33: Member 15 will prepare ToR for a pilot study for external market.

5 Roadmap/Strategy for identifying research priorities

Key points raised:

- The strategy would benefit from a 1 page executive summary / info-graphic that would include:
 - aim – to get independent research on community concerns in relation to CSG
 - how and why it is independent – put in structure of GISERA (why does it matter)
 - 7 stage process
 - current project list
 - any wins or outcomes – how we have made a difference?
- Needs to be clearer on how projects were selected.

Following the above discussion, it was resolved that:

Action 34: Member 15 to prepare 1 page executive summary as outlined in the minutes.

6 Other Business

6.1 Communications and Engagement Plan

Key points raised:

- The RRAC requested that NSW EPA, NSW Farmers Association and NIER be included in the key stakeholder list.

Following the above discussion, it was resolved that:

Action 35: GISERA's Communication Advisor will include NSW EPA, NSW Farmers Federation and NIER to stakeholder list.

NEXT MEETING

The next meeting of the NSW Regional Research Advisory Committee is yet to be scheduled. It is anticipated that a meeting will occur once further proposals are established.

MEETING CLOSURE

Damian Barrett closed the meeting at 3.15 pm

Minutes submitted by: **GISERA Secretariat**

Minutes approved by: **GISERA Director**