

EXECUTIVE SUMMARY

HGC Engineering was retained by Union Gas Limited to prepare an updated Acoustic Assessment Report (“AAR”) for the Bright Compressor Station in Bright, Ontario. Previously, HGC Engineering prepared Acoustic Assessment Reports (“AARs”) in 2007 and 2012 [1, 2]. This updated AAR considers a new compression facility (“Plant C”), aftercooler, three new emergency generators and two firewater pumps. This report serves to satisfy condition 5.1(2) of Environmental Compliance Approval 3468-9DUJMT, dated March 7, 2014 which requires that a current AAR be maintained.

Source sound level measurements of existing sources were conducted at the facility on several occasions including April 2003, April 2007, March 2009 and most recently in January 2011. Sound emissions from the proposed Plant C, aftercooler three emergency generators and two firewater pumps were based on measurements conducted by HGC Engineering at other similar Union Gas installations. The source sound levels were used as input to a predictive acoustical model to quantify the environmental sound emissions associated with the facility. Acoustic assessment criteria were established in accordance with the sound level limits in Ontario Ministry of the Environment and Climate Change (“MOECC”) guideline NPC-232.

The measurements and analysis indicate that the predicted sound levels of the Bright Compressor Station, including consideration of the new equipment outlined above, meet the sound level criteria of MOECC publication NPC-232 during a predictable worst case hour of operation at the station. Given the absence of any sources of ground-borne vibration at the site, the facility also complies with the applicable vibration limits of the MOECC.

Table A3: Acoustic Assessment Summary Table

Point of Reception	Point of Reception Description	Sound Level at Point of Reception, L_{EQ} [dBA]		Verified by Acoustic Audit	Performance Limit, L_{EQ} [dBA]		Compliance with Performance Limit
		Day	Evening/Night		Day	Evening/Night	
R1	Two storey dwelling approx. 450 m south of station	45	40	No	45	40	Yes/Yes
R2	Two storey dwelling approx. 600 m southeast of station	41	37	No	45	40	Yes/Yes
R3	Two storey dwelling approx. 680 m east of station	39	35	No	45	40	Yes/Yes
R4	Two storey dwelling approx. 780 m southeast of station	37	34	No	45	40	Yes/Yes
R5	Two storey dwelling approx. 950 m northwest of station	39	36	No	45	40	Yes/Yes

Notes:

1. Point of Reception sound levels include a + 5 dBA penalty for tonality.
2. As outlined in Section 3.4 of the report, a typical predictable worst case hour of facility operation includes up to three compressor plants, along with daytime testing of one emergency generator (EG2). The three compressor plants operating in the above tabulated scenario are A1, B and C Plants, which result in the highest offsite sound levels.



ACOUSTICS



NOISE



VIBRATION