

July 7, 2011

VIA E-MAIL TO: david@pennrealestategroup.com

Mr. David Savoia
Penn Energy Renewables, LTD.
620 Righters Ferry Road
Bala Cunwyd
PA 19004, USA

Re: Inverter Unit Sound Power Level Comparison

Dear Mr. Savoia,

HGC Engineering has completed Acoustic Assessment Reports for three proposed Penn Energy solar farms to be located in Ontario. The following reports were prepared:

- Acoustic Assessment Report “Penn Energy – Edwardsburg_Morrisurzburg-1” Solar Farm
- Acoustic Assessment Report “Penn Energy – Hamilton_Port Hope-4” Solar Farm
- Acoustic Assessment Report “Penn Energy – S.Glengarry_St.Lawrence-1” Solar Farm

Each of the above reports included a maximum allowable sound power level for the inverters, which is met by the Xantrex GT500 Inverter currently under consideration by the proponent. HGC Engineering reviewed the information for a number of additional inverter units, provided by Penn Energy Renewables, for the purposes of comparing their sound power levels. The inverter units listed in Table 1 would be suitable alternatives to the Xantrex GT500 as they have sound power levels less than or equivalent to the sound power level specified in the draft reports.

Table 2 is a list of inverters that could be suitable alternatives provided that noise mitigation is incorporated into the design of the inverters and solar farm. If one of these inverters were to be selected, the acoustic analysis would need to be updated and specific acoustic mitigation measures determined.

We trust that this information is sufficient for your current purposes. Please do not hesitate to contact us should you wish to discuss the above further.

Yours very truly,
Howe Gastmeier Chapnik Limited



Ian Bonsma, PEng.
Attach: Tables 1 & 2

Table 1: Sound Power Levels of Various Inverter Installations

Manufacturer	Model	No. Of Units Included	Overall Power Rating (kW)	A-weighted Sound Power Level (dBA, re 10 ⁻¹² W)
SATCON Power Gate Plus	PVS-500	2	1000	90
Emerson	SPV2100	1	1230	92
Emerson	SPV1800	1	1060	91
SMA Sunny Central	SC250U	4	1000	86
SMA Sunny Central	SC500U	2	1000	85
SMA Sunny Central	SC500HE-US	2	1000	90
AE Solaron	S500	2	1000	87
Xantrex	GF500	2	1000	92
Sunrise Solectria	SGI500	2	1000	91
KACO	XP 100 HV	10	1000	86
KACO	XP 200 HV	5	1000	92
KACO	XP 250 HV	4	1000	92
Siemens	PVS1401 in "E-House"	1	1400	89

**Table 2: Sound Power Levels of Various Inverter Installations
 Additional Mitigation Measures Required**

Manufacturer	Model	No. Of Units Included	Overall Power Rating (kW)	A-weighted Sound Power Level (dBA, re 10 ⁻¹² W)
GE Energy	--	2	1400	98
Magnetek	E-Force S1	2	1000	99