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630.02131.00500 Project Amendments - Noise 20121018

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**Attention: Adam Lollback**

## **Northern Expansion of the Camden Gas Project Addendum to Noise and Vibration Assessment Report**

### **1 Introduction**

SLR Consulting Australia Pty Ltd (SLR Consulting) has previously conducted a noise and vibration impact assessment of the Northern Expansion of the Camden Gas Project (the Project); *Noise and Vibration Impact Assessment Northern Expansion of the Camden Gas Project* (Ref: 30-2131-R1, Revision 2 dated 25 June 2010 prepared by SLR Consulting, previously Heggies Pty Ltd).

The following changes to the Project are currently proposed:

- Removal of wells VV07, VV11 and CU20.
- Re-location of wells CU06 and CU22.
- Addition of well CU31 and VV03.

The locations of the re-located and additional wells have been provided by AGL.

This report is provided as an addendum to the original noise and vibration assessment and provides consideration of potential noise impacts associated with the proposed Project amendments.

### **2 Noise Assessment and Modelling Methodology**

The noise criteria for construction and operational activities have previously been determined and are presented in *Noise and Vibration Impact Assessment Northern Expansion of the Camden Gas Project* dated 25 June 2010.

This assessment addendum has focussed on the well relocations and additional wells. The removal of wells VV07, VV11 and CU20 will only serve to reduce potential noise impacts at the nearest noise-sensitive receivers to these sites. Due to the remoteness of the location of VV03 from surrounding receivers a further noise assessment at this location was deemed not be warranted at this time.

All noise modelling assumptions are provided in the previous noise assessment report and are unchanged for the purpose of this addendum.

### 3 Operational Noise Modelling Results and Assessment

#### 3.1 CU06 - Operation

**Figure 1** provides the operational noise predictions for well location CU06 with no mitigation measures in place. Note that noise levels in the vicinity to the south of CU06 are also affected by noise from the adjacent well location CU10. The area shaded yellow indicates where the relevant criteria (LAeq(15minute) 40 dBA) may be exceeded. There are no residential dwellings predicted to be affected by noise from this well. It is also noted that the relevant criteria is predicted to be achieved at St Gregory's College (a boarding school for boys) north-east of the proposed well.

**Figure 1 CU06 Operational Noise Predictions, Pump Assisted, Night-time Inversion**



Source: Google Earth



### 3.2 CU22 - Operation

**Figure 2** provides the operational noise predictions for well location CU22 with no mitigation measures in place. The area shaded yellow indicates where the relevant criteria (LAeq(15minute) 38 dBA) may be exceeded. There is one residential property located in the predicted area of affectation; operation noise levels at this residence are predicted to be 1 dBA above the relevant noise criteria.

**Figure 2 CU22 Operational Noise Predictions, Pump Assisted, Night-time Inversion**



Source: Google Earth

Due to the predicted exceedence of the relevant noise criteria it is recommended that further noise mitigation be considered at this location. Possible mitigation options are provided as follows:

- Noise barriers on the boundary of the relevant well compounds could reduce noise emission levels by up to 10 dBA. The actual noise reduction achieved will depend on the orientation and height of the barrier and the relative distance and difference in elevation between the source/s and receivers.
- Full-enclosures surrounding all equipment including well heads and pumps/generators. This could reduce predicted noise emission levels by 10 dBA. The actual noise reduction achieved will depend on the specific design of the enclosure.

It is also noted that ambient noise levels in the area are likely to increase as a result of significant residential development west of the subject site. It may be appropriate to re-evaluate ambient background levels, and thus relevant noise criteria, at that time.

### 3.3 CU31 - Operation

**Figure 3** provides the operational noise predictions for well location CU22 with no mitigation measures in place. The area shaded yellow indicates where the relevant criteria ( $L_{Aeq}(15\text{minute})$  38 dBA) may be exceeded. There are no residential dwellings predicted to be affected by noise from this well.

**Figure 3 CU31 Operational Noise Predictions, Pump Assisted, Night-time Inversion**



Source: Google Earth



## 4 Construction Noise Assessment

Drilling at each well location has been considered for this construction noise assessment. The use of noise barriers has been considered, where required, at each well location. It is understood that the use of temporary noise barriers for drilling activities is now standard practice by AGL.

The assessment of other construction activities, such as excavation and fracture stimulation, has been considered as part of the previous noise assessment report.

### 4.1 CU06 - Drilling

**Figure 4** provides the noise predictions for drilling at well location CU06 with noise barriers in place to shield residences located to the west and south-west as well as the boarding school dwellings to the north-west. The area shaded yellow indicates where the relevant construction noise criteria (LAeq(15minute) 40 dBA) for residential dwellings may be exceeded. The red shaded area indicates where the relevant *internal* criterion (of 45 dBA) for school classrooms may be exceeded. There are no residential dwellings or school classrooms that are predicted to be affected by noise from drilling at this well location.

**Figure 4 CU06 Drilling, Night-time Inversion**



## 4.2 CU22 - Drilling

**Figure 5** provides the noise predictions for drilling at well location CU22 with noise barriers in place to shield residences located to the north-west of the site. The area shaded yellow indicates where the relevant construction noise criteria ( $L_{Aeq}(15\text{minute})$  38 dBA) for residential dwellings may be exceeded. There are no residential dwellings that are predicted to be affected by noise from drilling at this well location.

**Figure 5 CU22 Drilling, Night-time Inversion**



Source: Google Earth



### 4.3 Well Location CU31

**Figure 6** provides the noise predictions for drilling at well location CU31 with no noise barriers in place. The area shaded yellow indicates where the relevant construction noise criteria ( $L_{Aeq}(15\text{minute})$  38 dBA) for residential dwellings may be exceeded. There are no residential dwellings that are predicted to be affected by noise from drilling at this well location.

**Figure 6 CU31 Drilling, Night-time Inversion**



Source: Google Earth

## 5 Conclusion

Potential noise impacts from construction and operational activities associated with the proposed amended well locations CU06, CU22 and CU31 have been considered. Recommendations are summarised as follows:

- **Construction:** Noise barriers will be required during drilling activity at locations CU06 and CU22 to shield the nearest residential properties. Location CU31 is remote enough from residential properties that noise barriers are not predicted to be required.
- **Operation:** Noise mitigation measures in the form of noise barriers/enclosures or a reduction in the number of wells at CU22 will need to be considered. Mitigation measures are not required for well operation at CU06 or CU31.

I trust the preceding meets your current requirements. If you have any questions or need any further information please do not hesitate to contact me on (02) 4908 4500 or email [kteyhan@slrconsulting.com](mailto:kteyhan@slrconsulting.com).

Yours sincerely



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