

**28 October 2013**

Mr Paul Freeman  
Senior Planner, Mining Projects,  
Department of Planning & Infrastructure  
GPO Box 39 SYDNEY 2001  
Submitted online at <http://majorprojects.planning.nsw.gov.au>

Dear Paul

**SSD Application No. 5156, Proposed Rocky Hill Project  
Submission by AGL Upstream Infrastructure Investments Pty Ltd**

**Background**

AGL Upstream Infrastructure Investments Pty Ltd (**AGL**) is the proponent of the Gloucester Gas Project (**GGP**).

AGL has approval to construct and operate the GGP in the Gloucester Basin under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) and NSW *Environmental Planning and Assessment Act 1979* (**EP&A Act**). The approvals under the EP&A Act are the Concept Plan approval for the GGP and the Project approval (PA 08\_0154) under Part 3A of the EP&A Act (**Part 3A Approval**) for Stage 1 of the GGP (**Stage 1 GGP**).

The Concept Plan approval allows for the extraction of natural gas from coal seams as a staged development within a concept area (approximately 210 km<sup>2</sup>) in the Gloucester Basin, approximately 100 km north of Newcastle. The Part 3A Project approval was approved concurrently and allows for 110 wells and associated gas and water gathering lines in the Stage 1 gas field development area (**GFDA**), an area encompassing approximately 50 km<sup>2</sup> in the north-east of the wider concept area.

In addition to the GFDA, the Part 3A Approval authorises the construction and operation of:

- a central processing facility at one of two alternative locations (one of which is adjacent to the Stratford rail loop, the other being located on AGL's property at 100 Tiedmans Lane, Forbesdale);
- an approximately 95-100 kilometre length gas pipeline; and
- associated infrastructure.

The Stage 1 GGP will supply gas into the NSW gas network, helping to meet NSW's growing energy needs and ensure security of gas supply to the State.

In December 2012, AGL Upstream Investments Pty Ltd (holder of petroleum exploration licence 285 (**PEL 285**)) applied for a petroleum production lease for the Stage 1 GGP under the *Petroleum (Onshore) Act 1991*.

Approximately 13% of the Stage 1 GGP is overlaid by the proposed Rocky Hill Project footprint.

Attached as **Annexure 1** are:

- Figure 5.2 of the Environmental Assessment Report for the GGP, which shows the approved indicative well site locations, gas and water gathering lines and main spine line; and

- Figure 1.6 of the Environmental Impact Statement for the Rocky Hill Project (**Rocky Hill EIS**) which overlays the proposed Rocky Hill Project area and the Stage 1 GGP area and also shows the locations of AGL's existing pilot wells and monitoring bores.

The AGL group owns the following land within, and within the vicinity of, the Rocky Hill Project area:

<b>Rocky Hill Receptor No.</b>	<b>AGL entity</b>	<b>Title Details</b>	<b>Address</b>
<b>13</b>	AGL Energy Limited	Lot 11 DP1015343	508 Fairbairns Road, Forbesdale NSW 2422
<b>16</b>	AGL Upstream Investments Pty Limited	Lot 2 DP1040412	306 Fairbairns Road, Forbesdale NSW 2422
<b>166</b>	AGL Energy Limited	Lots 49 to 51 DP979859	155 Wenham Cox Road, Stratford NSW 2422
<b>167</b>	AGL Upstream Investments Pty Limited	Lots 83 to 85 DP979859	100 Tiedmans Lane, Forbesdale NSW 2422

This land (which is referred to collectively as **AGL's Land**) is currently used for agricultural (both horticulture and grazing) purposes. AGL is also carrying out an approved irrigation trial on its Tiedman's property. Groundwater from deep coal seams, called produced water, is being mixed with fresh water to irrigate crops.

Some of AGL's Land is used for residential purposes. In particular:

- 155 Wenham Cox Road, Stratford , Forbesdale which is currently occupied by an AGL employee and his family;
- 508 Fairbairns Road has an approved dwelling located on it which is currently used intermittently as accommodation for AGL staff; and
- 100 Tiedmans Lane, Forbesdale has an approved dwelling located on it, which is currently unoccupied.

AGL's Land is used for ongoing exploration activities by AGL, and will form part of the Stage 1 GGP area.

## Reportable Political Donations

As AGL did not make any reportable political donations within the relevant period in relation to this submission, we do not have to enclose a political donations disclosure statement. If the Department wishes to view previous political donations AGL has made, we recently submitted a statement in relation to the proposed modification of the Newcastle Gas Storage Facility.

## AGL's Submission

### General

AGL and Gloucester Resources Limited (**Gloucester Resources**) are working together to negotiate a Co-operation Agreement which is intended to provide a framework for the co-existence of:

- the GGP, including the approved Stage 1 GGP; and
- the proposed Rocky Hill Project.

AGL does not object to the Rocky Hill Project, provided that:

- the assessment and determination of the Rocky Hill Project gives proper consideration AGL's land uses and the approved Stage 1 GGP; and
- appropriate conditions are imposed on the proposed Rocky Hill Project so as to ensure that both it and the approved Stage 1 GGP are able to be developed cooperatively.

This approach is consistent with the objects of the EP&A Act, which include encouraging:

- the promotion of the proper management and development of natural resources; and
- promoting and coordinating the orderly and economic use and development of land.

This is also consistent with the aims of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, which include:

- to provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of the State; and
- to facilitate the orderly and economic use and development of land containing mineral, petroleum and extractive material resources.

In addition, AGL also wishes to ensure that the impacts of the proposed Rocky Hill Project, including the impacts on the current agricultural and residential uses of AGL's Land, are appropriately assessed and considered.

### **Project Interaction with the Approved Stage 1 GGP**

The DGRs issued for the Rocky Hill Project require that the Rocky Hill EIS include a "detailed description of the development, including ... likely interactions between, and staging of the development and ... AGL's existing and proposed coal seam gas operations..."

Section 1.4.3 of the Rocky Hill EIS (at pp 1-15) contains a description of the GGP.

Section 3.2.2.3 of the Rocky Hill EIS (at pp 3-6 to 3-7) refers to the ongoing co-operation negotiations which have occurred between AGL and Gloucester Resources.

As outlined above, the Rocky Hill Project and the Stage 1 GGP, including water and gas gathering lines, well sites, open cut mine areas, an overland conveyor, access roads and dumping areas, will overlap.

AGL also notes that the Rocky Hill EIS proposes to relocate an existing 132kV power line that traverses the eastern side of the area subject of the Stage 1 GGP, and the wider Concept Plan Approval area, further to the east (Figure 2.21, pp 2-63). It also proposes to increase the power line corridor easement width from 45 m to 100 m. The timing for relocation of the power line is not specified.

In addition, the Rocky Hill EIS identifies a blast exclusion zone (pp 4-63-65, Figure 4.20) of 500 m that would be routinely implemented during blasts within the Rocky Hill Project mine area.

*These matters will need to be considered and addressed in the Co-operation Agreement, in order to ensure that the Stage 1 GGP is not materially affected.*

### **Co-operation Negotiations**

AGL's PEL 285 is subject to a condition requiring it, as title holder, to "make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping coal titles."

Similarly, Gloucester Resources' exploration licences 6523, 6524 and 6563 are each subject to a condition requiring Gloucester Resources, as title holder, to "make every reasonable

attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping .... petroleum titles ...".

As outlined above, Section 3.2.2.3 of the Rocky Hill EIS (at pp 3-6 to 3-7) states that:

*AGL and the Applicant have been working collaboratively together for almost 2 years to develop a Petroleum and Coal Co-operation Agreement and Co-operation Plan and are working to have both finalised and executed during 2013 ...*

*Both the Applicant and AGL consider that both projects can operate concurrently within the terms of the approvals for the Gloucester Gas Project and within the terms of any approvals which might be given for the Rocky Hill Coal Project, with the detailed consideration of the interaction between the projects to be incorporated into a Mining Operations Plan if a ML is granted for the Rocky Hill Coal Project, and the Petroleum Operations Plan if a PPL is granted for the Gloucester Gas Project.*

AGL confirms that AGL and Gloucester Resources have been working together to negotiate a Co-operation Agreement. AGL remains committed to negotiating a Co-operation Agreement with Gloucester Resources, and we understand that Gloucester Resources is equally committed to doing so. If both projects are to proceed, then it is critical that a Co-operation Agreement is entered into which allows for agreed staging of activities.

However, as yet, AGL and Gloucester Resources have not finalised and entered into a Co-operation Agreement that would enable both projects to operate concurrently.

*In order to ensure that the proposed Rocky Hill Project and the approved Stage 1 GGP can coexist, AGL requests that any development consent and any subsequent mining leases granted in relation to the proposed Rocky Hill Project should include a condition requiring Gloucester Resources to "make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping petroleum titles" prior to carrying out any mining activities authorised under the development consent.*

### **AGL Land within the Rocky Hill Project Area**

The Rocky Hill Project Area includes Lot 2 DP1040412, being 306 Fairbairns Road, Forbesdale, which forms part of the proposed Rocky Hill Overland Conveyor Corridor. As outlined above, this land is owned by AGL.

While AGL and Gloucester Resources have been actively attempting to negotiate a Co-operation Agreement and AGL remains committed to negotiating a Co-operation Agreement with Gloucester Resources, as yet, AGL and Gloucester Resources do not have any agreement in place which covers 306 Fairbairns Road, Forbesdale.

*The proposed Overland Conveyor Corridor will need to be covered in the Co-operation Agreement.*

Further, the Rocky Hill EIS identifies each of the residences located on AGL's Land as being "Resource Company-owned Residences". As outlined above, the residences on AGL's Land either currently have, or will have AGL staff and families living in them.

*AGL requests that the residences on AGL's Land be assessed as a sensitive receivers (particularly in relation to noise, dust and blasting impacts), so that the potential impacts are understood and can be properly managed.*

### **Potential Air Quality Impacts**

As a landowner, AGL wishes to ensure that potential impacts from dust and particulate matter resulting from the proposed Rocky Hill Project on AGL's Land have been addressed.

With the exception of the Fairbairns Road crossing, it appears that the overland conveyor is only proposed to be partially enclosed. It is unclear from the EIS whether this will result in the impacts from the emission of coal dust on AGL's Land, especially 306 Fairbairns Road, Forbesdale. Section 4.4.8.15 of the Rocky Hill EIS assesses the potential for fugitive coal dust emissions during coal transportation but appears to be limited to consideration of the

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dust impacts from rail transport, and does not seem to assess the dust impacts arising from the overland conveyor.

This is important to AGL, because to the south of the proposed conveyor, AGL has several farm dams (which are used for irrigation), an approved irrigation trial, irrigation equipment and grazing land for cattle.

The Rocky Hill EIS assesses the impacts on "domestic tank water supplies" (see section 4.4.8.13 of the Rocky Hill EIS), but does not appear to assess the impacts of coal dust deposition on farm dams and water intended for agricultural (particularly) irrigation use.

The assessment in the Rocky Hill EIS of the impacts on coal dust deposition on stock (see section 4.4.8.14 of the Rocky Hill EIS) is a review of a technical report which examined the extent to which cattle found feed contaminated by coal dust unpalatable.

*It is intended that the interaction between the Stage 1 GGP and the Rocky Hill Mine will be addressed in a Cooperation Agreement between AGL and Gloucester Resources.*

*In order to manage potential impacts, AGL requests that the potential air emission impacts from the overland conveyor and other parts of the mine on AGL's properties and land uses be assessed. If warranted, the Cooperation Agreement may need to address mitigation measures to minimize coal dust impacts from the overland conveyor on AGL's existing land uses.*

*AGL requests that the potential impact of coal dust deposition on farm dams and water to be used for irrigation be assessed by Gloucester Resources, so that potential impacts can be managed.*

*AGL requests that Gloucester Resources assess the potential impacts of coal dust deposition on the health and productivity of stock in the context of AGL's grazing land use and cattle, so that potential impacts can be managed.*

## Blasting

Appendix 1 to the Rocky Hill EIS contains a "Noise, Vibration and Blasting Assessment" (**Blasting Assessment**). The Blasting Assessment does not appear to contain an assessment of the impacts of blasting or fly rock on the infrastructure which will be constructed under the approved Stage 1 GGP, especially coal seam gas wells.

*It is intended that the interaction between the Stage 1 GGP and the Rocky Hill Mine will be addressed in a Cooperation Agreement between AGL and Gloucester Resources.*

*In order to understand and properly manage potential impacts, a risk assessment will need to be undertaken for both the projects, to include:*

- *assessing the potential risks arising from the proposed Rocky Hill Project in relation to the Stage 1 GGP infrastructure; and*
- *reflecting the need for Gloucester Resources to ensure that the proposed Rocky Hill Project will not give rise to unacceptable risks to the Stage 1 GGP.*

In addition, AGL notes that the maximum instantaneous charge assessed in the Blasting Assessment varies between "414 kg to 828 kg" with "larger or smaller" blasts also proposed to be used based on "site law development based upon monitoring".

*In order to understand and properly manage potential blasting impacts on its infrastructure, AGL seeks clarification of the maximum instantaneous charge proposed for blasting at the Rocky Hill Project.*

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## Water Issues

AGL's comments on the water assessment contained in the Rocky Hill EIS are set out below.

- The groundwater monitoring proposed (see section 4.6.9 of the Rocky Hill EIS) contemplates that ANZECC (2000) will be used as "trigger levels" for monitoring certain parameters, such as metals.

*AGL submits that the historical catchment data sets should instead form the basis of the adopted "trigger levels" as this catchment is not typical of a freshwater river in South East Australia.*

- The Rocky Hill EIS states at section 4.7.2.6 (at p 4-167) that AGL collects continuous salinity data at ASW01. AGL also collects continuous salinity data at sites TSW01 and ASW02.
- The Rocky Hill EIS provides, at section 4.7.4.7, a "site salt balance" of 39,000 tonnes. However, AGL is unable to locate within the Rocky Hill EIS any calculations for this volume.

*AGL requests that these calculations be included in the Submissions Report.*

- Table 4.55 (contained at section 4.7.5.4 of the Rocky Hill EIS) sets out proposed environment protection licence limits for the project which are based on the ANZECC (2000) 95% protection of freshwater species criteria. The 80<sup>th</sup> percentile value will be adopted where monitoring to date has exceeded these criteria.

*Again, AGL submits that the historical catchment data sets should instead form the basis of the proposed water quality criteria. In particular, AGL submits that the proposed approach is likely to be difficult given that there are salinity peaks in stream flow after each rain event and Gloucester Resources plans to sample monthly and/or immediately following substantial rainfall events.*

- The assessment of the cumulative water impacts contained at section 4.13.6.5 of the Rocky Hill EIS refers to the approved Stage 1 GGP and states that "there would be some release of excess water from the CSG operations". There will be no uncontrolled releases of produced water (excess or otherwise) from the approved Stage 1 GGP. AGL will comply with requirements in any environmental protection licence that will be issued for Stage 1 GGP and will be consistent with the quality of the receiving waters.

In addition, AGL makes the comments set out below in relation to the Ground Water Assessment contained in Part 4 of Volume 2 of the Rocky Hill EIS (**Groundwater Assessment**).

- Table 4 (p 4-36) needs to be updated to accurately reflect the status of past and current exploration wells within PEL285.
- Further, there is reference to deeper water bores (up to 100m depth) at p4-46 and Table 6 suggests the maximum private bore depth is 65m. AGL believes that most productive aquifers occur within 75m of surface and has no knowledge of any deeper water bores greater than this depth.
- The Groundwater Assessment suggests, at pgs p4-64, that the high electrical conductivity levels in the regolith monitoring bore GR-P8 to 42m depth are not representative of the saline rocks in this area. AGL's experience is that they are in fact representative and it is incorrect to assert that this zone will contain lower salinity groundwater (both naturally and in the stripped overburden that will be stockpiled).
- The assessed numerical model:
  - does not include faults and geological structure (at pp p4-85);
  - does not cover the whole Rocky Hill Project area (in particular, the rail loop area) (see p 4-88). Given that the Ground Water Assessment makes qualitative comments about the impact of the rail cutting on groundwater patterns and flow, AGL submits that the rail loop area should be included in the proposed numerical model;

3. assumes (at p4-93):
  - a. recharge to alluvium at 1%, which appears low to AGL;
  - b. recharge to the Permian regolith at 0.1%, which appears low to AGL; and
  - c. recharge to the colluvium and slope wash zones at 5%, which appears high to AGL and does not appear to be supported by the available hydrographs.
4. appears to make some incorrect assumptions about the approved Stage 1 GGP in modelling cumulative impacts (at p4-107). In particular, the table suggests that the model uses dewatering rates of 0.21 L/s which (in fact) will not occur until Year 8;
5. further, the total dewatering volume used in the model may be incorrect based on Table 21 (e.g. for Year 1 the total volume extracted based on 30 wells at 0.4 L/s per well would appear to be at 378.4 ML, not 1.04 ML as the table suggests – these appear to be daily produced water volumes not annual volumes); and
6. given the above, AGL considers that the depressurisation predicted by the numerical model may have been overestimated.

*AGL requests that the issues outlined above be addressed by Gloucester Resources in its Submissions Report.*

### **Biodiversity Impacts and Offsets**

AGL supports the location of the proposed offsets identified by Gloucester Resources in the Rocky Hill EIS.

*In the event that there are any changes to the final location of proposed offset sites, AGL seeks to be consulted in order to minimise any impact on well locations with the Stage 1 GGP and the wider Concept Plan Approval area.*

We would be happy to meet with the Department to discuss any of these matters.

Yours sincerely,

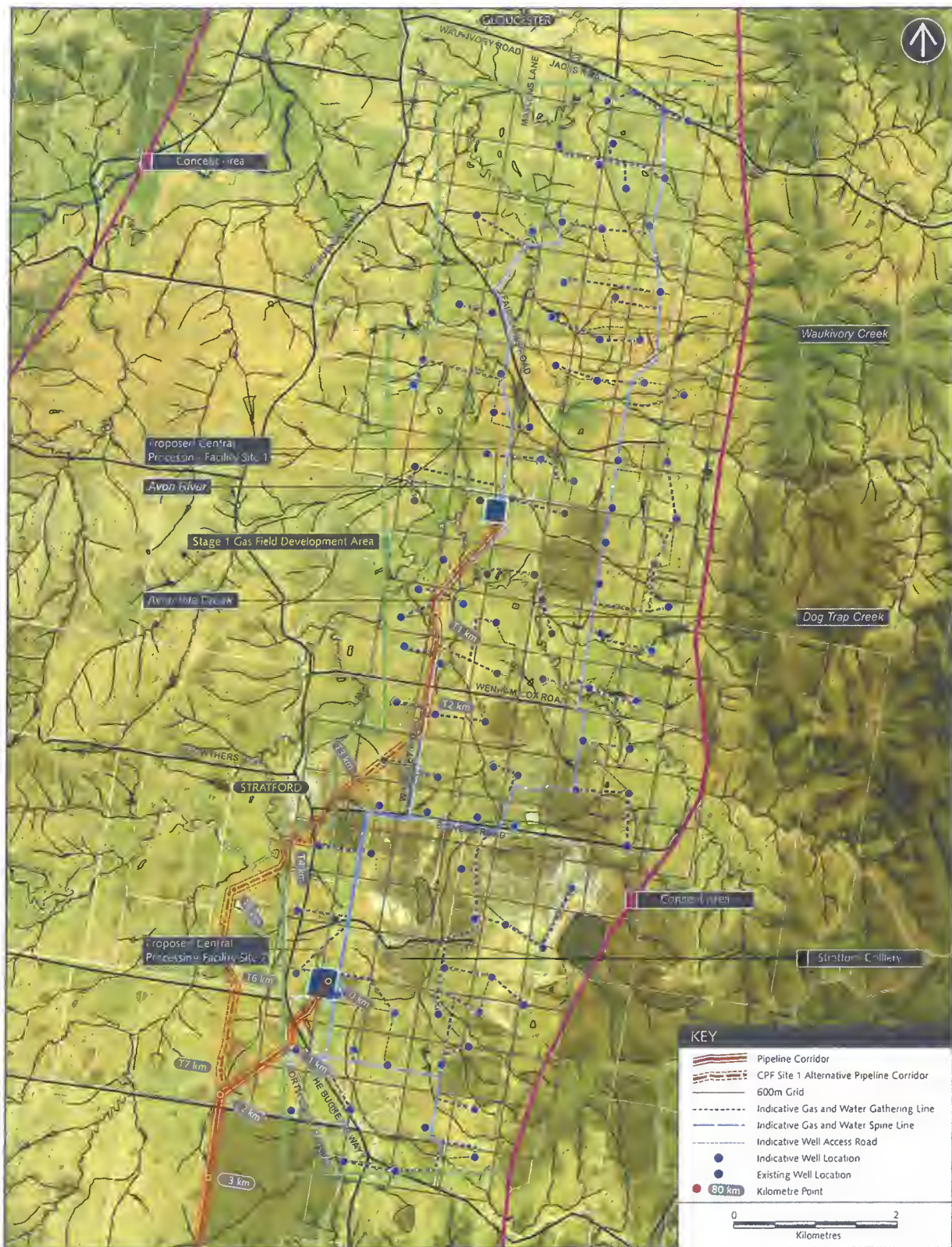


Suzanne Westgate  
**Head of Land & Approvals – Upstream Gas**

Enclosures

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ANNEXURE 1 - AGL SUBMISSION



AECOM

GLOUCESTER GAS PROJECT - STAGE 1 GFDA

FIGURE 5.2

