



**AGL UPSTREAM INVESTMENTS PTY LTD**  
**Newcastle Gas Storage Facility**  
**Annual Noise Monitoring Report**

Reporting Period: May 2019

AGL Upstream Investments Pty Ltd

ABN 58 115 063 744

Locked Bag 3013, Australia Square, NSW 1215

200 George Street, Sydney NSW 2000

Telephone: 02 9921 2999 Facsimile: 02 9921 2474

Complaints Line (24 hours): 1800 039 600



## Foreword

|                           |  |
|---------------------------|--|
| <b>PREMISES</b>           | Newcastle Gas Storage Facility<br>5 Old Punt Road<br>TOMAGO NSW 2322 |
| <b>LICENCE DETAILS</b>    | <a href="#"><u>Environment Protection Licence 20130</u></a>          |
| <b>LICENCEE</b>           | AGL Upstream Investments Pty Limited                                 |
| <b>LICENCEE'S ADDRESS</b> | Locked Bag 3013, Australia Square, NSW 1215                          |
| <b>MONITORING DATE</b>    | 15 May 2019  |
| <b>MONITORING BY</b>      | EMM Consulting Pty Limited   |
| <b>ANALYSIS BY</b>        | EMM Consulting Pty Limited (report number H190290 RP#1)              |
| <b>OBTAINED DATA DATE</b> | 30 May 2019  |
| <b>REPORT DATE</b>        | 14 June 2019   |
| <b>REPORT PREPARED BY</b> | Aaron Clifton<br>Environment Program and Project Lead                |

### SUMMARY OF ACTIVITY

The Newcastle Gas Storage Facility (NGSF) is located in Tomago, New South Wales.

The NGSF includes:

- A processing plant that converts pipeline natural gas to liquefied natural gas (LNG) by cooling it to  $-162^{\circ}\text{C}$ . It is capable of processing up to 66,500 tonnes of LNG per year.
- An insulated, non-pressurised LNG storage tank capable of containing 30,000 tonnes or 63,000 m<sup>3</sup> of LNG, equivalent to 1.5 petajoules (PJ) of natural gas, and an associated containment area.
- A re-gasification unit to convert the LNG in the storage tank back into natural gas.



- A flare stack with a height of approximately 15m to combust hydrocarbons discharged from the process.
- A truck loading facility to allow the dispatch of up to 1,000 tankers of LNG per year.
- Infrastructure and utility connection and an emergency access road.

This Monitoring Report relates to those noise monitoring activities specified in Part 5, Monitoring and Recording Conditions, of the Environment Protection Licence. The Licence conditions stipulate noise monitoring is required to be carried out as per the assessment periods at the locations and frequency set out in the table below.

This report is prepared in accordance with the *Requirements for Publishing Pollution Monitoring Data* (EPA, October 2013) (**Publication Requirements**).

## NOISE MONITORING LOCATIONS

| Point | Location   | Assessment Period   | Minimum Duration | Minimum Frequency |
|-------|--|---------------------|------------------|-------------------|
| 2     | Hunter Botanical Gardens                           | Day, Evening, Night | 15 minutes       | Yearly            |
| 3     | 5 Grahame Drive Tomago                             | Day, Evening, Night | 15 minutes       | Yearly            |
| 5     | 45 School Drive Tomago                             | Day, Evening, Night | 15 minutes       | Yearly            |
| 6     | Tomago Village Van Park                            | Day, Evening, Night | 15 minutes       | Yearly            |
| 9     | Tomago Aluminium Company<br>Meteorological Station | N/A                 | N/A              | N/A               |

## NOISE MONITORING MEASUREMENT PARAMETERS

| Point   | Time Period | Measurement Parameter      |
|---------|-------------|----------------------------|
| 2       | Day         | Day – LAeq (15 minute)     |
|         | Evening     | Evening – LAeq (15 minute) |
|         | Night       | Night – LAeq (15 minute)   |
| 3, 5, 6 | Day         | Day – LAeq (15 minute)     |
|         | Evening     | Evening – LAeq (15 minute) |
|         | Night       | Night – LAeq (15 minute)   |
|         | Night       | Night – LAeq (1 minute)    |

## Noise Monitoring Results Summary, 15 May 2019

| Monitoring Point             | Monitoring Location Description   | Period  | Start time | Total Measured Noise Level |      |      | Project Contribution |      | EPL Noise Level |      |
|------------------------------|---|---------|------------|----------------------------|------|------|----------------------|------|-----------------|------|
|                              |   |         |            | LA1                        | LAeq | LA90 | LA1                  | LAeq | LA1             | LAeq |
| 2 – Hunter Botanical Gardens | A point along the NGSF northern access road at a similar distance from the NGSF as the nearest corner of Botanic Gardens. | Day     | 16:08      | 45                         | 38   | 36   | 46                   | <31  | N/A             | 50   |
|                              |   | Evening | 19:06      | 49                         | 41   | 39   | <33                  | <32  | N/A             | 50   |
|                              |   | Night   | 23:05      | 49                         | 43   | 40   | <35                  | <33  | N/A             | 50   |
| 3 – Grahame Drive Tomago     | In front of 5 Grahame Drive   | Day     | 17:15      | 70                         | 61   | 54   | IA                   | IA   | N/A             | 35   |
|                              |   | Evening | 18:00      | 65                         | 58   | 50   | IA                   | IA   | N/A             | 35   |
|                              |   | Night   | 22:00      | 65                         | 54   | 36   | IA                   | IA   | 45              | 35   |
| 5 – 45 School Drive Tomago   | In front of 45 School Drive   | Day     | 16:56      | 70                         | 65   | 59   | IA                   | IA   | N/A             | 35   |
|                              |   | Evening | 18:20      | 73                         | 65   | 52   | IA                   | IA   | N/A             | 35   |
|                              |   | Night   | 22:19      | 68                         | 58   | 41   | IA                   | IA   | 45              | 35   |
| 6 – Tomago Village Van Park  | Adjacent to Old Punt Road on Tomago Village Van Park boundary   | Day     | 16:34      | 75                         | 64   | 52   | IA                   | IA   | N/A             | 35   |
|                              |   | Evening | 18:41      | 64                         | 54   | 50   | IA                   | IA   | N/A             | 35   |
|                              |   | Night   | 22:40      | 66                         | 57   | 53   | IA                   | IA   | 45              | 35   |

IA = Inaudible; N/A = Not applicable

Weather conditions were recorded at Monitoring Point 9 during the noise survey were determined suitable for noise monitoring.



## CONCLUSION

EMM has completed a review of operational noise from the NGSF within the surrounding community based on attended measurements conducted during the day, evening and night-time periods on 15 May 2019.

The applicability of noise criteria was assessed with reference to data from the Tomago Aluminium Company Meteorological Station located 470 metres to the south of the site. It was identified that noise limits were not applicable during two measurements, during the evening period at points 3 and 6.

The attended survey data demonstrates that operational noise from the NGSF was inaudible during nine of the 12 operator attended noise surveys at noise monitoring locations outlined in EPL 20130.

Low frequency noise was conservatively assessed by comparison of the overall measured one-third octave  $L_{Aeq}$  noise levels to the NPfl one-third octave low-frequency noise thresholds. Measured noise levels did not exceed the relevant LFN thresholds during any of the 12 operator attended noise surveys. Therefore, the LFN modifying factors were not applicable, in accordance with the NPfl.

Conservative calculations (assuming attenuation due to distance loss only) based on the results of monitoring at the additional location showed that the NGSF  $L_{Aeq,15\text{ minute}}$  noise contributions satisfied the relevant EPL noise limits at all locations during the noise survey under worst-case operational conditions.