

# ACOUSTIC ASSESSMENT REPORT

**St. Marys Cement Inc. (Canada)**

**Bowmanville, Ontario**

Prepared for


St. Marys Cement Inc. (Canada)  
55 Industrial Street  
Toronto, Ontario  
M4G 3W9

Prepared by



  
Corey D. Kinart, MBA, PEng

Reviewed by

  
Robert D. Stevens, MASC, PEng

September 29, 2020

HGC Engineering Project No. 01800181

## EXECUTIVE SUMMARY

HGC Engineering was retained by St. Marys Cement Inc. (Canada) (“SMC”) to update the Acoustic Assessment of their cement plant in Bowmanville, Ontario. Previously, HGC Engineering prepared an assessment in 2014 [1] in support of an application to the Ontario Ministry of the Environment, Conservation and Parks (“MECP”) for an Environmental Compliance Approval (“ECA”), which was subsequently granted (number 0469-9YUNSK). This updated assessment has been prepared in support of an application to amend the current approval to permit:

- An expanded list of Alternative Low Carbon Fuel (“ALCF”);
- An increase to the daily rate of ALCF consumption (replacing conventional fuels);
- New equipment to accommodate the increased quantity of ALCF;
- Increased ALCF storage capacity using enclosed containers and buildings;

Sound level measurements were conducted at the facility near each stationary source and at the neighbouring offsite points of reception during various visits to the site since 2010. Sound emission levels of equipment associated with the receipt and handling of ALCF were based on measurements of similar equipment conducted by HGC Engineering for past projects. The source sound levels were used as input to a predictive acoustical model to quantify the environmental sound emissions of the facility. Acoustic assessment criteria were established in accordance with the sound level limits in MECP guideline NPC-300 [2].

The acoustical measurements and analysis indicate that the sound levels of the facility will remain within the limits as set out in MECP guideline NPC-300 with the proposed modifications. Given the absence of any sources of ground-borne vibration at the site, the facility complies with the applicable vibration limits of the MECP.

Table A3.1: Acoustic Assessment Summary Table, Non-Emergency Equipment

Point of Reception	Point of Reception Description	Sound Level at Point of Reception, $L_{EQ}$ [dBA]	Performance Limit, $L_{EQ}$ [dBA]	Compliance with Performance Limit	Acoustical Classification Area	Verified by Acoustic Audit
R1	Two storey home approx. 1450 m southeast of cement plant	42	45	Yes	Class 2	No
R3	Non-conforming single storey home approx. 350 m north of cement plant	50	50	Yes	Class 1	No
VL1	Vacant residential lot approx. 1490 m southeast of cement plant	41	45	Yes	Class 2	No

Table A3.2: Acoustic Assessment Summary Table, Emergency Equipment

Point of Reception	Point of Reception Description	Sound Level at Point of Reception, $L_{EQ}$ [dBA]	Performance Limit, $L_{EQ}$ [dBA]	Compliance with Performance Limit	Acoustical Classification Area	Verified by Acoustic Audit
R1	Two storey home approx. 1450 m southeast of cement plant	16	50	Yes	Class 2	No
R3	Non-conforming single storey home approx. 350 m north of cement plant	31	55	Yes	Class 1	No
VL1	Vacant residential lot approx. 1490 m southeast of cement plant	21	50	Yes	Class 2	No



ACOUSTICS



NOISE



VIBRATION