

**From:** Oliver Muller [<mailto:omuller@emqamm.com>]  
**Sent:** Friday, 22 August 2014 12:10 PM  
**To:** Jeff Parnell  
**Subject:** J13088

Hi Jeff,

Please see below for revised cumulative noise results for the Gloucester Pipeline Project.

Note I have applied a correction for duration per period, based on a 6 hour continuous hi-flow operation.

Also provided are the results for adverse and calm conditions, as it is unlikely that adverse conditions would occur for an entire assessment period. Therefore, the calm conditions are more representative for 'typical' met conditions over an entire assessment period. The calm scenario satisfies the representative criteria with respect to cumulative noise.

Other notes on the operation of the hi-flow include :

The coincident high flow / high pressure event is likely to occur under the following scenarios:

- Initial commissioning – one off event
- Plant restart from significant maintenance event – once a year at most but typically every 2 years or more
- Rapid spike in gas market demand e.g. cold weather event – perhaps 2-3 times during the autumn / winter seasons
- Supply failure event – another supply point fails in the Sydney Gas market and gas is dispatched from this site – rare events, use 5 years as guidance

Under all of these scenarios the pressure differential equalises out relatively quickly. For planning purposes you could assume the a high noise event duration of 6 hours, 5 times a year, however this is subject to confirmation in detailed design.

It is emphasised that hi-flow is only expected to occur up to five times per year.

Table 1 provides the results for day time assessment period.

**Table 1** Cumulative noise assessment at sensitive receptors – high flow TRS, day assessment period

Receptor	Criteria, dB(A) <sup>3</sup>	Predicted noise levels, L <sub>eq(15-min)</sub> , dB(A)				Predicted noise levels, L <sub>eq(period)</sub> , dB(A)	
	Day	TRS – high flow (AGL)	NGSF <sup>1</sup> (AGL)	Other existing industrial contribution L <sub>eq</sub> <sup>1</sup>	Total cumulative noise L <sub>eq</sub>	Duration correction for day assessment period, dB(A) <sup>5</sup>	Total day cumulative noise L <sub>eq(period)</sub>
<b>Adverse meteorology</b>							
R37. 9 School Drive	60	45	20 <sup>2</sup>	43	47	-2.6	45

**Table 1** Cumulative noise assessment at sensitive receptors – high flow TRS, day assessment period

Receptor	Criteria, dB(A) <sup>3</sup>	Predicted noise levels, L <sub>eq</sub> (15-min), dB(A)				Predicted noise levels, L <sub>eq</sub> (period), dB(A)	
	Day	TRS – high flow (AGL)	NGSF <sup>1</sup> (AGL)	Other existing industrial contribution L <sub>eq</sub> <sup>1</sup>	Total cumulative noise L <sub>eq</sub>	Duration correction for day assessment period, dB(A) <sup>5</sup>	Total day cumulative noise L <sub>eq</sub> (period)
R38. 45 School Drive	60	46	20	43	48	-2.6	45
R39. 5 Graham Drive	60	39	24	38	42	-2.6	39
R40. Hunter Region Pottery Gardens	50	46	40	N/A	47	-2.6	44
R41. Caravan Park	60	34	19	43	44	-2.6	41
R42. Historic Tomago	50	43	20 <sup>2</sup>	43 <sup>2</sup>	46	-2.6	43
<b>Calm meteorology</b>							
R37. 9 School Drive	60	40	16 <sup>2</sup>	43	45	-2.6	42
R38. 45 School Drive	60	38	16	43	44	-2.6	42
R39. 5 Graham Drive	60	32	16	38	39	-2.6	36
R40. Hunter Region Pottery Gardens	50	46	32	N/A	46	-2.6	44
R41. Caravan Park	60	27	10	43	43	-2.6	41
R42. Historic Tomago	50	35	16 <sup>2</sup>	43 <sup>2</sup>	44	-2.6	41

Notes: 1. Source: Atkins (2009).

2. Adopted value from adjacent 45 School Drive receptor.

3. Day is the period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays. Evening is the period from 6 pm to 10 pm, night is the remaining periods.

4. all rounding to half a decimal place.

5. Assumes 6 hours continuous operation of 'hi-flow' TRS.

Table 2 provides the results for evening time assessment period. Note no correction for duration, as the 6 hour operating cycle exceeds that of the evening assessment period.

**Table 2 Cumulative noise assessment at sensitive receptors – high flow TRS, evening assessment period**

Receptor	Criteria, dB(A) <sup>3</sup>	Predicted noise levels, L <sub>eq(15-min)</sub> , dB(A)				Predicted noise levels, L <sub>eq(period)</sub> , dB(A)	
	Evening	TRS – high flow (AGL)	NGSF <sup>1</sup> (AGL)	Other existing industrial contribution L <sub>eq</sub> <sup>1</sup>	Total cumulative noise L <sub>eq</sub>	Duration correction for evening assessment period, dB(A) <sup>5</sup>	Total evening cumulative noise L <sub>eq(period)</sub>
<b>Adverse meteorology</b>							
R37. 9 School Drive	50	45	20 <sup>2</sup>	43	47	0	47
R38. 45 School Drive	50	46	20	43	48	0	48
R39. 5 Graham Drive	50	39	24	38	42	0	42
R40. Hunter Region Botanic Gardens	50	46	40	N/A	47	0	47
R41. Caravan Park	50	34	19	43	44	0	44
R42. Historic Tomago	50	43	20 <sup>2</sup>	43 <sup>2</sup>	46	0	46
<b>Calm meteorology</b>							
R37. 9 School Drive	50	40	16 <sup>2</sup>	43	45	0	45
R38. 45 School Drive	50	38	16	43	44	0	44
R39. 5 Graham Drive	50	32	16	38	39	0	39
R40. Hunter Region Botanic Gardens	50	46	32	N/A	46	0	46
R41. Caravan Park	50	27	10	43	43	0	43
R42. Historic Tomago	50	35	16 <sup>2</sup>	43 <sup>2</sup>	44	0	44

Notes: 1.Source: Atkins (2009).

2. Adopted value from adjacent 45 School Drive receptor.

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4. all rounding to half a decimal place.

5. Assumes 6 hours continuous operation of 'hi-flow' TRS.

Table 3 provides the results for the night time assessment period.

**Table 3 Cumulative noise assessment at sensitive receptors – high flow TRS, night assessment period**

Receptor	Criteria, dB(A) <sup>3</sup>	Predicted noise level contribution, L <sub>eq(15-min)</sub> , dB(A)				Predicted noise levels, L <sub>eq(period)</sub> , dB(A)	
	Night	TRS – high flow (AGL)	NGSF <sup>1</sup> (AGL)	Other existing industrial contribution L <sub>eq</sub> <sup>1</sup>	Total cumulative noise L <sub>eq</sub>	Duration correction for night assessment period, dB(A) <sup>5</sup>	Total night cumulative noise L <sub>eq(period)</sub>

**Table 3 Cumulative noise assessment at sensitive receptors – high flow TRS, night assessment period**

Receptor	Criteria, dB(A) <sup>3</sup>	Predicted noise level contribution, L <sub>eq(15-min)</sub> , dB(A)				Predicted noise levels, L <sub>eq(period)</sub> , dB(A)	
	Night	TRS – high flow (AGL)	NGSF <sup>1</sup> (AGL)	Other existing industrial contribution L <sub>eq</sub> <sup>1</sup>	Total cumulative noise L <sub>eq</sub>	Duration correction for night assessment period, dB(A) <sup>5</sup>	Total night cumulative noise L <sub>eq(period)</sub>
<b>Adverse meteorology</b>							
R37. 9 School Drive	45	45	20 <sup>2</sup>	43	47	-1.8	45
R38. 45 School Drive	45	46	20	43	48	-1.8	<b>46</b>
R39. 5 Graham Drive	45	39	24	38	42	-1.8	40
R40. Hunter Region	50	46	40	N/A	47	-1.8	45
R41. Caravan Park	45	34	19	43	44	-1.8	42
R42. Historic Tomago	50	43	20 <sup>2</sup>	43 <sup>2</sup>	46	-1.8	44
<b>Calm meteorology</b>							
R37. 9 School Drive	45	40	16 <sup>2</sup>	43	45	-1.8	43
R38. 45 School Drive	45	38	16	43	44	-1.8	42
R39. 5 Graham Drive	45	32	16	38	39	-1.8	37
R40. Hunter Region	50	46	32	N/A	46	-1.8	44
R41. Caravan Park	45	27	10	43	43	-1.8	41
R42. Historic Tomago	50	35	16 <sup>2</sup>	43 <sup>2</sup>	44	-1.8	42

Notes: 1.Source: Atkins (2009).

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4. all rounding to half a decimal place.

5. Assumes 6 hours continuous operation of 'hi-flow' TRS.

If you have any questions please call to discuss.

thanks

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