

## EXECUTIVE SUMMARY

HGC Engineering was retained by Union Gas Limited to prepare an updated Acoustic Assessment Report (“AAR”) for the Dawn Compressor Station near Dresden, Ontario. Previously, HGC Engineering prepared AARs in 2007 [1], 2012 [2] and 2013 [3]. This updated AAR considers a new compression facility (“H Plant”), which will replace the routine compression capacity of the existing B Plant (although the B Plant will remain operational), as well as a new auxiliary power generator (“Aux 6”). This report serves to satisfy condition 4.1(b) of Amended Environmental Compliance Approval 3468-9DUJMT, issued by the Ontario Ministry of the Environment and Climate Change (“MOECC”) on March 7, 2014, which requires that a current AAR be maintained.

Source sound level measurements of existing sources were conducted at the facility on numerous occasions between 2005 and 2012. Sound emissions from the proposed H Plant and Aux 5 power generator 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 MOECC guidelines NPC-205 and NPC-232.

The measurements and analysis indicate that the current sound emissions of the facility exceed MOECC guidelines during a predictable worst case hour of operation. However, ongoing upgrades at the Dawn Compressor Station (including the proposed H Plant, with state-of-the-art, integral noise control measures) will reduce offsite sound levels to comply with the applicable limits of the MOECC, with estimated completion in 2017. 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 B3: Acoustic Assessment Summary Table - Future, Fully Mitigated**

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. 1600 m northeast of station	40	40	No	45	40	Yes/Yes
R2	Two storey dwelling approx. 2050 m northwest of station	38	38	No	45	40	Yes/Yes
R3	Two storey dwelling approx. 1650 m west of station	38	38	No	50	45	Yes/Yes
R4	Two storey dwelling approx. 2150 m southwest of station	35	34	No	45	40	Yes/Yes
R5	Two storey dwelling approx. 1450 m southeast of station	39	39	No	45	40	Yes/Yes

**Notes:**

1. Point of Reception sound levels include a + 5 dBA penalty for tonality.
2. As outlined in Section 6 of the report, a typical predictable worst case hour of facility operation includes the Dehy Plant and up to four compressor plants, along with Aux 3, Aux 4A/B and daytime testing of Aux 2. The four compressor plants operating in the above tabulated scenario are C, D, E and H Plants.



ACOUSTICS



NOISE



VIBRATION