

File No: MP-2007/103/B and CO-07.08.003

Council submission – Modification Application – Apex Gas Exploration Project 07-0103

At Council's meeting on 10 September 2012, Minute No.236, Council resolved the following:

- 1 Council provide a submission to the Department of Planning and Infrastructure opposing the Apex Gas Exploration Project, Mod 2, 07-0103 by Friday, 14 September 2012.*
- 2 Council request the Southern Councils Group to also provide a submission opposing the modification application.*

Attached is a submission from Wollongong City Council and the Southern Councils Group, for your information.

Attachments

- 1 Wollongong City Council submission
- 2 Southern Councils Group submission

Prepared by

Andrew Carfield
Director Planning & Environment – Future City and Neighbourhoods
17 September 2012

016



Mr Clay Prenshaw
Senior Planner
Mining & Industry Projects
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2001

File:
Date:

MP-2007/103/B
14 September 2012

Dear Clay,

	PART 3A PROJECT APPLICATION No. MP 07_0103- Mod 2; Exhibition of Environmental Assessment
Development	Apex Energy N/L Gas Exploration Project – Modification request for minor changes to the conditions of approval to allow an additional three years to complete the drilling of its approved exploration boreholes
Location	Various – Illawarra Escarpment – approximately 25 kilometres north of Wollongong

I refer to the above project, and thank you for providing Council with the opportunity to comment on the Environmental Assessment Report. Please find attached Council's response submission.

Should you have any enquiries or wish to discuss these matters further, please telephone Mr John Wood, City Wide Development Manager on telephone 4227 7111.

Yours faithfully



Greg Doyle
General Manager (Acting)
Wollongong City Council

Matters for consideration by the Director-General

Summary

The imminence of coal seam gas (CSG) activities starting in Wollongong is causing much community concern. Wollongong City Council has responded to this concern by declaring its position on CSG, which acknowledges that there is much uncertainty about the environmental impacts of CSG activities at the State-wide or regional level. This submission articulates the basis for this position. Council is also calling for the NSW Government to exercise the precautionary principle, and rule out CSG activities in the water catchment areas in the City of Wollongong.

The attached submission summarises Council's opposition to the proposed extension of the Apex Energy Part 3A approval, as detailed below. The key issues of concern to Council are as follows:

- Council is concerned about the impacts of the Apex Energy CSG exploration boreholes in water catchment areas. The State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011, requires all development to have a neutral or beneficial effect on water quality. Even with the most stringent environmental controls, it will be hard to argue that CSG activities will have only a neutral or beneficial effect on the environment in these catchments.
- Council is concerned that some of the proposed bore holes are located in the recently gazetted Dharawal National Park.
- Council is concerned about the impacts of CSG activities on recently listed Endangered Ecological Community Coastal Upland Swamp in the Sydney Basin Bioregion which was listed in March 2012 under the NSW Threatened Species Act. In the TSC determination, exploration and extraction of coal seam gas was identified as posing a threat to Coastal Upland Swamps which occur in the proposed exploration area.

Introduction

The adverse impacts potentially arising from the exploration and mining of CSG have become a major issue for the community in recent years. Wollongong City Council is concerned that CSG activities in New South Wales could be allowed to intensify, without any meaningful effort being made to resolve the community's concerns. Although Council acknowledges that the CSG industry that can provide economic growth and opportunity for the State, it should not be at the expense of environmental sustainability. This submission summarises Council's position on the proposed extension to the Part 3A approval, to which Council is opposed to as detailed below.

Wollongong City Council is directly affected by CSG activities. Petroleum Exploration Licences allowing CSG activities exist over the entire Wollongong Local Government Area (LGA). In 2009, the State Government approved a proposal for 15 exploration boreholes in an area of significant environmental value in the north of the Wollongong (LGA), which includes parts of a drinking water catchment. In 2011, the State Government approved an additional exploration and monitoring borehole. The company

has applied for a three year extension of their Part 3A approval which is due to expire on 22 September 2012. In addition, the APEX Energy NL Petroleum Exploration Licence listed as expiring on 3 April 2012 was extended by the NSW government on 12 September 2012.

There has been significant opposition to the proposed CSG exploration boreholes from the local community. Council made a submission to the Planning Assessment Commission public meeting held on 17 October 2011 to discuss the Additional Borehole Modification. Council also made a submission to the Legislative Council Inquiry into Coal Seam Gas public hearing held on 9 December 2011.

On 10 October 2011 Council resolved:

“Council expresses its concerns that the short-term and long-term environmental impacts of Coal Seam Gas (CSG) are not well understood, at either a State-wide or regional level.”

“Council acknowledges there is widespread community concern about and opposition to CGS in the Illawarra.”

“Council urges the State Government to rule out CSG activities in the water catchment areas in the City of Wollongong.”

On 10 September 2012 Council also resolved:

“Council provide a submission to the Department of Planning and Infrastructure opposing the ‘Apex Gas Exploration Project Mod 2’, 07-0103 MOD2. By Friday 14th September”

“Council request the Southern Councils Group also provide a submission opposing the modification application.”

This submission reflects the two resolutions against CSG passed by Council on 10 October 2011 and 10 September 2012 by Council and updates the information provided to the Planning Assessment Commission and the Legislative Council Inquiry meetings. It consists of two parts. The first part addresses why Council believes that the short-term and long-term environmental impacts of CSG are not well understood at the State-wide or regional level, and the potential consequences of this uncertainty on the way that CSG activities are currently managed. The second part focuses specifically on issues relating to CSG activities in the water catchment areas of Wollongong, and why Council is calling for a stop to these activities.

Part 1: Uncertainty about the Short-term and Long-term Environmental Impacts of CSG Activities

Council notes that most of the commentary on the potential adverse impacts of CSG activities has related to environmental issues. This is not only at the grassroots level, but also amongst those with relatively high profiles. The matter was also raised by a Federal Parliamentarian, with a call for the Commonwealth to become more closely involved. The claims, and counter claims which are often made, are clear indication that the potential impacts of this industry are not well understood.

Council further notes that there is concern that even if impacts of CSG activities could be managed effectively in individual cases, the potential cumulative effect of multiple developments over the landscape scale is uncertain. A number of authoritative sources have recently cautioned that this issue has not received enough attention as the industry is being allowed to grow. Council's resolution that the short and long term environmental impacts of CSG are not well understood at the State or regional level acknowledges this concern.

Council has searched extensively for reliable, peer reviewed literature on the environmental impacts of CSG activity in Australia, or elsewhere. Very little information of this type has been found. Many anecdotal and interest group reports can be found, but much of this information cannot always be independently verified. The relevance of reports of the situation overseas, or indeed in other parts of Australia, to the potential impacts in NSW must also be questioned. The lack of credible, independent information about this industry in NSW does not help in allaying the community's concerns.

The major areas where Council believes there is uncertainty and the potential consequences of this uncertainty on the way CSG activities are managed in NSW are presented below.

Effect on Ground Water and Surface Water Systems

Council notes that one of the biggest perceived risks of the CSG industry is the threat to water resources. In a dry continent such as Australia, water is a highly valued commodity, and any threats to this resource, perceived or otherwise, is likely to generate much anxiety. Both water quantity and quality issues are of concern.

One of the major concerns is that CSG activities could deplete surface or ground water resources that could be utilised for drinking, agricultural or other purposes. Surface or ground water losses have been reported in places where CSG or other mining activities are taking place, but often there are claims that mining activities are not responsible.

Council understands that CSG extraction can occur from geological layers that are well separated from other overlying layers containing the useful water reserves, and that there needs to be a connection between them, either occurring naturally or induced through CSG activities, for impacts to occur. The level and timeframes of potential interaction between the various geological layers and their water bodies, and the role of CSG activities within this scenario, is a matter of constant debate, and one which needs to be settled.

Concern about the impacts of CSG activities on water have also recently been raised by those who have been within this industry. In the Sydney Morning Herald of 28 October 2011, for example, a hydro geologist formerly employed by the CSG industry, questioned whether the cumulative effects of multiple projects on water resources at the regional scale, and the long timeframes over which they could occur, had been adequately considered.

CSG operations involve drilling through various overlying geological layers to penetrate the deeper CSG layer and possibly fracturing this layer to extract the gas. To an ordinary person, this appears to be an obvious means of connecting the geological layers, including those containing the useful water resources. CSG operators, however, claim to

have the technology that can isolate the sensitive water bearing layers from any potential adverse impacts, but details are sketchy. None of these claims and counter claims appears to have been fully resolved, leaving many questions that still need an objective answer.

Impacts on water quality are noted to be another matter of concern. Large quantities of water of poor quality, known in the industry as “produced water”, can be brought to the surface through CSG activities. Some sources predict that, at the national scale, this amount could be more than half of all the water extracted from the Great Artesian Basin. The management of all this additional water will be no ordinary matter at the landscape scale.

The “produced water” will have been in close contact with coal material for long periods of time, and can be expected to contain higher concentrations of materials such as salts, heavy metals and hydrocarbons than other surface and ground water bodies. Some of these substances are of concern for human health or the environment. However, very little information is available to the public on the exact composition of water extracted through CSG activities. Therefore, the potential impacts of this water are not well understood.

How the “produced water” is managed once it is brought to the surface will also have a major bearing on its potential environmental impacts. However, there appears to be no industry standard or guidelines in Australia for the management of water produced through CSG activities. Council’s own research shows the CSG industry could be using a multitude of methods. These include transport to off-site locations, evaporation on-site, treatment on-site to remove impurities, and discharge of treated water to surrounding water bodies. The impact of such practices on water quality at the landscape scale when multiple projects are involved is not well understood.

The salt content of “produced water” can also be particularly high, and the implications of this on soil and land resources are important. Soil salinity is one of the greatest challenges of land resource utilisation in Australia. The introduction of more salt into the landscape through CSG activities will add to this challenge.

Effects related to the use of chemicals

Council notes that much of the concern on chemicals relates to the use of chemicals in the process known as hydraulic fracturing, and the potential impact of these chemicals on water resources. While the NSW Government has banned the use of BTEX chemicals, not much is known about what else is used or might be used in CSG activities.

The legislation governing this industry does not require the chemicals used in hydraulic fracturing to be declared or approved. Therefore, other chemicals of concern could be introduced without much scrutiny. There could also be chemicals used for other processes besides hydraulic fracturing and not much is known about these either.

The concern with chemicals is not so much that they are being used per se, but more so about the context in which they might be used. CSG activities can occur in areas in close proximity to areas of significant environmental value or sensitive land uses such as drinking water supply. The approval to allow the use of some of these yet unknown

chemicals can be a big risk for these land values. Approval authorities must consider whether it is prudent to take this risk.

Nature and effectiveness of remediation required under the Act

The Petroleum (Onshore) Act 1991 No. 84 provides for some remediation of impacts under Part 6 of the Act, Protection of the Environment. However, these requirements are general, relating mostly to land restoration and revegetation of the disturbed land, and not specifically to the potential adverse impacts arising from CSG activities that have been described earlier. The requirements are therefore believed to be inadequate.

The Act also has provisions for the Minister to impose conditions on a petroleum title relating to protection of the environment. It is assumed this can include requirements relating to some remediation activities. However, Council is concerned that if the potential adverse impacts of CSG activities are not fully understood, the Minister is unlikely to be in a position to include conditions for the effective remediation of those impacts.

There is also provision under the Act for the Minister to make regulations, including those relating to environmental protection measures. But an inspection of the Petroleum (Onshore) Regulations shows that these matters are currently not adequately covered.

There are further provisions for environmental protection under the related State Environment Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007. Under section 14, the consent authority may impose conditions to ensure activities are undertaken in an environmentally responsible manner. However, the requirement is only to ensure that adverse environmental impacts are avoided or minimised to the greatest extent practicable. The inclusion of the phrase “to the greatest extent practicable” is inappropriate, as it suggests that environmental impacts considered acceptable are subject to negotiation.

TSC Act and the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

There is a variety of vegetation communities present within the proposed borehole sites and access tracks, including Exposed Sandstone Scribbly Gum Woodland, Upland Swamp Fringing Eucalypt Woodland, Upland Sedgeland Heath Complex and Upland Swamp Banksia Thicket.

A final determination in March 2012 under the TSC Act describes Coastal Upland Swamp in the Sydney Basin Bioregion as an Endangered Ecological Community. In the determination, exploration and extraction of coals seam gas is identified as posing a future threat to Coastal Upland Swamp. In addition, there is a strong argument to suggest that structurally and floristically, the upland swamp vegetation on the site approximates the description of Montane Peatlands and Swamps, an Endangered Ecological Community under the EPBC Act.

Effect on greenhouse gas and other emissions

The push towards CSG development appears to be given further impetus by climate change and greenhouse concerns and the search for cleaner energy sources. CSG is

perceived to be a cleaner source of energy and features strongly in the mix of options being considered by the NSW Government to fuel the State's future.

While this may be true, it is unclear whether the assessment of the relative greenhouse footprints considers the whole cycle of operations associated with the CSG industry. Concerns about incomplete recovery of the methane gas released through CSG activities and fugitive emissions have been raised. In a recent article published in the prestigious Proceedings of the National Academy of Sciences, methane concentrations in ground water wells was correlated with proximity to CSG operations, suggesting that gas leakages do occur. This is of concern, particularly as the gas wells had protection casings in place. If leakages can occur despite using the standard technology, then the contribution of the fugitive emissions to the greenhouse footprint of CSG must be considered when assessing it against alternative industries.

The energy associated with other aspects of production of CSG must be considered as well. If more stringent environmental controls (for example, the requirement to treat "produced water" to a certain high quality) are required to be met, then there can be considerable amounts of energy expended in meeting these requirements when producing CSG. These energy needs must be factored into the greenhouse footprint calculations.

Part 2: CSG Activities in the Water Catchment Areas of Wollongong

In September 2009, the NSW Government approved the Apex Exploration Drilling project, which allows 15 exploration boreholes in the Wollongong LGA. A Modification was approved in November 2011 for an additional borehole. This is in an area of the Illawarra Escarpment, including some Sydney Catchment Authority land, which is used for the supply of drinking water.

Whilst all land approved or proposed for exploration activity in the Illawarra has significant environment value, Council is particularly concerned about CSG activities being approved in the water catchment areas of the city. These areas should be considered as particularly sensitive environmental areas, and for the reasons presented in the first part of this submission, the precautionary principle should be used to rule out CSG activities in these areas. This part of the submission explains the basis for this position.

Significance of the Water Catchment Areas

Much of the land in Wollongong's water catchment areas that is used for drinking water supply is zoned E2 (Environment Conservation). This zoning recognises not only the valuable biodiversity of the area (some of which is protected by legislation), but also the importance of protecting the land to maintain the quality of the water supply for a significant sector of Sydney and the Illawarra population. Only a limited number of land uses are allowed in this zone, and mining or exploration activities are not permitted. However, these activities are permitted under the State Environment Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 in any area of New South Wales.

These water catchment areas are also subject to the State Environment Planning Policy (Sydney Drinking Water Catchment) 2011, which requires any proposed activity to demonstrate that it will have neutral or beneficial effect on the catchment. Even with the most stringent environmental controls, it will be hard to argue that CSG activities will have only a neutral or beneficial effect on the environment in these catchments.

Potential impact on Dharawal National Park

Dharawal National Park was originally gazetted as a state recreation area in 1996. Prior to this the area was managed as a water catchment by the Sydney Catchment Authority. Restricted public access for 70 years kept the area largely undisturbed. It covers an area of 6,508 hectares.

In March 2012 most of Dharawal State Recreation Area was recategorised as a national park, in order to protect its high conservation values. Two existing underground coalmining leases held by BHP Coal continue to operate on the western edge of the park in the remaining part of the state recreation area.

Council is concerned that some of the proposed bore holes are located in the recently gazetted Dharawal National Park.

Extent of Community Concern on CSG activities in the Illawarra

The extent of the community concern on CSG activities starting in the Illawarra is reflected by the increase in the number of community submissions made to the NSW Planning Assessment Commission in its recent consideration of the proposal to have another borehole added to the 15 already approved. In 2009, only three submissions were made. However, this number increased to 1,045 in 2011, reflecting the level of concern currently felt by the community.

There have been other activities that demonstrate the level of community anxiety with CSG activities in the Illawarra. These include a protest gathering on Austinmer Beach on 29 May 2011 and a march along the Sea Cliff Bridge on 16 October 2011, which attracted about 3000 participants. Council also received a petition from the local community opposing CSG activities in the Wollongong LGA, which Council has forwarded to the NSW Premier.

Some Specific Issues of CSG activities in Water Catchment Areas

There is no doubt that CSG activities, even if they are only exploration activities, will involve a level of catchment disturbance that can not be argued to have only a neutral or beneficial effect on water catchments. However, the SEPP (Mining, Petroleum Production and Extractive Industries) 2007 does not require neutral or beneficial effects to be demonstrated, which means that water catchment areas can be subjected to the risk of adverse impacts. This situation is not acceptable to Council.

Consideration of exploration proposals in water catchment areas in isolation from implications of further development of CSG activities in those locations is also not appropriate. This appears to be the practice currently. If there are impacts (however small or big) with exploration activities, then those impacts can surely only magnify if CSG activities intensify with commercial production. Therefore, it seems inappropriate

to allow CSG exploration in drinking water catchment areas, when commercial production is unlikely to be approved.

In view of the concerns raised, Council is opposed to the Apex Gas Exploration Project Modification 2 and urges the NSW Government to exercise the precautionary principle and rule out CSG activities in the water catchment areas in the City of Wollongong.

Jessie Giblett - Submission Details for Brian MacDonald (comments)

From: Brian MacDonald <bmacdonald@southerncouncils.nsw.gov.au>
To: <clay.preshaw@planning.nsw.gov.au>
Date: 9/14/2012 12:01 PM
Subject: Submission Details for Brian MacDonald (comments)
CC: <assessments@planning.nsw.gov.au>

 Department of Planning

Confidentiality Requested: no

Disclosable Political Donation: no

Name: Brian MacDonald
 Email: bmacdonald@southerncouncils.nsw.gov.au

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 PO Box 148

KIAMA, NSW
 2533

Content:

The Southern Councils Group (SCG) is the peak organisation representing Local Government in the Illawarra and South Coast regions. Member Councils include Bega Valley Shire, Eurobodalla Shire, Kiama Municipal, Shellharbour City, Shoalhaven City, Wingecarribee Shire and Wollongong City Councils.

SCG resolved the following joint statement of support for Wollongong City Council's position on exploration in water catchment areas.

> SCG expresses its concerns that the short-term and long-term environmental impacts of Coal Seam Gas (CSG) activities are not well understood, at either a State-wide or regional level.

> SCG acknowledges there is widespread local community concern about and opposition to CSG in the Illawarra and South Coast.

> SCG urges the State Government to rule out CSG activities in water catchment areas.

IP Address: ppp114-156.static.internode.on.net - 150.101.114.156
 Submission: Online Submission from Brian MacDonald (comments)
https://majorprojects.affinitylive.com?action=view_diary&id=41586

Submission for Job: #5550 Apex Gas Exploration Project Mod 2
https://majorprojects.affinitylive.com?action=view_job&id=5550

Site: #877 Illawarra Coal Seam Gas
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