

Appendix 3 – Noise impact assessment summary form
(Please retain detailed records for compliance purposes)



Licensee: Elemental Energy Renewables Inc.

Facility name: Chappice Lake Solar Project Type: Solar PV

Legal Location: NE 35-14-04 W4M

Contact: Will Patterson Telephone: 604 880 3622

1. Permissible Sound Level (PSL) determination (Rule 012, Section 2)

(Note that the PSL for a pre-1988 facility undergoing modifications is the equivalent noise level (Leq) that currently exists at the dwelling if no prior noise complaint exists and the current sound level Leq exceeds the calculated PSL from Section 2.1.)

Complete the following for the most impacted dwelling(s) or at a distance of 1.5 km where there are no dwellings:

Dwelling Distance from facility (m)	Dwelling Direction from facility	BSL (dBA)	Daytime Adjustment (dBA)	Nighttime PSL (dBA)	Daytime PSL (dBA)
1100m	Northeast	40	+10	40	50

2. Sound source identification

For the new and existing equipment, identify the model major sources of noise from the facility, their associated sound power level (PWL) or sound pressure level (SPL).

New and/or Existing Equipment Noise Sources (include make and model, power rating)	Predicted		or		Measured		Data Source (Vendor Measurement theoretical, etc.)	Distance SPL measured from the noise source (m)
	<input checked="" type="checkbox"/> PWL (dBA)	or	<input type="checkbox"/> PWL (dBA)	or	<input type="checkbox"/> SPL (dBA)	<input checked="" type="checkbox"/> SPL (dBA)		
SMA MVPS-4000 S2 TYP (8 units)			67.0		Vendor		10m	
Transformer (8 units)	77.9				Theoretical			

Provide a tentative schedule and timing for the operation, maintenance and testing of the equipment

Q1 2021/Q2 2021 – Commissioning, testing and commercial operation

Q3: 2021- Initial Maintenance Checkup

3. Normal operating conditions

When using manufacturer’s data for expected performance, it may be necessary to modify the data to account for actual operating conditions (for example, indicate conditions such as operating with window/doors open or closed, load, RPM). Describe any considerations and assumptions used in preparing estimates:

Full Load night and day

4. Noise modelling parameters

If modelling was conducted, identify the model input parameters used (see Section 3.2):

Relative Humidity: 70%, Temp.: 10°C, No source directivity, Ground Attenuation: 0.5, Receptor Height: 4.5m, # of Sound reflections: 1, Wind: 1 – 5 m/s from facility to receptor as per ISO-9613, Terrain of site area: flat, Inverter Height 1.2m, Transformer Height 1m

(continued)

5. Predicted sound level/ compliance determination

Identify the predicted sound level at the most impacted dwelling(s) or at a distance of 1.5 km where there are no dwellings. Typically, only the nighttime sound level is necessary, as levels do not often change from daytime to nighttime. However, if there are differences between day and night operations, both levels must be calculated.

Predicted Nighttime Cumulative Sound Level Including the New or Modified Facility (dBA)						
Receptor	Ambient Sound Level	Sound Level from Existing, Approved, and Proposed (Deemed Complete Facilities)	Baseline Sound Level	Predicted Sound Level from new or modified facility alone	Cumulative Sound Level	Permissible Sound Level
R1	35	27.1	35.7	23.7	35.9	40

Predicted Daytime Cumulative Sound Level Including the New or Modified Facility (dBA)						
Receptor	Ambient Sound Level	Sound Level from Existing, Approved, and Proposed (Deemed Complete Facilities)	Baseline Sound Level	Predicted Sound Level from new or modified facility alone	Cumulative Sound Level	Permissible Sound Level
R1	45	27.1	45.1	23.7	45.1	50

Is the predicted sound level less than the permissible sound level by a margin of three dBA? Yes ___✓___ No ___
If **No**, conduct a detailed NIA as per Section 3 of AUC Rule 012.

6. Supply any other relevant information you want to provide to the AUC. Submit additional pages if required.

Most impacted dwelling assessed at UTM position: 541288, 5563602 12N. The dwelling has been modelled as a two-story property.

Data sheet for quoted inverter / transformer enclosure unit is appended.

Inverters and transformers modeled as pairs at 4 locations:

Zone 12N (Inv1: 539741,5563273, Inv2: 539806,5563249, Inv3:539783,5563046, Inv4:539757,5562919)

7. If the nighttime permissible sound level is higher than 40 dBA L_{eq} , provide supplementary information to support the use of such permissible sound level.**8. Explain what measures have been taken to address construction noise.**

Limiting Construction to daytime hours (7:00 to 22:00) from Monday to Friday

Keep equipment and vehicles in good working order

9. Acoustical practitioner's information (See Section 3.2 (12)):

Company:
Green Cat Renewables

Name:
Merlin Garnett

Experience: 7 years

Title: Principal Noise Consultant Telephone: (403) 540 7782 Date: December 17th, 2019