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Mining and Industry Projects  
Department of Planning  
GPO Box 39  
Sydney NSW 2001

17 December 2012

Dear Sir/Madam,

**Re: State Significant Development: Camden Gas Project – Northern Expansion (Stage 3)  
Amended Development Application  
Project Application No. 09\_0048**

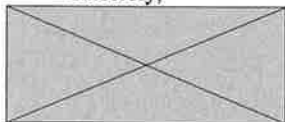
Please find attached the submission from the Discalced Carmelite Nuns, Varroville, concerning the Amended Development Application for the above Project.

In the limited time given for public exhibition of the Amended DA and with submissions due so close to Christmas, our religious community has not had the opportunity to read all the documentation relating to the Application. Therefore we might make a supplementary submission in the New Year.

The Discalced Carmelite Nuns object to the proposed project for the reasons stated in our submission.

Under the terms of reference, our submission focuses on potential land use conflicts between the project and existing and future urban development in the area; the values of the Scenic Hills; and potential impacts on air quality and human health. We have given some consideration to social and economic impacts, and request that the potential impact on property values be included in the terms of reference.

Yours sincerely,



Sister Jocelyn Kramer OCD

For the Carmelite Nuns, Varroville:

Sisters Sarah Carpenter, Joan Fanning, Elizabeth Franks, Patricia Giuliano, Helen Hill, Jennifer Jones, Jocelyn Kramer, Dulcie McGee, Alice Mulcare, Gemma O'Keeffe, Alice Page, Kathleen Page, Anna Skoczylas

**Submission from the Discalced Carmelite Nuns, Varroville, to the Department of Planning on the Amended Development Application for the Camden Gas Project – Northern Expansion (Stage 3)**  
**Ref: project application number 09\_0048**

The Discalced Carmelite Nuns are opposed to the Amended Development Application for the Camden Gas Project (CGP) – Northern Expansion (Stage 3).

**Summary of submission**

AGL proposes to:

- intrude on to environmentally protected scenic land on which mining and extractive industries are prohibited under the LEPs
- moving into the Sydney Metropolitan Area for the first time
- using untried technology (6 wells co-located)
- in green space surrounded by existing suburbs and proposed urban developments in a designated population growth centre
- for the purpose of extracting a small proportion of the State's gas requirements
- using multi-directional lateral drilling for up to 2.5 km over a large subsurface area on which are located more than 60 schools and over 60 pre-schools and child-care centres
- in the absence of any baseline quantitative data on air quality and therefore with unknown impacts on air quality
- and uncertain impacts on groundwater
- in the face of preliminary research from established CSG fields in Australia and overseas which raises concerns about human health from methane and other gases leaking into the atmosphere.

We list general objections:

- The Amended Project is inadequately described
- The use of 'spin' to promote the Project and downplay its negative aspects

We list specific objections:

- Definition of the Project and Permissibility
- Potential land use conflicts
- Concerns about Air Quality and human health, noting particularly the lack of any baseline quantitative assessment of air quality
- Values of the Scenic Hills
- Noise impact
- Economic and social impacts

We suggest an additional Term of Reference for consideration:

- Potential impact on property values

## **General Objections**

With the Amended DA, AGL proposes to bring coal seam gas extraction into the Sydney Metropolitan Area through the Scenic Hills, a protected area between Liverpool and Campbelltown. This area was designated for Environmental Protection (scenic) almost forty (40) years ago, for the health and enjoyment of present and future residents of south-western Sydney.

AGL's proposal conflicts with urban developments planned on the edge of the Scenic Hills area as part of the South West Growth Centre (SWGC). 'The Northern Expansion spans portions of the Camden and Campbelltown LGAs and encounters land earmarked for future development as part of the SWGC, namely the Turner Road and East Leppington Development Areas within the Surface Project Area. Other Development Areas within the Subsurface Project Areas (and not subject to surface impacts) include Leppington, Catherine Fields (sic) and Catherine Fields (sic) North.' (EA Main Report, October 2010, p.8-3,4).

### ***The Amended Project is inadequately described***

AGL describes the location of the Amended Project as follows:

The Amended Project is in a largely undeveloped rural area with pockets of rural residential, recreational and future development lands in a predominantly cleared landscape. (Submissions Report, p. 124)

In reality, however, the proposed Surface Project Area containing all eleven (11) well surface locations (WSLs), which may have up to six (6) wells each, has been sited in protected green space within the Scenic Hills. This green space, presently occupied by small semi-rural holdings, heritage properties, monasteries and a boarding school (St Gregory's College), is bounded by existing and proposed residential areas (Denham Court, East Leppington Development Area in the north; Raby, Kearns, Eschol Park, Turner Road, Gregory Hills, Harrington Park and Catherine Field in the central area; and Claymore, Blairmount, Mount Annan and Currans Hill in the south).

The figures and maps provided in the Submissions Report and appended documentation are inadequate, making it impossible to pinpoint the location of WSLs using the Street Directory and so to identify which residential streets are likely to be directly impacted by WSL site construction and drilling operations. One wonders whether this obfuscation is a deliberate attempt to downplay the seriousness of the first intrusion of the coal seam gas industry into the Sydney Metropolitan Area.

Irregularly shaped WSL envelopes on the figures represent adjoining landholders who have refused access to AGL (VV03, CU22, CU31, CU02), i.e. over one-third of all WSLs. This fact is not stated anywhere in the reports but was gleaned by careful study of the documentation and 'inside' knowledge of the situation at VV03. It was confirmed orally by AGL staff at their Information Session (Campbelltown RSL, 1 December 2012).

AGL's responses to many of the points raised in the various submissions are couched in vague language and are often dismissive. For example, on the issue of Air Quality, AGL's response states:

Potential impacts relating to air quality are primarily (sic) limited to the construction phase and are therefore short term and are unlikely (sic) to impact future residential receivers dependent on the timing of construction in relation to the timing of future development. Previous well field developments in the CGP have demonstrated that impacts are relatively (sic) minor and long term impacts are considered (sic) negligible. (Detailed responses to submissions, p.64)

Previous well field developments in the CGP have not been in the Metropolitan Area, rendering this comparison flawed.

#### ***The use of 'spin' to promote the Project***

AGL has no experience of drilling 6-well locations (personal communication, AGL Open Day, Rosalind Park Gas Plant, 30 November 2011 and AGL Information Session, Campbelltown RSL Club, 1 December 2012), yet this fact is not mentioned anywhere in the reports. Thus, the fact that this procedure is experimental has not been communicated openly to the wider public. Nevertheless, AGL appears unconcerned about locating 6-well WSLs over the back fences of many properties in the Scenic Hills, adducing and extrapolating 'evidence' from single wells to assure the public that there is no need for concern about risks to safety or human health from 6-well sites. All the photographs in the reports show single well locations, downplaying the size of the footprint of each WSL and giving the impression that the Project is innocuous.

AGL dismisses concerns about multiple well locations as follows: 'Grouping of wells has been undertaken by AGL for several years and has been proven in the existing CGP' (Detailed Response to Submissions, p.30). The latest information we have is that one 4-well location is operational at Spring Farm, and one 5-well location at an unspecified site has been drilled but not yet commissioned (personal communication, AGL Open Day, Rosalind Park Gas Plant, 30 November 2011. See also Detailed Response to Submissions Report: 'Currently within the well field, up to five wellheads have been co-located at one site', p.38). Neither of these sites was available for inspection at the Open Day.

One of our objections relates to the 'spin' AGL uses in its justification for its proposal to extend CSG mining into the Sydney Metropolitan Area. In our submission to the NSW Upper House Inquiry in 2011, we noted that AGL currently contributes only about 6% of the gas used in NSW. This figure is confirmed in the Submissions Report (October 2012, p.161). On this basis, we questioned AGL's contention that the proposed Northern Expansion of the CGP into the Sydney Metropolitan Area can be appropriately described as a public utility undertaking. Information given by AGL under oath at the Upper House Inquiry indicated that the CGP is unlikely to contribute more than 6% to the domestic supply of gas in NSW even if the Northern Expansion is approved, since new wells will merely maintain the current level of supply as wells in CGP Stages 1 and 2 are decommissioned.

Currently 94% of gas supplied into the NSW gas network is imported from interstate from conventional gas sources in the Gippsland Basin in Victoria and the Cooper Basin in South Australia (Submissions Report, p.160-161). AGL argues that the opportunity exists for the CGP to provide greater security of gas supply in times of interstate disruption, and claims that 'The importance of securing an indigenous, cost-effective energy supply, with lower greenhouse emissions [an assertion for which no data or reference is provided] is considered vital to the social and economic growth of both the region and the State' (Submissions Report, p.160). These claims seem inflated in the light of the small proportion of domestic supply provided by AGL.

We understand that the interstate gas reserves are very large. It is therefore questionable that NSW needs an 'indigenous' supply to meet its needs. AGL concludes that 'the potential economic impacts of the Amended Project are largely related to the broader impacts of provision of an additional natural gas supply into the existing market, and the more localised impacts in terms of *employment generation as a result of the construction and operational phases of the Amended Project*' (italics mine) (Submissions Report, p.125). Further, AGL states that 'The Amended Project is in the public interest because it will facilitate the extraction of an important resource and will contribute to the local, regional and State economics (sic) through *the generation of jobs* (italics mine) and investment' (Submissions Report, p.160). However, the EA notes that '*The CGP currently employs 37 staff and would employ contractors as needed to complete the construction phase of the Northern Expansion. Once construction is complete, the Northern Expansion would continue to utilise the existing 37 full time staff*' (italics mine) (EA, Main Report, October 2010, p.20-6). Thus, any contribution to employment by the Amended Project is transient and negligible.

AGL confirms a negligible contribution to employment generation with its observation that 'The changes presented in the Amended Project are at such a scale that the overall social and economic impacts of the Amended Project (both beneficial and non-beneficial) are likely to remain unchanged with the amended layout' (Submissions Report, October 2012, p.125).

### **Specific objections**

#### ***Definition of the Project and Permissibility***

Our objection that this Project cannot accurately be described as a public utility undertaking was dealt with in the Submissions Report as follows:

'Submissions from the community raised concerns regarding the definition of the project as a 'public utility undertaking', and stated that extractive industries and mining are specifically prohibited under certain land use zonings. *The characterisation of development and the interpretation of environmental planning instruments is a matter on which reasonable minds may differ* (italics mine). Further, section 89E of the EP&A Act provides that development consent for State Significant Development may be granted if the

development is partly prohibited by the environmental planning instrument so long as it is not wholly prohibited.

Further consideration of environmental planning instruments is provided in the context of section 79C of the EP&A Act in Section 6.0, including in Table 3, which summarises the permissibility of the Amended Project on both its characterisation as a *utility installation* or a *public utility undertaking* and on the narrower characterisation as petroleum production. This consideration shows that, even on the assumption that the Amended Project is characterised as petroleum production and not as a *utility installation* or a *public utility undertaking*, the Amended Project:

- is not wholly prohibited; and
- may therefore be approved under section 89E of the EP&A Act (p.27)'.

From careful perusal of Table 3 (Submissions Report, pp.28-33) and Tables 22-25 (Submissions Report, pp.128-158), it appears that AGL is subverting the intention of the law by using the letter of the law to exploit loopholes in it (see especially p.127):

'Clause 8(1) of the Mining, Petroleum Production and Extractive Industries SEPP provides that if a local environmental [plan?] provides that development for the purpose of petroleum production may be carried out on land with development consent if provisions of the plan are satisfied, development for that purpose may be carried out on that land with development consent *without those provisions having to be satisfied* (italics mine), and those provisions have no effect in determining whether or not development for that purpose may be carried out on that land or on the determination of a development application for consent to carry out development for that purpose on that land.

Clause 8(2) of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 provides that where a local environmental plan provides that petroleum production may be carried out on land with development consent if the consent authority is satisfied as to certain matters specified in the plan, development for that purpose may be carried out on that land with development consent *without the consent authority having to be satisfied as to those specified matters. Accordingly, the provisions in the LEP do not need to be satisfied to carry out petroleum production and do not have any effect in determining whether or not petroleum production may be carried out on the land or on the determination of the application* (italics mine).'

Are we and the wider public to infer from this that the Amended Project is a 'done deal' and that there is no redress for present and future residents of the Sydney Metropolitan Area who stand to be affected by it? If that were so, we would be up against collusion between Government and big business, and this public consultation process would be merely an exercise in window dressing.

It concerns us that even local Councils will not be informed about what is happening at each WSL until well over a year after construction begins, since AGL commits itself to 'provide Camden Council and Campbelltown City Council with the GPS coordinates and digital survey data for gas well surface locations and gas gathering

systems within their respective LGAs... within three months of the commissioning of the gas wells' (Submissions Report, p.162).

### ***Potential land use conflicts***

In relation to the Amended Project, we call on the Department of Planning and the Planning Assessment Commission to examine critically Clause 13 of Part 3 of the Mining, Petroleum Production and Extractive Industries SEPP – Compatibility with Other Land Uses, in which the consent authority must:

a) consider :

- the existing uses and approved uses of land in the vicinity of the development; and whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development; and
- any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses; and

b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii); and

c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii). (Submissions Report, Table 22, p.128)

Further, Clause 13 of SEPP 33 also requires a consent authority to consider certain matters when determining a development application for potentially hazardous industry or potentially offensive industry including (among other things)

- any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application) and
- any likely future use of the land surrounding the development

(Submissions Report, Table 23, p.130-131)

We request that the consent authority exercise its responsibility under Clause 13 of SEPP 33 in the light of the fact that AGL proposes to

- intrude on to environmentally protected scenic land on which mining and extractive industries are prohibited under the LEPs
- in the Sydney Metropolitan Area
- using untried technology (6 wells co-located)
- in green space surrounded by existing suburbs and proposed urban developments in a designated population growth centre
- for the purpose of extracting a small proportion of the State's gas requirements
- using multi-directional lateral drilling for up to 2.5 km over a large subsurface area on which are located more than 60 schools and over 60 pre-schools and child-care centres (see Appendix)
- with unknown impacts on air quality and uncertain impacts on groundwater

- in the face of preliminary research from established CSG fields in Australia and overseas which raises concerns about human health from methane and other gases leaking into the atmosphere.

### ***Air Quality***

Given AGL's intention to expand gas drilling operations into the Sydney Metropolitan Area for the first time, we are concerned about potential impacts on air quality and human health.

South-western Sydney has a large population of young people, which will increase with further urbanisation as the SW Growth Centre is developed. Already it is known that NSW has a consistently high rate of childhood asthma in all regions and among the highest prevalence of asthma in the world. The reasons for this are unknown but are thought to be environmental (Peat et al, The Medical Journal of Australia, Vol. 163, 3 July 1995). In this study, 904 children from Western Sydney were included in the study sample of 6394 children aged 8-11 years studied between 1991-1993. To our knowledge, more recent data are not available. An earlier study was done at a school in Campbelltown in 1989, but we have been unable to trace that data.

A study entitled State of Knowledge: Ozone, published by the Department of Environment, Climate Change and Water (2010) reported data from the Sydney region from 1994-2004. It noted that 'High ozone concentrations and exceedences of the standards occur across the whole of Sydney, and the differences between regions are generally relatively small. However, this data demonstrates that exceedences of the current one-hour and four-hour ozone standard occur more frequently in western Sydney' (pp.29, 33). Macarthur was first included in the study in 2004, so longitudinal data for this region were not available in this particular study. Recommendations are made for ambient measurements of hydrocarbons (p.112), particularly in the light of the projected increase in population of approximately 30% in western Sydney by 2026. This increase in population is spread between existing developed areas and proposed new developments (greenfield) (p.141).

This information is sufficient to raise questions about the suitability of introducing the coal seam gas industry into south-western Sydney in the absence of more recent data from the area on air quality and human health.

In addition, a recent submission from the Centre for Coastal Biogeochemistry Research, Southern Cross University to the Department of Climate Change and Energy Efficiency on National Greenhouse and Energy Reporting (Measurement) Amendment Determination (19 October 2012) reported on a new prospective tool currently being developed to assess large scale fugitive gas emissions from coal seam gas mining in the atmosphere of a coal seam gas field. Preliminary findings (not yet replicated) showed a widespread enrichment of both methane and carbon dioxide within the production gas field compared to outside it. The authors, Dr Isaac Santos and Dr Damien Maher, claim that the findings provide strong evidence for significant but still unquantified greenhouse gas emissions in the Tara region of Queensland. The source of these emissions is not yet known. The findings demonstrate the need for baseline quantitative studies of air quality and greenhouse gases before the development of gas fields. The authors recommend that:



- baseline concentrations of greenhouse gases in the atmosphere be measured before any CSG developments
- measurements be taken periodically to identify gas leakages from infrastructure, including compression stations and long pipelines
- an early warning system be developed in which action can be taken if specific methane concentration thresholds are reached.

In the light of the information cited, we find it astonishing that *AGL has seen no need to undertake baseline quantitative studies of air quality before proposing to extract coal seam gas in south-western Sydney*. The original Air Quality Impact Assessment (EA, Appendix G) includes the following statements under the heading Predicted Impacts:

‘... the contribution of the proposed Northern Expansion to air quality impacts during the construction, production, post development and final rehabilitation stages of the Project in the area *are minor and hence not considered significant*’ (italics mine).

‘For this reason, the impacts of the proposed Northern Expansion have been dealt with *qualitatively* (italics mine), addressing each stage of development...’ (p.11)

PAE Holmes’ conclusion is worth quoting in full:

‘This report has assessed the potential air quality impacts that would arise due to the proposed Northern Expansion of the CGP. The potential impacts have been identified and assessed at different stages of the Project.

‘The potential impacts released during construction, production, post development maintenance or closure and final rehabilitation have been assessed *qualitatively* (italics mine). Emissions during each of these stages are minor and occur infrequently or intermittently and are typically able to be managed via well established environmental mitigation measures.

‘The existing air quality is currently compliant with the DECCW criterion and generally below the applicable air quality goals.

‘Subsequently, emissions from the CPG (sic) would not be significantly altered and would not be likely to result in any detectable change at sensitive receptors. *It is therefore concluded that the Project would have no discernible impact on air quality*’ (italics mine) (EA, Appendix G, p.13).

‘An Air Quality Impact Assessment (AQIA) was undertaken as part of the EA and was included as Appendix G to the EA. The conclusions set out in the AQIA continue to be valid and applicable to the Amended Project.’ (Detailed Responses to Submissions Report, p. 43).

The Submissions Report devotes less than half a page to Air Quality and Greenhouse Gas (p.124-5) and concludes that ‘The Amended Project would result in an overall beneficial outcome in terms of air quality given the reduction of the number of well surface locations proposed’ (p.124). One has to mine deeply into the Detailed

Responses to Submissions Report to find the following additional pieces of information:

‘Air quality modelling did not predict exceedances of criteria resulting from the Northern Expansion Project... Refer to Appendix G of the EA for further information on the predicted air emissions’ (Detailed Responses to Submissions Report, p.32). *But note: no modelling was done and Appendix G provides no information on predicted air emissions.*

‘No combustion products would be released from the well sites, with all gas being captured and transferred through the gas gathering lines to the RGP. Therefore it is not expected that the Amended Project would pose a risk to the health of the local community through its operation, as demonstrated by the coexistence of the existing CGP and local residents’ (Detailed Responses to Submissions Report, p.32).

Can AGL guarantee that no combustion products would be released from the well sites or from the wider Subsurface Project Area? As we understand it, the existing CGP does not coexist with residents *in urban areas*.

This claim that all gas would be captured and transferred to the RGP is not supported in a response provided on the question of venting, as follows:

‘Venting may be a necessary but is a rare event during commissioning/production of a well, however there are several methods used to control or remove the need for venting. The Amended Project is proposing a tie-in connection to the existing CGP. In particular, wells in the southern part of the Amended Project Area *would aim to* (italics mine) immediately tie-in and send gas to the existing RGP, which would remove the need to vent emissions at those locations... *if practical at the time of commissioning* (italics mine), wells in the central surface project area would be immediately tied-in to the gas gathering system’ (Detailed Responses to Submissions Report, p.64).

*No mention is made of what AGL plans to do for wells in the northern part of the Amended Project Area.*

Finally,

‘A Preliminary Hazard Analysis was undertaken for the project to determine risk associated with CSM leaks (refer to Appendix D of the EA). The investigation found that the predominant sources of hazard for the Northern Expansion Project are potential CSM leaks...

An Air Quality Impact Assessment was undertaken for the Northern Expansion project (refer to Appendix G of the EA) which did not find that contamination of air resulting from methane leaks was a likely significant impact associated with the project. The conclusions drawn in relation to the air quality impact of the Northern Expansion Project remain valid and applicable to the Amended Project’ (Detailed Responses to Submissions Report, p.72).

When the EA for the CGP Northern Expansion was publicly exhibited in 2010, careful public scrutiny drew attention to the fact that AGL had not undertaken

baseline water monitoring in Stages 1 and 2 of the Camden Gas Project, and such monitoring was not projected for Stage 3. Baseline water monitoring has since been undertaken at Denham Court in anticipation of approval of the Amended DA.

Now we find that the same situation obtains with reference to Air Quality monitoring. *No baseline quantitative measurements have been undertaken to date.* The Department of Planning and the public are expected to accept on trust AGL's contention that 'the Project would have no discernible impact on air quality' despite indications to the contrary from a cursory literature review. See also:

[http://scholar.google.com.au/scholar?q=Fine+particles+health+effects&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar&sa=X&ei=Xmm8UNyIDbGiiAeGwoG4Aw&ved=0CC8QgQMwAA](http://scholar.google.com.au/scholar?q=Fine+particles+health+effects&hl=en&as_sdt=0&as_vis=1&oi=scholar&sa=X&ei=Xmm8UNyIDbGiiAeGwoG4Aw&ved=0CC8QgQMwAA)

From the quotations cited above, we conclude that *AGL has not met its obligations in regard to Air Quality monitoring.*

Given that there are indications in the literature of potential impacts of CSG extraction on air quality and human health, and given the absence of critical baseline quantitative data, we believe that the precautionary principle (Submissions Report, pp.14-15) should be applied in this case and a determination made against extending the CGP into the Sydney Metropolitan Area. We believe that it would be irresponsible of the planning authorities to determine in favour of the Project, potentially repeating the sorry history exemplified by asbestos exposure.

#### ***Amenity of the Scenic Hills***

As in our previous submission (December 2010), we note that Stage 1 of the Camden Gas Project began with approval for 22 wells in 2002. Stage 2 began with 43 wells in 2004. Subsequent modifications to the Project have added some 78 wells (Submissions Report, Table 1, pp.11-12). Clearly, in order to retain its market share AGL needs to continue drilling new wells as production of gas from earlier ones diminishes. Therefore, there is every reason to believe that AGL will promptly seek modifications (additions) to Stage 3 if it is approved, thereby extending further into the suburbs of south-western Sydney. Two years ago, we asked about the likelihood of a gas plant being required in the Northern Expansion area and were assured that it would not be needed. In-field compression, however, might be necessary. The possibility of in-field compression remains (Detailed Responses to Submissions Report, p.15) but no information has been given about what this entails in terms of the amenity of the Scenic Hills and the likely impact upon residents of urban areas.

#### ***Noise, social and economic impacts***

Another aspect relating to the amenity of the Scenic Hills that concerns us is noise. We and the Serbian Orthodox Diocese raised this issue in our submission in 2010 in relation to nearby schools and monasteries being sensitive receivers for which inadequate noise assessment monitoring had been undertaken. As a result, the two WSLs proposed for Varroville were removed from the Amended Project. They were replaced by WSL VV03 between Varroville and Raby, for which the nearest sensitive receiver is considered by AGL to be approximately 650m to the south-west in McDonnell St, Raby.

AGL has decided that 'Due to the remoteness of the location of VV03 from surrounding receivers a further noise assessment at this location was deemed not to be warranted at this stage' (Submissions Report, p.90). However, AGL intends to locate VV03 on elevated land adjacent to the Mount Carmel Retreat Centre property, which will certainly generate noise disturbance for retreatants, and probably for the Carmelite friars and nuns, our Serbian Orthodox neighbours and residents of Varroville. Properties north and east of VV03 are likely to be affected by noise because the prevailing winds are from the south and west (EA, p.14-3; EA, Air Quality Impact Assessment, Appendix G, p.6; EA Preliminary Hazard Analysis, Appendix D, p.16; EA, Noise and Vibration Impact Assessment, Appendix F, p.13-14).

The Retreat Centre has been providing residential retreats for over forty (40) years for up to forty (40) people at a time, all year round. The Discalced Carmelite friars rely on their Retreat ministry as their main source of income. They completed a major refurbishment of the Retreat House in 2012, just weeks before the Amended Project went on public exhibition. People seeking spiritual solace and spiritual direction by means of a retreat do not expect to find themselves in an industrial area. They seek the beauty and tranquillity of nature, and until now the Scenic Hills has provided this amenity for them. Retreatants roam freely on the friars' property, seeking places of solitude for silence, prayer and reflection. It appears that the land on which the Retreat Centre operates is going to be effectively sterilised, in terms of desirable access for retreatants, because of industrial activity next door, just over the boundary fence. The friars were not consulted about this location during the planning stage because they were deemed not to be directly affected by it. Having viewed the prospective site with AGL staff (Adam Lollback, Kevin Rofe and Jennifer O'Brien, 14 December 2012), we have seen the potential for a WSL to sterilise not only the land on which it is located but neighbouring land as well.

Construction of a 6-well WSL takes approximately 9 months (Detailed Responses to Submissions Report, p.26), of which at least 6 months will involve continuous drilling 24 hours a day 7 days a week. During the construction phase, a camp is set up to accommodate twenty (20) people, a kitchen and dining room, laundry and first aid facilities, storage area and fuel and water tanks. Drill operators must sleep on site during drilling operations. Temporary portable toilets and amenities are provided on site for use by construction workers. Electricity may be provided by portable generators. Heavy vehicle movements are needed to transport equipment and water used in drilling (EA, Section 4.3-4.5, pp. 4-5 to 4-15) and to carry produced water away. Trenching for placement of gas gathering lines adds to the construction time.

With all the attendant noise and disruption, the Discalced Carmelite friars stand to lose custom and income for the best part of a year during construction, and potentially for much longer if 'regulars' decide not to return. *Potentially the economic impact will be devastating. Will it be compensable?*

AGL repeatedly characterises the disruption from the construction phase as 'transient', 'short term' and even 'negligible'. But if one's livelihood depends on an ambience of beauty and silence, and relies on goodwill, long-established relationships

and word-of-mouth recommendations, no disruption is 'transient' if it occurs for at least nine (9) months initially and continues for up to fifteen (15) years.

Our personal knowledge of the VV03 site leads us to be concerned about the effects other residents of the Scenic Hills are likely to experience from WSLs just over their back fences. St Gregory's College stands to be the most seriously affected, with three WSLs (CU06, CU10 and CU14) located south of the College and in close proximity to it – a boarding school whose students must remain on site for four terms of the school year. The fact that the College is in an elevated position and the WSLs are south of the College is significant for noise disruption, since both elevation and being downwind from WSLs increases noise impact. Temperature inversions at night during winter months also have the ability to increase noise levels (EA, Noise and Vibration Impact Assessment, Appendix F, p.14). AGL accepts that extensive noise mitigation measures will be required at St Gregory's College (Submissions Report, p.92).

Apart from St Gregory's College, residents on many streets bordering the Surface Project Area could be affected by noise (see Appendix). Some streets in all suburbs north and east of the Surface Project Area – Blairmount, Claymore, Eagle Vale, Eschol Park, Kearns, Varroville and Denham Court are at risk, in addition to those identified by AGL south of various WSLs.

#### ***Property values***

We know that many local residents are concerned that their properties will be devalued if the Project is approved. AGL's response is:

'The potential impact of gas developments on the value of land holdings and impacts of future sales is a common concern of landholders in areas where gas projects are operational. There is conflicting evidence regarding whether coal seam gas developments are detrimental to local property markets in the vicinity of developments, with most evidence anecdotal, from which conclusive findings cannot be drawn.

It is noted that in AGL's ten year experience of gas production in Camden, there have not been any observed degradation in land values as a result of hosting or being located near gas wells. Whilst AGL acknowledges the concern that has been expressed by the communities in which it operates, there has been no conclusive evidence presented which suggests a negative impact on property values' (Detailed Responses to Submissions, p.68).

We know by its own admission that in Stages 1 and 2 of the Camden Gas Project AGL has already acted to allay the concerns of residents and developers about a potential decline in property values or inability to sell because of CSG wells located close by. At the recent Information Session in Campbelltown (1 December 2012), AGL staff drew our attention to a photograph of a multiple well location in the vicinity of a proposed housing development. The photograph was shown to us with pride on account of the rehabilitation that had been undertaken as soon as the WSL was commissioned, demonstrating lots of vegetation screening it. However, from our point of view, the key fact (mentioned in passing) was that AGL had bought that corner block of land in the development area to placate the developer, who was concerned that others would not buy the block because of the proximity of CSG

extraction (personal communication, Kevin Rofo, AGL Information Session, Campbelltown, 1 December, 2012).

The NSW Locational Guidelines for Development in the Vicinity of Operating Coal Seam Methane Wells (2004) include separation distances for residential and sensitive use development. These distances are determined for the control of potentially hazardous development and the minimisation of land use safety conflicts. Separation distances range from 8-20 metres. *The Guidelines do not mention the risks associated with multiple well heads located at one site because no such WSLs had been drilled at the time the Guidelines were developed. Therefore, the Guidelines need to be reviewed and updated.*

As if to reassure the public, AGL notes that:

‘The location of CU02 has been sited with a minimum buffer of 20m from the nearest residential development as recommended by the Locational Guidelines. The maintenance of this buffer distance would be maintained throughout the Amended Project’ (Detailed Responses to Submissions, p.63).

The Minister for Planning, Mr Hazzard, is on record as saying that ‘if it [property devaluation] does turn out to be a reality, I’ll have a look at it and see what can be done’ (Interview with Quentin Dempster, ABC 7:30 NSW, 23 November 2012). By then it will be too late. Here again, the precautionary principle needs to be applied to prevent grave injustice being done to landowners and residents, whose physical and mental health could be jeopardised by finding their homes at risk.

Many people were deeply concerned about the ethics of AGL’s acquisition of the property owned by David Clarke (former CEO, Macquarie Bank) in the Hunter Valley, after he publicly opposed coal seam gas mining until his death.

‘During the year, AGL continued to undertake activities to demonstrate that coal seam gas exploration and production processes can co-exist with the agricultural, viticultural and tourism industries already operating in areas such as the Hunter Valley in New South Wales. In addition to owning gas exploration permits, AGL also owns the freehold interests in approximately 4,203 acres of land in the Hunter Valley, including nearly 100 acres of vineyards on which a number of gas exploration wells and water monitoring bores have been drilled’ (AGL Energy Limited 2012 Annual Report, p.31).

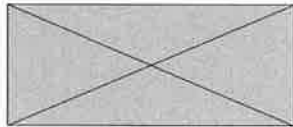
Given community opposition to CSG mining in the Sydney Metropolitan Area, can AGL give an undertaking that it will not buy land to facilitate its Northern Expansion of the Camden Gas Project against the community’s will?

## Conclusion

We have undertaken a detailed critique of the Amended Project documentation and found many unsatisfactory aspects to it. We have demonstrated that the Project is inadequately described, its permissibility is questionable, land use conflicts and other impacts are downplayed, and potential risks to human health and the environment have been ignored or dismissed as insignificant without the benefit of quantitative baseline data. We have drawn attention to examples of adverse economic impact and raised the issue of property values, which we believe should be included in the terms of reference for the determination process. We have also noted deficiencies in some planning instruments, including the Locational Guidelines, which need to be updated to reflect current practices in the CSG industry.

In summary, it is our contention that the values of the Scenic Hills cannot be maintained if the Amended Project is approved. We believe that ethics are important. Intergenerational equity demands that our generation sees to it that the beauty and amenity of the Scenic Hills (from which current residents benefit because of the wisdom and foresight of past generations), and the health of its present and future residents should be taken seriously in the determination of the Amended Project.

If he is being quoted accurately, we think that the Minister for Energy, Mr Hartcher, is misleading the public and being irresponsible when he asserts that the State's 'lights will go out' and gas supplies will begin running dry as early as 2014 (Sunday Telegraph, 9 December 2012) if the Northern Expansion of the Camden Gas Project is not approved.



Sister Jocelyn Kramer OCD, PhD

On behalf of the Discalced Carmelite Nuns, Varroville

Appendices attached:

Streets potentially affected by Amended DA of Camden Gas Project (Stage 3)

List of schools located in Subsurface Project Area for CGP (Stage 3)

**Streets potentially affected by Amended DA of Camden Gas Project (Stage 3)**

<b>Well Surface Location (WSL)</b>	<b>Target streets</b>
RA03	Campbelltown Road north of Hume Highway McCormack Place
RA09	Campbelltown Rd south of intersection with Denham Court Rd. Also Brooks Road. Denham Court Rd in vicinity of Church Rd and Dickson Rd
VV03	McDonnell St Raby, Delta Close, Saunders Place, Boomerang Cres, Brougham Place. Also Dakota Place, Avia Close. Elevated properties on north side of Raby Road above roundabout junction with Thunderbolt Drive. Varro Ville House, Mount Carmel Retreat Centre, Carmel of Mary and Joseph, St Sava's College (all at Varroville): may be affected by noise carried on prevailing winds.
CU22	Difficult to locate. Access is via a private road from Raby Road, from private road near Jehovah's Witnesses? Close to Kearns. All streets off Epping Forest Drive, especially near Columbia St and Colorado St and offshoots south and west.
CU31	Via access track continuing south from CU22. No obvious streets in the vicinity of CU31, but Kearns and Eschol Park may be affected by noise carried on prevailing winds.
CU26	Access from Badgally Rd to CU29 then on to CU26. Chasselas Ave, Hermitage Place, Chardonnay, Tanunda Ave, Eschol Park. Frontignan St, Eschol Park
CU29	Minchinbury Terrace, Eschol Park, possibly residences on Eagle Vale Drive, depending on elevation
CU06	Accessed from Saddle Close, Currans Hill Saddle Close, Woolshed Place and offshoots. Also Turner Road at residential end, Hilltop Ave, Manooka Rd
CU10	Accessed from Saddle Close, Currans Hill Blairmount: Clydesdale Dr and offshoots to the west, Blairmount Primary School. Farmhouse Place, Horseman Pl, Mount Annan Christian College (accessed from Narellan Rd)
CU14	Accessed from Saddle Close, Currans Hill French Place, Tramway Drive, Glenfield Drive
CU02	Accessed via Gregory Hills Drive off Camden Valley Way. Access road to WSL runs north off Gregory Hills Drive at Donovan Boulevard intersection



Notes:

\*We cannot vouch for the accuracy of this information. It has been gleaned from many hours of study of photos provided in AGL's reports, matched against the UBD street directory. AGL has not supplied sufficiently detailed maps to enable us to identify more accurately the affected streets and residences.

\*Elevated locations are likely to experience greater noise disturbance

\*AGL has noted that **'Noise mitigation measures would be required to manage noise impacts at CU06, CU22 and CU31 locations.'**

**List of schools located in Subsurface Project Area for CGP Stage 3**

SCHOOLS	CAMPBELLTOWN LGA		CAMDEN LGA	
PUBLIC	PRIMARY	SECONDARY	PRIMARY	SECONDARY
	Ambarvale Public Blairmount Bradbury Briar Road Primary (Airds) Campbelltown Public Campbelltown East Public Campbelltown North Public Claymore Eschol Park Ingleburn Ingleburn North John Warby (Airds) Kearns Leumeah Robert Townson (Raby) Rosemeadow Ruse Sackville Street (Ingleburn) St Andrews Thomas Acres (Ambarvale)	Airds Ambarvale High Campbelltown High School of the Performing Arts Eagle Vale Ingleburn Leumeah Robert Townson High (Raby) Thomas Reddall High (Ambarvale)	Camden Public Camden South Public Currans Hill Elderslie Harrington Park Mawarra Mount Annan Narellan Narellan Vale	Camden Elderslie High Elizabeth Macarthur High Mount Annan
PRIVATE	Holy Family (Ingleburn) Mary Immaculate (Eagle Vale) Our Lady Help of Christians (Rosemeadow) St John the Evangelist (Campbelltown) St Thomas More (Ruse)	John Therry (Rosemeadow) Mount Carmel (Varroville)	St Clare's (Narellan Vale)	Magdalene (Narellan) St Benedict's (Camden)
INDEPENDENT		M.E.T. School (Campbelltown Campus) Qibla (Leumeah) Sherwood Hills Christian School (Bradbury) St Gregory's College (Blairmount) St Patrick's College (Campbelltown) St Peter's Anglican Primary (Campbelltown)		Hope Christian School (Narellan) Mount Annan Christian College
SPECIAL PURPOSE		Odyssey House (Eagle Vale)		Mater Dei Special School

**Note: This table lists 61 schools. It does not include some 67 pre-schools, kindergartens and child-care centres located in AGL's Subsurface Project Area. Thus, there are approximately 130 schools and centres educating and caring for children and teenagers in the affected area.**

List may be incomplete because the figures provided by AGL in its documentation do not specify clearly the suburbs enclosed within the Subsurface Project Area. Nor does AGL identify the boundaries of the Subsurface Project Area so that they can be matched with the Street Directory.

Further schools are planned for the area: St Sava's College at Varroville, and new schools in the SW Sydney Growth Centre.