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ACOUSTIC ASSESSMENT REPORT

PENN ENERGY – EDWARDSBURGH_MORRISBURG-1 SOLAR FARM

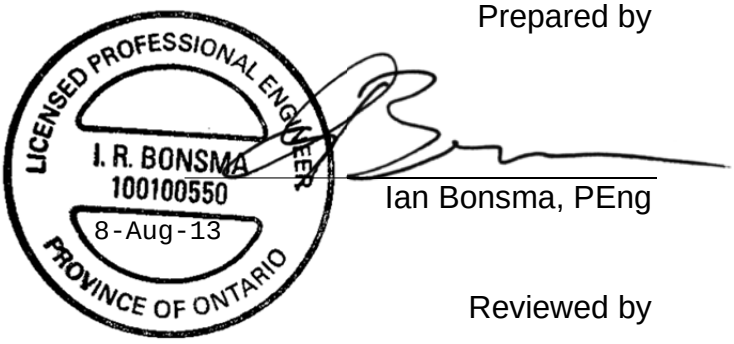
County of Leeds and Grenville, Ontario

FIT Contract ID# F-000628-SPV-130-505
Renewable Energy Approval No. 8486-8S7M8F

Prepared for:

Edwardsburgh Solar Farm Partnership
620 Righters Ferry Road,
Bala Cynwyd, PA, 19004
USA

Prepared by



Ian Bonsma, PEng

Reviewed by

Robert D. Stevens, MASc, PEng

August 8, 2013

VERSION CONTROL

Penn Energy - Edwardsburgh_Morrisburg-1 Solar Farm
2 Newport Drive, County of Leeds and Grenville, Ontario

Ver.	Date	Version Description	Prepared By
1	18-Apr-2011	Draft Acoustic Assessment Report supporting an application for a Renewable Energy Approval	P. Chocensky
2	7-Jul-2011	Original Acoustic Assessment Report supporting an application for a Renewable Energy Approval; revised main transformer location	P. Chocensky
3	7-Dec-2011	Updated Acoustic Assessment Report addressing MOE requirement to include additional receptor locations	P. Chocensky
4	21-May-13	Updated Acoustic Assessment Report in support of a Renewable Energy Approval addressing updated site layout and updated equipment selection	P. Chocensky
5	8-Aug-13	Updated Acoustic Assessment Report in support of a Renewable Energy Approval addressing the addition of 25 receptors and minor comments from the MOE.	I. Bonsma

EXECUTIVE SUMMARY

Penn Energy Renewables Ltd. through Edwardsburgh Solar Farm Partnership retained HGC Engineering by way of a subcontractor, ABB Inc., to update an Acoustic Assessment of their proposed Edwardsburgh Solar Plant in the Township of Edwardsburgh/Cardinal, County of Leeds and Grenville, Ontario. The study is required in support of an application for a Renewable Energy Approval from the Ontario Ministry of The Environment, under the Renewable Energy Act ("REA"). The assessment considers all non-negligible sound sources currently proposed for use at the facility, and has been prepared in accordance with the Ontario Ministry of the Environment publication "Basic Comprehensive Certificates of Approval (AIR) – User Guide".

Previously, HGC Engineering issued a number of Acoustic Assessment Reports for the Edwardsburgh site, addressing upcoming requirements from the Ministry of the Environment, as well as refinements in the site design.

Sound emissions from key items of proposed equipment were based on information provided by the equipment manufacturers and established prediction methods for the transformers. The source sound levels were used as input to a predictive acoustical model to quantify the sound emissions associated with the facility.

The predictive analysis indicates that the sound emissions of the facility will be within the sound level limits as set out in MOE guideline NPC-205 during normal 'predictable worst case' operations at the neighbouring sound-sensitive points of reception.

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Ministry of the Environment | Ministère de l'Environnement

Ontario

ACOUSTIC ASSESSMENT REPORT CHECK-LIST

Company Name: Edwardsburgh Solar Farm Partnership

Company Address: 620 Righters Ferry Rd

Bala Cynwyd, USA 19004

Location of Facility: 2 Newport Drive, Edwardsburg/Cardinal

County of Leeds and Grenville

The attached Acoustic Assessment Report was prepared in accordance with the guidance in the ministry document "Information to be Submitted for Approval of Stationary Source of Sound" (NPC 233) dated October 1995 and the minimum required information identified in the check-list on the reverse of this sheet has been submitted.

Company Contact:

Name: David Savoia

Representing: Edwardsburgh Solar Farm Partnership

Phone Number: 610-668-0300

Signature:

Date: August 8, 2013

Technical Contact:

Name: Ian Bonsma, PEng

Representing: HGC Engineering

Phone Number: 905-826-4044

Signature:

Date: August 8, 2013

ACOUSTIC ASSESSMENT REPORT CHECK-LIST

	Required Information		
		Submitted	Explanation/Reference
1.0	**Introduction** (Project Background and Overview)	☒ Yes	Section 1
2.0	**Facility Description**		
	2.1 Operating hours of facility and significant Noise Sources	☒ Yes	Section 2
	2.2 Site Plan identifying all significant Noise Sources	☒ Yes	Figure 3
3.0	**Noise Source Summary**		
	3.1 ***Noise Source Summary Table***	☒ Yes	Appendix A
	3.2 Source noise emissions specifications	☒ Yes	Appendix A
	3.3 Source power/capacity ratings	☒ Yes	Appendix A
	3.4 Noise control equipment description and acoustical specifications	☐ Yes	N/A
4.0	**Point of Reception Noise Impact Calculations**		
	4.1 ***Point of Reception Noise Impact Table***	☒ Yes	Appendix A
	4.2 Point(s) of Reception (POR) list and description	☒ Yes	Section 4
	4.3 Land-use Zoning Plan	☒ Yes	Appendix B
	4.4 Scaled Area Location Plan	☒ Yes	Figure 1
	4.5 Procedure used to assess noise impacts at each POR	☒ Yes	Appendix D
	4.6 List of parameters/assumptions used in calculations	☒ Yes	Appendix D
5.0	**Acoustic Assessment Summary**		
	5.1 ***Acoustic Assessment Summary Table***	☒ Yes	Appendix A
	5.2 Rationale for selecting applicable noise guideline limits	☒ Yes	Appendix E
	5.3 Predictable Worst Case Impacts Operating Scenario	☒ Yes	Figures 4
6.0	**Conclusions**		
	6.1 Statement of compliance with selected noise performance limits	☒ Yes	Sections 6 & 7
7.0	**Appendices** (provide details such as)	☒ Yes	
	Listing of Insignificant Noise Sources	☐ Yes	N/A
	Manufacturer's Noise Specifications	☒ Yes	Appendix C
	Calculations	☒ Yes	Appendices F & G
	Instrumentation	☐ Yes	N/A
	Meteorology during Sound Level Measurements	☐ Yes	N/A
	Raw Data from Measurements	☐ Yes	N/A
	Drawings (Facility / Equipment)	☒ Yes	Figure 3, Appendix C

1 INTRODUCTION

1.1 Context

The Edwardsburgh Solar Plant will be located at 2 Newport Drive in Edwardsburgh/Cardinal, Ontario. A scaled location map of the surrounding area is included as Figure 1. The purpose of this assessment is to evaluate the sound emissions of the facility under a predictable worst case operating scenario, which is defined as an hour when typical full operation of the stationary sources under consideration could coincide with an hour of low background sound.

This report has been prepared in accordance with the Ontario Ministry of The Environment ("MOE") guideline documents NPC-233 "Information to be Submitted for Approval of Stationary Sources of Sound", dated October 1995 [1], and "Supporting Information for the Preparation of an Acoustic Assessment Report", dated November 2003 [2].

A zoning map identifying the land uses surrounding the subject facility, obtained from the Township of County of Leeds and Grenville, is included as Appendix B. The lands surrounding the Edwardsburgh Solar Plant are zoned for commercial and industrial use, with lands zoned for rural use located on the south side of King Street East, approximately 100 metres from the facility. Ninety-eight points of reception have been considered in this assessment in order to represent the existing residential dwellings and vacant lots, which permit noise-sensitive use, within 1000 m of the proposed equipment at the solar facility. The receptor locations are shown in Figure 2.

During a site visit by HGC Engineering on March 14, 2011, the background sound in the vicinity of the subject site was dominated by road traffic on County Road 2 and distant road traffic on Highway 401. The area surrounding the site is best characterized as a "Class 2" semi-urban area, under MOE noise assessment guidelines.

1.2 Summary of Updates Addressed In This Assessment

The updates addressed in this report include:

- Addition of receptors R77 through R101 on lands zoned for Highway Commercial,
- Updated source heights for inverters and transformers.

2 FACILITY DESCRIPTION

The Edwardsburgh Solar Plant is a proposed 9.33 MW solar electrical generation project. The facility will consist of numerous fixed array mounted solar panels, ten collection houses, and one primary transformer. The collection houses typically include two inverters and a secondary 1 MVA transformer. The single primary transformer at the site will have a capacity of 10 MVA. The inverters are power semiconductor devices which synthesize alternating current ("A/C") from the direct current produced by the solar panels. The solar panels themselves are passive, direct current devices and do not produce sound. They are thus not considered as sources in this assessment.

The inverter units will typically operate during hours when daylight is available. However, the transformers will be energized throughout the 24 hour period. Since daylight can occur during some hours of the nighttime period (19:00 – 7:00), the facility was assumed to operate fully during both daytime (7:00 – 19:00) and nighttime hours (19:00 – 7:00). The facility will operate 7 days per week.

3 SOUND SOURCE SUMMARY

A Sound Source Summary is included as Table A1 in Appendix A, which lists the sources associated with the facility, in the standard format required by the MOE. Each noise source has been assigned an identification number of the form NS-## (e.g. NS-01).

Figure 3 shows the location of each source. The non-negligible sources of sound at the facility are described below.

3.1 Inverters

The site plan for the proposed development includes ten inverter collection houses which will be distributed throughout the site (NS-01 through NS-10). Each inverter collection house will include two 500 kW inverters, except for inverter house NS-05, which will contain one inverter unit only. Sound emissions from the inverter collection houses were based on sound measurements of a single inverter unit provided by the proponent, included in Appendix C. The total sound emissions of each inverter package included in this assessment were factored based on the number of inverters included in each installation.

3.2 Transformers

The step-up transformers associated with each inverter station are represented as sources NS-11 through NS-20 and the primary transformer as NS-21. Sound levels from all transformers were predicted based on manufacturer's NEMA sound levels for the transformers and unit dimensions. A typical shape of the frequency spectrum was utilized [3]. These calculations, as well as respective sound data and transformer dimensions are included in Appendix C.

The sound power levels for the sources outlined above were used to develop the sound source inventory included as Table A1 in Appendix A, and was input to a predictive computer model (see Appendix D) to quantify the sound emissions of the facility during a predictable worst case hour of operation. For the purposes of this assessment, all sources were assumed to operate 24 hours per day, seven days per week.

4 POINT OF RECEPTION SUMMARY

The ninety-eight key receptors chosen to represent the residential dwellings surrounding the site are shown as locations R01 through R09, R11 and R14 through R100 in Figure 2.

Each dwelling was assumed to be a two-storey structure, with the respective points of reception representing an upper storey window. In general, upper storey windows are the most potentially impacted point on the properties since they are most exposed to elevated sources at the subject site and benefit least from ground absorption. Where vacant lots were identified, the future location of

the assumed dwelling was taken to be a location that would reasonably be expected to contain the dwelling based on the typical building pattern. The selected points of reception are described briefly in Table A3, the Acoustic Assessment Summary Table.

5 ASSESSMENT CRITERIA

The area surrounding the subject facility is a “Class 2” semi-urban acoustical environment. Accordingly, the relevant document for defining the applicable sound level limits is MOE guidelines NPC-205 [4]. The details by which the applicable sound level limits were established for the assessment of this facility are provided in Appendix E. For the purposes of this assessment, the applicable sound level criterion at all locations is 45 dBA. This limit is included in Table A3 of Appendix A.

Some types of sound have a special quality which may tend to increase their audibility and potential for disturbance or annoyance. For tonal sound, MOE guidelines [5] stipulate that a penalty of 5 dBA is to be added to the measured source level. A tonal sound is defined as one which has a “pronounced audible tonal quality such as a whine, screech, buzz or hum”. A/C transformers and inverters typically exhibit a humming character at twice the line frequency (120 Hz) and harmonics thereof, as a result of magnetostrictive forces in the windings and semiconductors. In the subsequent analysis, a tonal penalty has been applied to the sound of all sources.

6 IMPACT ASSESSMENT

The predictive analysis indicates that the sound levels will be in the range of 19 to 41 dBA at all identified points of reception. These levels are within the applicable sound level limit.

The results of the analysis are summarized in Table A3 and are shown graphically in Figure 4. Details of the prediction methods are summarized in Appendix D, and sample calculation results are included as Appendices F and G.

7 CONCLUSIONS

The acoustical analysis indicates that the predicted sound levels of the Edwardsburgh Solar Plant will be within the applicable sound level limits specified in MOE guideline NPC-205, during all hours of the day and night, under typical "predictable worst case" operating conditions at all identified off-site receptor locations.

REFERENCES

1. Ontario Ministry of Environment Publication NPC-233, *Information to be Submitted for Approval of Stationary Sources of Sound*, October, 1995.

2. Ontario Ministry of Environment Guide, *Supporting Information for the Preparation of an Acoustic Assessment Report*, November, 2003.

3. Crocker, Malcolm, J., Sound *Power Level Predictions for Industrial Machinery*, In Encyclopedia of Acoustics (Vol. 2, pp. 1049 - 1057), John Wiley & Sons, Inc., 1997.

4. Ontario Ministry of the Environment Publication NPC-205, *Sound Level Limits for Stationary Sources in Class 1&2 Areas (Urban)*, October, 1995.

5. Ontario Ministry of the Environment Publication NPC-104, *Sound Level Adjustments*, August, 1978.

6. International Organization for Standardization, *Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation*, ISO-9613-2, Switzerland, 1996.

7. Google Maps Aerial Imagery, Internet application: *maps.google.com*

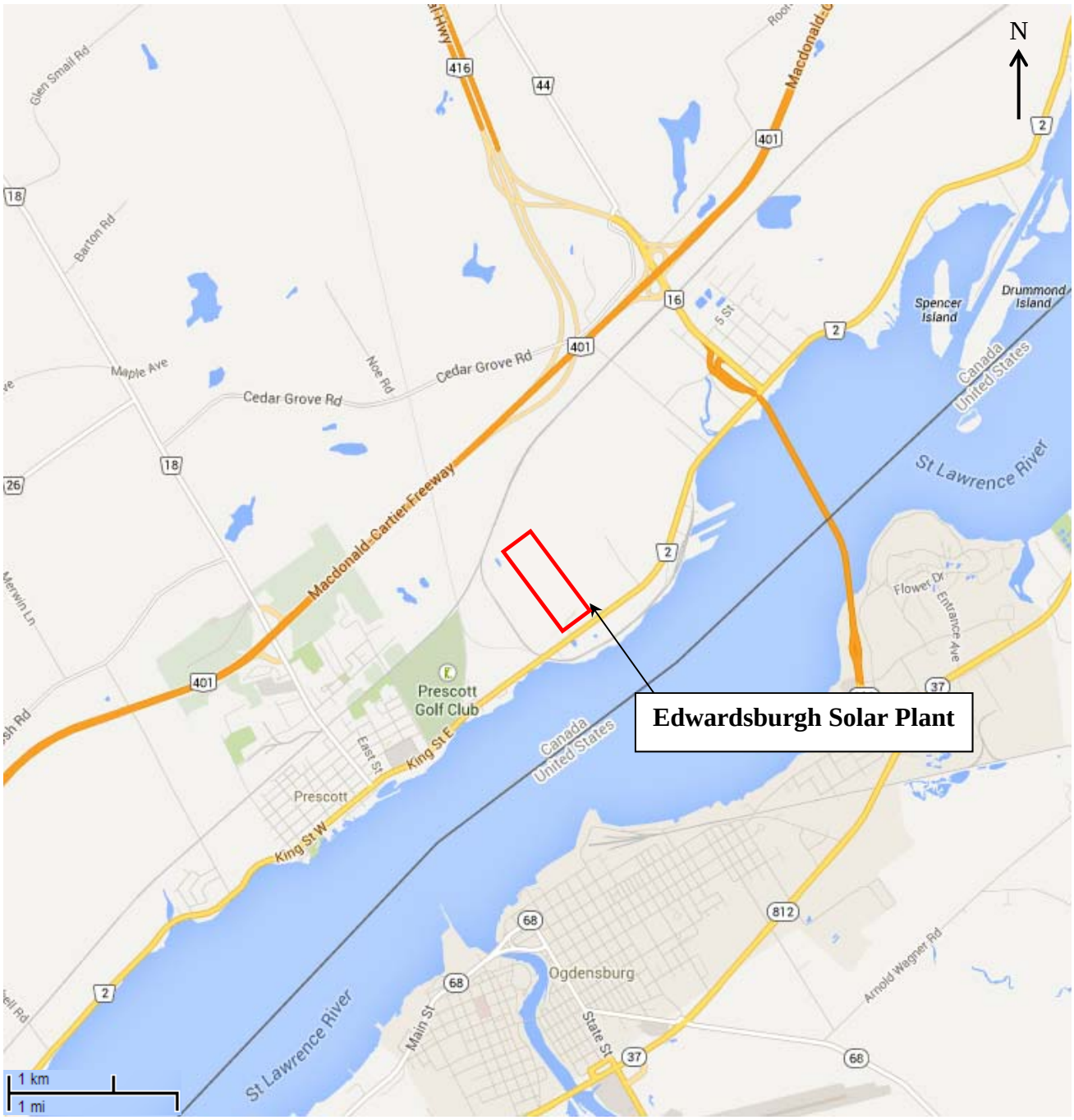


Figure 1: Location Map

FRAME COORDINATES ARE UTM IN METRES

Figure 2: Receptor Locations
Edwardsburgh Solar Plant

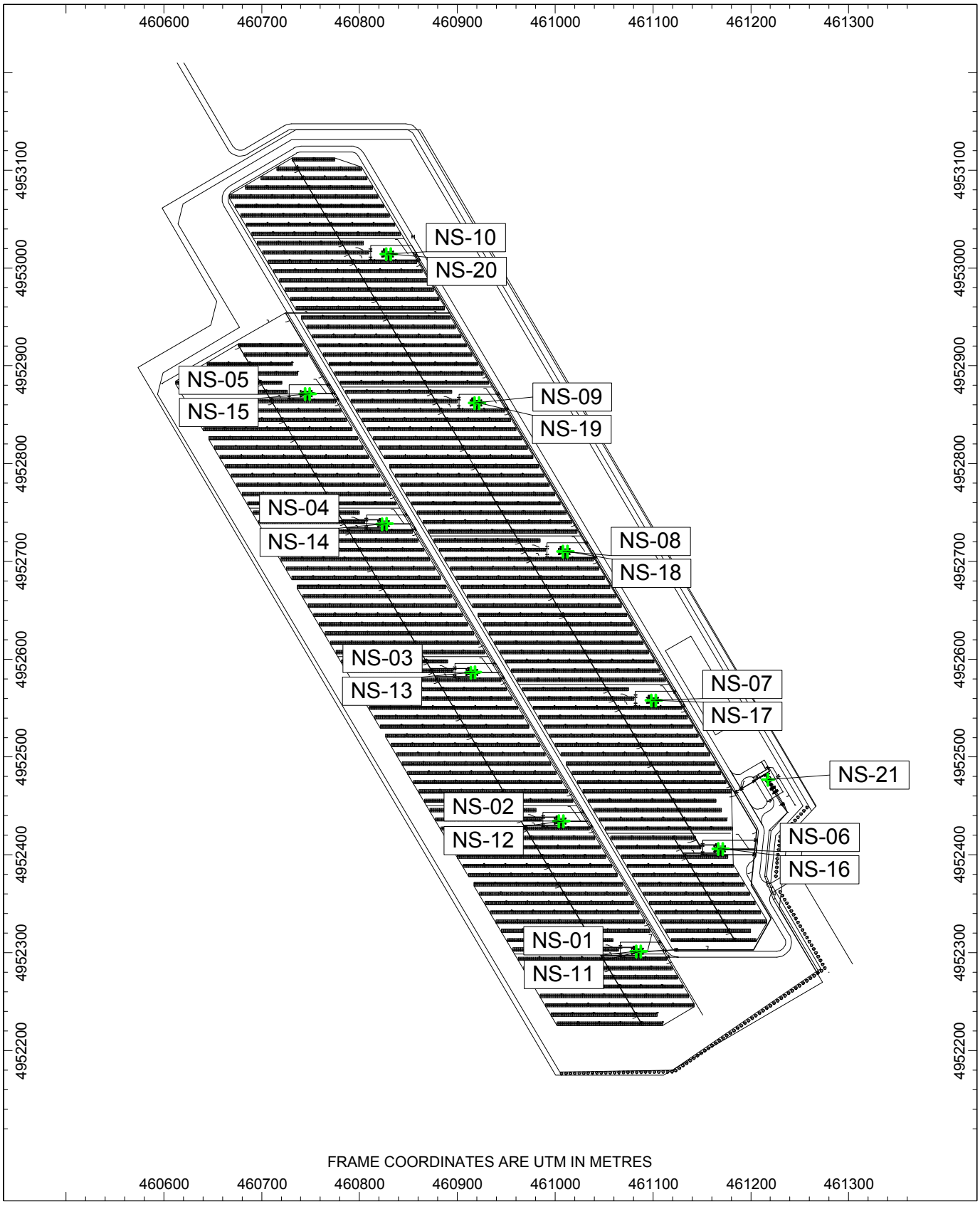


Figure 3: Locations of Sound Sources
Edwardsburgh Solar Plant

Figure 4: Predicted Sound Level Contours, Leq [dBA]
Edwardsburgh Solar Plant
Sound Levels Calculated at 4.5m Above Grade

APPENDIX A

Acoustic Assessment Summary Tables

ACOUSTIC ASSESSMENT SUMMARY TABLES
VERSION CONTROL

Penn Energy - Edwardsburgh_Morrisburg-1 Solar Farm
2 Newport Drive, County of Leeds and Grenville, Ontario

Ver.	Date	Issued as Part of AAR?	Version Description	Prepared By
1.0	18-Apr-11	Y	Draft version of tables as part of Ver. 1 of Acoustic Assessment Report	P. Chocensky
2.0	7-Jul-11	Y	Original version of tables as part of Ver. 2 of Acoustic Assessment Report	P. Chocensky
3.0	7-Dec-11	Y	Updated version of tables as part of Ver. 3 of Acoustic Assessment Report	P. Chocensky
4.0	21-May-13	Y	Updated version of tables as part of Ver. 4 of Acoustic Assessment Report	P. Chocensky
5.0	8-Aug-13	Y	Updated version of tables as part of Ver. 5 of Acoustic Assessment Report	I. Bonsma

Table A1: Noise Source Summary Table

Source ID	Source Description	UTM Coordinates [m]		Sound Power Level [dBA re 10^-12 W]	Source Location	Sound Characteristic	Noise Control Measure
		Easting	Northing				
NS-01	Inverter House MV1	461083	4952301	91	O	S,T	U
NS-02	Inverter House MV2	461004	4952435	91	O	S,T	U
NS-03	Inverter House MV3	460914	4952586	91	O	S,T	U
NS-04	Inverter House MV4	460823	4952738	91	O	S,T	U
NS-05	Inverter House MV5	460744	4952871	88	O	S,T	U
NS-06	Inverter House MV6	461167	4952406	91	O	S,T	U
NS-07	Inverter House MV7	461098	4952558	91	O	S,T	U
NS-08	Inverter House MV8	461008	4952710	91	O	S,T	U
NS-09	Inverter House MV9	460918	4952862	91	O	S,T	U
NS-10	Inverter House MV10	460827	4953014	91	O	S,T	U
NS-11	Transformer 1 MVA (MV1)	461088	4952301	69	O	S,T	U
NS-12	Transformer 1 MVA (MV2)	461009	4952435	69	O	S,T	U
NS-13	Transformer 1 MVA (MV3)	460918	4952587	69	O	S,T	U
NS-14	Transformer 1 MVA (MV4)	460828	4952739	69	O	S,T	U
NS-15	Transformer 1 MVA (MV5)	460749	4952872	69	O	S,T	U
NS-16	Transformer 1 MVA (MV6)	461172	4952406	69	O	S,T	U
NS-17	Transformer 1 MVA (MV7)	461103	4952558	69	O	S,T	U
NS-18	Transformer 1 MVA (MV8)	461013	4952710	69	O	S,T	U
NS-19	Transformer 1 MVA (MV9)	460922	4952862	69	O	S,T	U
NS-20	Transformer 1 MVA (MV10)	460832	4953014	69	O	S,T	U
NS-21	Transformer 10 MVA	461218	4952477	88	O	S,T	U

Legend

Sound Characteristics
S: Steady
Q: Quasi-steady impulsive
I: Impulsive
B: Buzzing
T: Tonal (includes 5 dBA penalty)
C: Cyclically varying
O: Occasional

Noise Control Measures
S: Silencer, Acoustic Louvre, Muffler
A: Acoustic Lining, Plenum
B: Barrier, Berm, Screening
L: Lagging (Acoustical Wrapping)
E: Acoustic Enclosure
O: Other
U: Currently Uncontrolled

Source Location
O: Outdoors
I: Indoors

Table A2: Point of Reception Noise Impact Table

Source ID	Source Name	Point of Reception									
		R01		R02		R03		R04		R05	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	848	19	734	21	693	21	665	22	637	22
NS-02	Inverter House MV2	858	19	782	20	744	21	734	21	709	21
NS-03	Inverter House MV3	903	19	868	19	835	19	842	19	821	20
NS-04	Inverter House MV4	978	18	978	18	950	18	971	18	952	18
NS-05	Inverter House MV5	1064	14	1090	14	1065	14	1094	13	1078	14
NS-06	Inverter House MV6	973	18	866	19	826	20	798	20	771	20
NS-07	Inverter House MV7	1010	17	937	18	899	19	888	19	862	19
NS-08	Inverter House MV8	1058	17	1020	17	986	18	989	18	967	18
NS-09	Inverter House MV9	1132	16	1125	16	1095	16	1110	16	1090	17
NS-10	Inverter House MV10	1227	15	1246	15	1220	15	1244	15	1226	15
NS-11	Transformer 1 MVA (MV1)	852	--	737	--	696	--	667	--	639	0
NS-12	Transformer 1 MVA (MV2)	862	--	784	--	747	--	737	--	711	--
NS-13	Transformer 1 MVA (MV3)	906	--	870	--	837	--	844	--	822	--
NS-14	Transformer 1 MVA (MV4)	980	--	980	--	952	--	972	--	953	--
NS-15	Transformer 1 MVA (MV5)	1066	--	1091	--	1066	--	1095	--	1078	--
NS-16	Transformer 1 MVA (MV6)	977	--	870	--	829	--	801	--	773	--
NS-17	Transformer 1 MVA (MV7)	1014	--	940	--	902	--	890	--	864	--
NS-18	Transformer 1 MVA (MV8)	1061	--	1022	--	988	--	991	--	968	--
NS-19	Transformer 1 MVA (MV9)	1135	--	1127	--	1097	--	1111	--	1091	--
NS-20	Transformer 1 MVA (MV10)	1229	--	1247	--	1221	--	1245	--	1227	--
NS-21	Transformer 10 MVA	1054	15	952	16	912	16	885	16	857	17

Source ID	Source Name	Point of Reception									
		R06		R07		R08		R09		R11	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	609	23	206	33	191	34	238	32	287	30
NS-02	Inverter House MV2	685	22	358	28	342	29	392	27	434	26
NS-03	Inverter House MV3	800	20	534	24	517	25	569	24	607	23
NS-04	Inverter House MV4	935	18	710	21	693	21	745	21	781	20
NS-05	Inverter House MV5	1063	14	864	16	847	16	900	16	935	15
NS-06	Inverter House MV6	743	21	301	30	239	32	299	30	312	29
NS-07	Inverter House MV7	837	19	455	26	404	27	463	26	479	25
NS-08	Inverter House MV8	945	18	620	23	578	23	636	22	655	22
NS-09	Inverter House MV9	1071	17	790	20	753	21	811	20	832	20
NS-10	Inverter House MV10	1209	15	962	18	929	18	986	18	1009	17
NS-11	Transformer 1 MVA (MV1)	612	1	204	11	188	12	235	10	284	8
NS-12	Transformer 1 MVA (MV2)	687	--	356	6	339	6	390	5	431	4
NS-13	Transformer 1 MVA (MV3)	801	--	532	2	514	2	566	1	604	1
NS-14	Transformer 1 MVA (MV4)	935	--	708	--	690	--	743	--	778	--
NS-15	Transformer 1 MVA (MV5)	1063	--	862	--	844	--	897	--	932	--
NS-16	Transformer 1 MVA (MV6)	746	--	302	7	237	9	298	7	310	7
NS-17	Transformer 1 MVA (MV7)	839	--	454	3	402	5	462	3	477	3
NS-18	Transformer 1 MVA (MV8)	946	--	619	0	576	1	635	0	653	--
NS-19	Transformer 1 MVA (MV9)	1071	--	788	--	751	--	809	--	830	--
NS-20	Transformer 1 MVA (MV10)	1210	--	961	--	927	--	984	--	1006	--
NS-21	Transformer 10 MVA	830	17	378	25	302	27	363	25	359	25

Source ID	Source Name	Point of Reception									
		R14		R15		R16		R17		R18	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	327	29	418	27	490	25	610	23	725	21
NS-02	Inverter House MV2	467	26	563	24	617	23	718	21	814	20
NS-03	Inverter House MV3	635	22	734	21	774	20	858	19	936	18
NS-04	Inverter House MV4	807	20	907	19	938	18	1010	17	1074	17
NS-05	Inverter House MV5	959	15	1059	14	1085	14	1149	13	1203	12
NS-06	Inverter House MV6	331	29	432	26	463	26	554	24	648	22
NS-07	Inverter House MV7	495	25	596	23	612	23	681	22	752	21
NS-08	Inverter House MV8	671	22	773	20	784	20	840	19	895	19
NS-09	Inverter House MV9	848	19	950	18	957	18	1005	17	1048	17
NS-10	Inverter House MV10	1025	17	1127	16	1131	16	1174	16	1208	15
NS-11	Transformer 1 MVA (MV1)	323	7	414	4	486	3	606	1	720	--
NS-12	Transformer 1 MVA (MV2)	464	3	560	1	612	1	713	--	809	--
NS-13	Transformer 1 MVA (MV3)	632	0	731	--	770	--	854	--	932	--
NS-14	Transformer 1 MVA (MV4)	804	--	904	--	935	--	1006	--	1070	--
NS-15	Transformer 1 MVA (MV5)	956	--	1056	--	1082	--	1145	--	1199	--
NS-16	Transformer 1 MVA (MV6)	328	7	429	4	459	3	550	2	644	0
NS-17	Transformer 1 MVA (MV7)	492	3	594	1	609	1	677	--	748	--
NS-18	Transformer 1 MVA (MV8)	669	--	771	--	780	--	836	--	891	--
NS-19	Transformer 1 MVA (MV9)	846	--	947	--	954	--	1002	--	1044	--
NS-20	Transformer 1 MVA (MV10)	1022	--	1124	--	1128	--	1170	--	1204	--
NS-21	Transformer 10 MVA	365	25	467	23	470	23	537	21	614	20

Source ID	Source Name	Point of Reception									
		R19		R20		R21		R22		R23	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	2382	7	895	19	869	19	848	19	834	20
NS-02	Inverter House MV2	2233	8	958	18	937	18	919	18	910	19
NS-03	Inverter House MV3	2063	9	1053	17	1037	17	1024	17	1018	17
NS-04	Inverter House MV4	1896	10	1168	16	1156	16	1146	16	1143	16
NS-05	Inverter House MV5	1750	8	1280	12	1270	12	1264	12	1263	12
NS-06	Inverter House MV6	2306	7	797	20	775	20	756	21	746	21
NS-07	Inverter House MV7	2140	8	867	19	850	19	837	19	831	20
NS-08	Inverter House MV8	1968	9	982	18	970	18	961	18	959	18
NS-09	Inverter House MV9	1797	11	1113	16	1105	16	1100	16	1101	16
NS-10	Inverter House MV10	1628	12	1256	15	1251	15	1248	15	1252	15
NS-11	Transformer 1 MVA (MV1)	2383	--	891	--	865	--	843	--	830	--
NS-12	Transformer 1 MVA (MV2)	2234	--	954	--	932	--	915	--	905	--
NS-13	Transformer 1 MVA (MV3)	2064	--	1049	--	1032	--	1019	--	1013	--
NS-14	Transformer 1 MVA (MV4)	1897	--	1164	--	1151	--	1142	--	1139	--
NS-15	Transformer 1 MVA (MV5)	1751	--	1276	--	1266	--	1259	--	1259	--
NS-16	Transformer 1 MVA (MV6)	2307	--	793	--	770	--	752	--	741	--
NS-17	Transformer 1 MVA (MV7)	2142	--	862	--	845	--	832	--	827	--
NS-18	Transformer 1 MVA (MV8)	1970	--	977	--	965	--	957	--	955	--
NS-19	Transformer 1 MVA (MV9)	1799	--	1109	--	1101	--	1096	--	1097	--
NS-20	Transformer 1 MVA (MV10)	1629	--	1251	--	1247	--	1244	--	1247	--
NS-21	Transformer 10 MVA	2256	6	744	18	724	18	708	19	700	19

Source ID	Source Name	Point of Reception									
		R24		R25		R26		R27		R28	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	800	20	787	20	754	21	705	21	669	22
NS-02	Inverter House MV2	879	19	870	19	843	19	796	20	766	20
NS-03	Inverter House MV3	992	18	987	18	964	18	921	18	897	19
NS-04	Inverter House MV4	1122	16	1120	16	1101	16	1062	17	1042	17
NS-05	Inverter House MV5	1244	12	1244	12	1229	12	1192	13	1175	13
NS-06	Inverter House MV6	715	21	705	21	678	22	631	22	601	23
NS-07	Inverter House MV7	806	20	801	20	780	20	738	21	715	21
NS-08	Inverter House MV8	939	18	938	18	921	18	883	19	866	19
NS-09	Inverter House MV9	1084	17	1086	17	1073	17	1039	17	1025	17
NS-10	Inverter House MV10	1238	15	1242	15	1232	15	1200	15	1189	16
NS-11	Transformer 1 MVA (MV1)	795	--	782	--	750	--	700	--	664	--
NS-12	Transformer 1 MVA (MV2)	875	--	866	--	838	--	792	--	761	--
NS-13	Transformer 1 MVA (MV3)	988	--	983	--	960	--	917	--	893	--
NS-14	Transformer 1 MVA (MV4)	1117	--	1115	--	1097	--	1057	--	1037	--
NS-15	Transformer 1 MVA (MV5)	1240	--	1240	--	1225	--	1188	--	1171	--
NS-16	Transformer 1 MVA (MV6)	710	--	701	--	673	--	626	0	596	1
NS-17	Transformer 1 MVA (MV7)	801	--	797	--	775	--	734	--	711	--
NS-18	Transformer 1 MVA (MV8)	934	--	933	--	917	--	879	--	862	--
NS-19	Transformer 1 MVA (MV9)	1080	--	1082	--	1069	--	1035	--	1021	--
NS-20	Transformer 1 MVA (MV10)	1234	--	1237	--	1227	--	1196	--	1186	--
NS-21	Transformer 10 MVA	672	19	666	19	642	20	598	20	574	21

Source ID	Source Name	Point of Reception									
		R29		R30		R31		R32		R33	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	653	22	629	22	330	29	381	27	282	30
NS-02	Inverter House MV2	758	21	738	21	485	25	513	25	434	26
NS-03	Inverter House MV3	895	19	878	19	662	22	676	22	609	23
NS-04	Inverter House MV4	1044	17	1030	17	839	19	844	19	784	20
NS-05	Inverter House MV5	1180	13	1169	13	993	15	994	15	938	15
NS-06	Inverter House MV6	593	23	574	23	396	27	366	28	324	29
NS-07	Inverter House MV7	716	21	702	21	561	24	524	24	490	25
NS-08	Inverter House MV8	871	19	860	19	733	21	699	21	666	22
NS-09	Inverter House MV9	1034	17	1025	17	907	19	875	19	842	19
NS-10	Inverter House MV10	1201	15	1193	16	1083	17	1051	17	1018	17
NS-11	Transformer 1 MVA (MV1)	649	--	625	0	328	7	377	5	279	8
NS-12	Transformer 1 MVA (MV2)	753	--	733	--	483	3	509	2	431	4
NS-13	Transformer 1 MVA (MV3)	890	--	874	--	659	--	672	--	606	1
NS-14	Transformer 1 MVA (MV4)	1040	--	1026	--	836	--	841	--	782	--
NS-15	Transformer 1 MVA (MV5)	1177	--	1165	--	991	--	991	--	936	--
NS-16	Transformer 1 MVA (MV6)	589	1	570	1	395	5	363	6	322	7
NS-17	Transformer 1 MVA (MV7)	712	--	697	--	560	1	521	2	489	3
NS-18	Transformer 1 MVA (MV8)	868	--	856	--	732	--	696	--	664	--
NS-19	Transformer 1 MVA (MV9)	1030	--	1021	--	906	--	872	--	840	--
NS-20	Transformer 1 MVA (MV10)	1197	--	1189	--	1081	--	1048	--	1016	--
NS-21	Transformer 10 MVA	573	21	558	21	459	23	387	25	378	25

Source ID	Source Name	Point of Reception									
		R34		R35		R36		R37		R38	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	224	32	255	31	271	31	817	20	851	19
NS-02	Inverter House MV2	369	28	392	27	399	27	865	19	866	19
NS-03	Inverter House MV3	542	24	560	24	562	24	949	18	915	18
NS-04	Inverter House MV4	716	21	732	21	732	21	1056	17	993	18
NS-05	Inverter House MV5	870	16	884	16	882	16	1164	13	1081	14
NS-06	Inverter House MV6	250	31	373	28	395	27	949	18	978	18
NS-07	Inverter House MV7	417	27	512	25	527	24	1020	17	1018	17
NS-08	Inverter House MV8	593	23	665	22	674	22	1102	16	1070	17
NS-09	Inverter House MV9	769	20	828	20	833	20	1204	15	1147	16
NS-10	Inverter House MV10	946	18	995	18	998	18	1321	14	1244	15
NS-11	Transformer 1 MVA (MV1)	220	10	255	9	272	8	820	--	855	--
NS-12	Transformer 1 MVA (MV2)	366	6	391	5	399	5	868	--	869	--
NS-13	Transformer 1 MVA (MV3)	539	2	558	1	561	1	951	--	917	--
NS-14	Transformer 1 MVA (MV4)	713	--	730	--	730	--	1057	--	995	--
NS-15	Transformer 1 MVA (MV5)	867	--	882	--	881	--	1165	--	1082	--
NS-16	Transformer 1 MVA (MV6)	248	9	374	5	397	5	953	--	982	--
NS-17	Transformer 1 MVA (MV7)	415	4	512	2	527	2	1023	--	1022	--
NS-18	Transformer 1 MVA (MV8)	591	1	665	--	674	--	1104	--	1073	--
NS-19	Transformer 1 MVA (MV9)	767	--	827	--	833	--	1205	--	1149	--
NS-20	Transformer 1 MVA (MV10)	943	--	994	--	997	--	1323	--	1246	--
NS-21	Transformer 10 MVA	303	27	455	23	480	23	1035	15	1060	14

Source ID	Source Name	Point of Reception									
		R39		R40		R41		R42		R43	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	885	19	850	19	901	19	873	19	879	19
NS-02	Inverter House MV2	903	19	874	19	932	18	909	19	919	18
NS-03	Inverter House MV3	955	18	933	18	996	18	980	18	993	18
NS-04	Inverter House MV4	1035	17	1019	17	1085	17	1075	17	1091	17
NS-05	Inverter House MV5	1123	13	1112	13	1180	13	1175	13	1192	13
NS-06	Inverter House MV6	1013	17	979	18	1031	17	1004	17	1011	17
NS-07	Inverter House MV7	1057	17	1028	17	1086	17	1065	17	1074	17
NS-08	Inverter House MV8	1111	16	1088	17	1151	16	1135	16	1147	16
NS-09	Inverter House MV9	1189	16	1172	16	1237	15	1226	15	1241	15
NS-10	Inverter House MV10	1286	15	1275	15	1342	14	1335	14	1352	14
NS-11	Transformer 1 MVA (MV1)	889	--	854	--	904	--	876	--	882	--
NS-12	Transformer 1 MVA (MV2)	907	--	877	--	935	--	913	--	922	--
NS-13	Transformer 1 MVA (MV3)	958	--	935	--	998	--	983	--	995	--
NS-14	Transformer 1 MVA (MV4)	1037	--	1021	--	1087	--	1077	--	1093	--
NS-15	Transformer 1 MVA (MV5)	1125	--	1114	--	1181	--	1176	--	1193	--
NS-16	Transformer 1 MVA (MV6)	1017	--	983	--	1035	--	1008	--	1014	--
NS-17	Transformer 1 MVA (MV7)	1060	--	1032	--	1090	--	1068	--	1077	--
NS-18	Transformer 1 MVA (MV8)	1114	--	1091	--	1153	--	1137	--	1150	--
NS-19	Transformer 1 MVA (MV9)	1191	--	1174	--	1239	--	1228	--	1243	--
NS-20	Transformer 1 MVA (MV10)	1288	--	1276	--	1343	--	1337	--	1353	--
NS-21	Transformer 10 MVA	1095	14	1062	14	1115	14	1089	14	1096	14

Source ID	Source Name	Point of Reception									
		R44		R45		R46		R47		R48	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	913	19	937	18	936	18	942	18	981	18
NS-02	Inverter House MV2	956	18	960	18	966	18	977	18	1016	17
NS-03	Inverter House MV3	1032	17	1016	17	1029	17	1045	17	1082	17
NS-04	Inverter House MV4	1131	16	1097	16	1116	16	1136	16	1171	16
NS-05	Inverter House MV5	1232	12	1186	13	1209	12	1231	12	1264	12
NS-06	Inverter House MV6	1045	17	1066	17	1066	17	1074	17	1112	16
NS-07	Inverter House MV7	1111	16	1114	16	1121	16	1133	16	1171	16
NS-08	Inverter House MV8	1186	16	1171	16	1184	16	1200	15	1237	15
NS-09	Inverter House MV9	1282	15	1251	15	1268	15	1288	15	1323	14
NS-10	Inverter House MV10	1393	14	1349	14	1371	14	1392	14	1426	13
NS-11	Transformer 1 MVA (MV1)	916	--	941	--	939	--	946	--	984	--
NS-12	Transformer 1 MVA (MV2)	959	--	964	--	969	--	981	--	1019	--
NS-13	Transformer 1 MVA (MV3)	1035	--	1019	--	1031	--	1047	--	1084	--
NS-14	Transformer 1 MVA (MV4)	1133	--	1099	--	1118	--	1138	--	1173	--
NS-15	Transformer 1 MVA (MV5)	1234	--	1187	--	1210	--	1232	--	1266	--
NS-16	Transformer 1 MVA (MV6)	1049	--	1070	--	1070	--	1077	--	1116	--
NS-17	Transformer 1 MVA (MV7)	1114	--	1118	--	1124	--	1136	--	1174	--
NS-18	Transformer 1 MVA (MV8)	1189	--	1174	--	1186	--	1202	--	1239	--
NS-19	Transformer 1 MVA (MV9)	1283	--	1253	--	1271	--	1290	--	1325	--
NS-20	Transformer 1 MVA (MV10)	1394	--	1351	--	1373	--	1394	--	1428	--
NS-21	Transformer 10 MVA	1131	14	1149	14	1150	14	1158	13	1197	13

Source ID	Source Name	Point of Reception									
		R49		R50		R51		R52		R53	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	998	18	1114	16	1069	17	1048	17	958	18
NS-02	Inverter House MV2	1032	17	1156	16	1113	16	1092	17	1003	17
NS-03	Inverter House MV3	1098	16	1226	15	1186	16	1166	16	1080	17
NS-04	Inverter House MV4	1186	16	1316	14	1279	15	1260	15	1179	16
NS-05	Inverter House MV5	1278	12	1409	11	1374	11	1357	11	1279	12
NS-06	Inverter House MV6	1130	16	1246	15	1202	15	1181	16	1091	17
NS-07	Inverter House MV7	1187	16	1311	14	1268	15	1247	15	1158	16
NS-08	Inverter House MV8	1253	15	1381	14	1340	14	1320	14	1234	15
NS-09	Inverter House MV9	1338	14	1468	13	1430	13	1412	14	1329	14
NS-10	Inverter House MV10	1440	13	1571	12	1536	13	1518	13	1439	13
NS-11	Transformer 1 MVA (MV1)	1002	--	1117	--	1072	--	1051	--	961	--
NS-12	Transformer 1 MVA (MV2)	1036	--	1159	--	1116	--	1095	--	1006	--
NS-13	Transformer 1 MVA (MV3)	1100	--	1228	--	1188	--	1168	--	1082	--
NS-14	Transformer 1 MVA (MV4)	1188	--	1318	--	1281	--	1262	--	1180	--
NS-15	Transformer 1 MVA (MV5)	1280	--	1410	--	1375	--	1358	--	1280	--
NS-16	Transformer 1 MVA (MV6)	1133	--	1250	--	1205	--	1184	--	1094	--
NS-17	Transformer 1 MVA (MV7)	1191	--	1314	--	1271	--	1250	--	1161	--
NS-18	Transformer 1 MVA (MV8)	1255	--	1383	--	1343	--	1323	--	1236	--
NS-19	Transformer 1 MVA (MV9)	1340	--	1471	--	1432	--	1414	--	1331	--
NS-20	Transformer 1 MVA (MV10)	1442	--	1573	--	1538	--	1520	--	1441	--
NS-21	Transformer 10 MVA	1214	13	1332	12	1287	12	1266	12	1176	13

Source ID	Source Name	Point of Reception									
		R54		R55		R56		R57		R58	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	1134	16	1099	16	1072	17	1057	17	1019	17
NS-02	Inverter House MV2	1184	16	1147	16	1122	16	1111	16	1070	17
NS-03	Inverter House MV3	1263	15	1224	15	1201	15	1194	15	1151	16
NS-04	Inverter House MV4	1360	14	1321	14	1299	15	1296	15	1251	15
NS-05	Inverter House MV5	1457	10	1418	10	1398	11	1398	11	1352	11
NS-06	Inverter House MV6	1267	15	1232	15	1205	15	1191	16	1153	16
NS-07	Inverter House MV7	1340	14	1303	14	1277	15	1266	15	1225	15
NS-08	Inverter House MV8	1417	13	1378	14	1355	14	1348	14	1304	14
NS-09	Inverter House MV9	1511	13	1472	13	1450	13	1446	13	1401	14
NS-10	Inverter House MV10	1618	12	1579	12	1559	12	1558	12	1513	13
NS-11	Transformer 1 MVA (MV1)	1137	--	1102	--	1075	--	1060	--	1022	--
NS-12	Transformer 1 MVA (MV2)	1187	--	1150	--	1125	--	1114	--	1072	--
NS-13	Transformer 1 MVA (MV3)	1265	--	1227	--	1203	--	1196	--	1153	--
NS-14	Transformer 1 MVA (MV4)	1361	--	1322	--	1301	--	1298	--	1253	--
NS-15	Transformer 1 MVA (MV5)	1458	--	1419	--	1400	--	1399	--	1354	--
NS-16	Transformer 1 MVA (MV6)	1271	--	1235	--	1209	--	1194	--	1156	--
NS-17	Transformer 1 MVA (MV7)	1343	--	1305	--	1280	--	1269	--	1228	--
NS-18	Transformer 1 MVA (MV8)	1419	--	1381	--	1357	--	1350	--	1307	--
NS-19	Transformer 1 MVA (MV9)	1513	--	1474	--	1452	--	1448	--	1403	--
NS-20	Transformer 1 MVA (MV10)	1620	--	1581	--	1561	--	1560	--	1514	--
NS-21	Transformer 10 MVA	1354	12	1318	12	1291	12	1277	12	1239	13

Source ID	Source Name	Point of Reception									
		R59		R60		R61		R62		R63	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	982	18	991	18	941	18	958	18	942	18
NS-02	Inverter House MV2	1035	17	1049	17	994	18	1020	17	1005	17
NS-03	Inverter House MV3	1118	16	1137	16	1080	17	1114	16	1099	16
NS-04	Inverter House MV4	1222	15	1245	15	1185	16	1226	15	1212	15
NS-05	Inverter House MV5	1325	11	1351	11	1291	12	1335	11	1322	11
NS-06	Inverter House MV6	1116	16	1125	16	1074	17	1092	17	1076	17
NS-07	Inverter House MV7	1190	16	1204	15	1150	16	1175	16	1160	16
NS-08	Inverter House MV8	1271	15	1290	15	1233	15	1265	15	1250	15
NS-09	Inverter House MV9	1371	14	1393	14	1334	14	1372	14	1358	14
NS-10	Inverter House MV10	1485	13	1509	13	1450	13	1492	13	1479	13
NS-11	Transformer 1 MVA (MV1)	985	--	994	--	944	--	961	--	945	--
NS-12	Transformer 1 MVA (MV2)	1037	--	1051	--	997	--	1023	--	1007	--
NS-13	Transformer 1 MVA (MV3)	1120	--	1139	--	1082	--	1116	--	1101	--
NS-14	Transformer 1 MVA (MV4)	1223	--	1246	--	1187	--	1227	--	1213	--
NS-15	Transformer 1 MVA (MV5)	1326	--	1352	--	1292	--	1336	--	1323	--
NS-16	Transformer 1 MVA (MV6)	1119	--	1128	--	1078	--	1095	--	1079	--
NS-17	Transformer 1 MVA (MV7)	1193	--	1206	--	1152	--	1178	--	1162	--
NS-18	Transformer 1 MVA (MV8)	1274	--	1292	--	1235	--	1267	--	1252	--
NS-19	Transformer 1 MVA (MV9)	1373	--	1394	--	1336	--	1374	--	1360	--
NS-20	Transformer 1 MVA (MV10)	1486	--	1511	--	1451	--	1494	--	1480	--
NS-21	Transformer 10 MVA	1202	13	1211	13	1161	13	1179	13	1163	13

Source ID	Source Name	Point of Reception									
		R64		R65		R66		R67		R68	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	917	18	893	19	846	19	822	20	791	20
NS-02	Inverter House MV2	980	18	957	18	913	19	889	19	861	19
NS-03	Inverter House MV3	1075	17	1053	17	1014	17	991	18	966	18
NS-04	Inverter House MV4	1188	16	1169	16	1134	16	1111	16	1089	17
NS-05	Inverter House MV5	1299	12	1281	12	1250	12	1227	12	1208	12
NS-06	Inverter House MV6	1051	17	1027	17	979	18	956	18	925	18
NS-07	Inverter House MV7	1134	16	1111	16	1067	17	1043	17	1015	17
NS-08	Inverter House MV8	1226	15	1204	15	1164	16	1140	16	1114	16
NS-09	Inverter House MV9	1334	14	1314	14	1277	15	1254	15	1231	15
NS-10	Inverter House MV10	1456	13	1437	13	1404	14	1381	14	1361	14
NS-11	Transformer 1 MVA (MV1)	920	--	896	--	848	--	825	--	794	--
NS-12	Transformer 1 MVA (MV2)	982	--	959	--	915	--	892	--	863	--
NS-13	Transformer 1 MVA (MV3)	1076	--	1055	--	1016	--	992	--	967	--
NS-14	Transformer 1 MVA (MV4)	1189	--	1170	--	1135	--	1112	--	1090	--
NS-15	Transformer 1 MVA (MV5)	1300	--	1282	--	1250	--	1228	--	1208	--
NS-16	Transformer 1 MVA (MV6)	1054	--	1030	--	982	--	959	--	928	--
NS-17	Transformer 1 MVA (MV7)	1137	--	1114	--	1069	--	1046	--	1017	--
NS-18	Transformer 1 MVA (MV8)	1228	--	1206	--	1165	--	1142	--	1116	--
NS-19	Transformer 1 MVA (MV9)	1336	--	1315	--	1279	--	1255	--	1232	--
NS-20	Transformer 1 MVA (MV10)	1457	--	1438	--	1405	--	1382	--	1361	--
NS-21	Transformer 10 MVA	1138	14	1113	14	1066	14	1043	15	1012	15

Source ID	Source Name	Point of Reception									
		R69		R70		R71		R72		R73	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	768	20	755	21	741	21	731	21	713	21
NS-02	Inverter House MV2	842	19	830	20	816	20	809	20	791	20
NS-03	Inverter House MV3	950	18	941	18	927	18	923	18	905	19
NS-04	Inverter House MV4	1077	17	1069	17	1056	17	1054	17	1037	17
NS-05	Inverter House MV5	1198	12	1191	13	1179	13	1178	13	1162	13
NS-06	Inverter House MV6	902	19	889	19	874	19	864	19	847	19
NS-07	Inverter House MV7	995	18	983	18	969	18	961	18	943	18
NS-08	Inverter House MV8	1098	16	1087	17	1073	17	1068	17	1051	17
NS-09	Inverter House MV9	1217	15	1208	15	1195	15	1192	16	1175	16
NS-10	Inverter House MV10	1350	14	1342	14	1329	14	1327	14	1311	14
NS-11	Transformer 1 MVA (MV1)	771	--	757	--	743	--	733	--	716	--
NS-12	Transformer 1 MVA (MV2)	844	--	832	--	818	--	811	--	793	--
NS-13	Transformer 1 MVA (MV3)	952	--	942	--	928	--	924	--	907	--
NS-14	Transformer 1 MVA (MV4)	1078	--	1070	--	1057	--	1054	--	1038	--
NS-15	Transformer 1 MVA (MV5)	1199	--	1192	--	1180	--	1178	--	1162	--
NS-16	Transformer 1 MVA (MV6)	905	--	891	--	877	--	867	--	850	--
NS-17	Transformer 1 MVA (MV7)	997	--	985	--	971	--	963	--	945	--
NS-18	Transformer 1 MVA (MV8)	1099	--	1089	--	1075	--	1069	--	1052	--
NS-19	Transformer 1 MVA (MV9)	1218	--	1209	--	1196	--	1193	--	1176	--
NS-20	Transformer 1 MVA (MV10)	1350	--	1343	--	1330	--	1328	--	1312	--
NS-21	Transformer 10 MVA	989	15	975	15	961	16	951	16	934	16

Source ID	Source Name	Point of Reception									
		R74		R75		R76		R77		R78	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	692	21	719	21	757	21	209	33	277	30
NS-02	Inverter House MV2	773	20	784	20	820	20	290	30	337	29
NS-03	Inverter House MV3	890	19	885	19	918	18	434	26	462	26
NS-04	Inverter House MV4	1025	17	1008	17	1038	17	597	23	614	23
NS-05	Inverter House MV5	1152	13	1127	13	1155	13	744	18	755	18
NS-06	Inverter House MV6	826	20	853	19	891	19	126	38	173	35
NS-07	Inverter House MV7	925	18	938	18	974	18	272	31	285	30
NS-08	Inverter House MV8	1034	17	1034	17	1068	17	446	26	449	26
NS-09	Inverter House MV9	1161	16	1150	16	1181	16	622	23	620	23
NS-10	Inverter House MV10	1299	15	1280	15	1309	14	798	20	794	20
NS-11	Transformer 1 MVA (MV1)	695	--	722	--	760	--	205	11	273	8
NS-12	Transformer 1 MVA (MV2)	775	--	786	--	822	--	285	8	332	6
NS-13	Transformer 1 MVA (MV3)	892	--	887	--	920	--	431	4	458	3
NS-14	Transformer 1 MVA (MV4)	1025	--	1009	--	1039	--	593	1	610	1
NS-15	Transformer 1 MVA (MV5)	1152	--	1128	--	1155	--	741	--	751	--
NS-16	Transformer 1 MVA (MV6)	828	--	856	--	894	--	122	16	168	13
NS-17	Transformer 1 MVA (MV7)	927	--	940	--	977	--	269	8	281	8
NS-18	Transformer 1 MVA (MV8)	1036	--	1036	--	1070	--	443	4	446	4
NS-19	Transformer 1 MVA (MV9)	1162	--	1151	--	1183	--	619	0	617	0
NS-20	Transformer 1 MVA (MV10)	1300	--	1281	--	1310	--	796	--	791	--
NS-21	Transformer 10 MVA	913	16	939	16	977	15	135	34	140	34

Source ID	Source Name	Point of Reception									
		R79		R80		R81		R82		R83	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	370	28	882	19	896	19	907	19	939	18
NS-02	Inverter House MV2	416	27	898	19	896	19	894	19	904	19
NS-03	Inverter House MV3	523	24	946	18	927	18	910	19	894	19
NS-04	Inverter House MV4	660	22	1024	17	990	18	960	18	919	18
NS-05	Inverter House MV5	793	17	1110	13	1065	14	1027	14	967	15
NS-06	Inverter House MV6	258	31	759	21	768	20	776	20	806	20
NS-07	Inverter House MV7	337	29	771	20	760	21	752	21	753	21
NS-08	Inverter House MV8	484	25	839	19	809	20	785	20	755	21
NS-09	Inverter House MV9	646	22	937	18	892	19	854	19	798	20
NS-10	Inverter House MV10	814	20	1055	17	999	18	951	18	875	19
NS-11	Transformer 1 MVA (MV1)	366	6	878	--	892	--	904	--	936	--
NS-12	Transformer 1 MVA (MV2)	412	4	893	--	891	--	890	--	900	--
NS-13	Transformer 1 MVA (MV3)	518	2	942	--	923	--	906	--	890	--
NS-14	Transformer 1 MVA (MV4)	656	--	1019	--	985	--	956	--	915	--
NS-15	Transformer 1 MVA (MV5)	789	--	1105	--	1061	--	1022	--	963	--
NS-16	Transformer 1 MVA (MV6)	253	9	755	--	764	--	772	--	803	--
NS-17	Transformer 1 MVA (MV7)	333	6	766	--	755	--	747	--	749	--
NS-18	Transformer 1 MVA (MV8)	480	3	835	--	805	--	780	--	751	--
NS-19	Transformer 1 MVA (MV9)	642	0	932	--	887	--	849	--	793	--
NS-20	Transformer 1 MVA (MV10)	811	--	1050	--	994	--	947	--	870	--
NS-21	Transformer 10 MVA	203	30	683	19	687	19	693	19	719	19

Source ID	Source Name	Point of Reception									
		R84		R85		R86		R87		R88	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	346	28	489	25	680	22	782	20	877	19
NS-02	Inverter House MV2	447	26	562	24	730	21	825	20	910	19
NS-03	Inverter House MV3	591	23	680	22	819	20	903	19	976	18
NS-04	Inverter House MV4	750	21	819	20	934	18	1008	17	1068	17
NS-05	Inverter House MV5	894	16	951	15	1049	14	1114	13	1165	13
NS-06	Inverter House MV6	284	30	398	27	573	23	671	22	761	20
NS-07	Inverter House MV7	422	27	496	25	633	22	719	21	795	20
NS-08	Inverter House MV8	590	23	642	22	748	21	821	20	882	19
NS-09	Inverter House MV9	763	20	801	20	884	19	945	18	993	18
NS-10	Inverter House MV10	937	18	966	18	1033	17	1084	17	1121	16
NS-11	Transformer 1 MVA (MV1)	341	6	485	3	675	--	778	--	873	--
NS-12	Transformer 1 MVA (MV2)	443	4	558	1	725	--	820	--	905	--
NS-13	Transformer 1 MVA (MV3)	588	1	675	--	815	--	899	--	972	--
NS-14	Transformer 1 MVA (MV4)	746	--	815	--	930	--	1003	--	1064	--
NS-15	Transformer 1 MVA (MV5)	891	--	947	--	1045	--	1109	--	1160	--
NS-16	Transformer 1 MVA (MV6)	280	8	393	5	568	1	667	--	757	--
NS-17	Transformer 1 MVA (MV7)	418	4	491	3	628	0	714	--	790	--
NS-18	Transformer 1 MVA (MV8)	587	1	638	0	744	--	816	--	877	--
NS-19	Transformer 1 MVA (MV9)	760	--	797	--	880	--	940	--	989	--
NS-20	Transformer 1 MVA (MV10)	934	--	962	--	1029	--	1079	--	1117	--
NS-21	Transformer 10 MVA	278	28	357	25	513	22	607	20	692	19

Source ID	Source Name	Point of Reception									
		R89		R90		R91		R92		R93	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	962	18	1027	17	1116	16	1081	17	1204	15
NS-02	Inverter House MV2	991	18	1016	17	1107	16	1039	17	1130	16
NS-03	Inverter House MV3	1052	17	1031	17	1122	16	1018	17	1067	17
NS-04	Inverter House MV4	1137	16	1076	17	1164	16	1028	17	1031	17
NS-05	Inverter House MV5	1227	12	1136	13	1220	12	1060	14	1023	14
NS-06	Inverter House MV6	845	19	897	19	986	18	947	18	1073	17
NS-07	Inverter House MV7	873	19	874	19	964	18	887	19	975	18
NS-08	Inverter House MV8	952	18	903	19	992	18	874	19	912	19
NS-09	Inverter House MV9	1054	17	964	18	1049	17	896	19	881	19
NS-10	Inverter House MV10	1175	16	1053	17	1132	16	952	18	885	19
NS-11	Transformer 1 MVA (MV1)	958	--	1024	--	1113	--	1078	--	1202	--
NS-12	Transformer 1 MVA (MV2)	987	--	1012	--	1102	--	1036	--	1128	--
NS-13	Transformer 1 MVA (MV3)	1047	--	1027	--	1117	--	1014	--	1064	--
NS-14	Transformer 1 MVA (MV4)	1132	--	1072	--	1159	--	1023	--	1027	--
NS-15	Transformer 1 MVA (MV5)	1223	--	1132	--	1216	--	1056	--	1019	--
NS-16	Transformer 1 MVA (MV6)	840	--	893	--	982	--	944	--	1071	--
NS-17	Transformer 1 MVA (MV7)	868	--	869	--	960	--	883	--	973	--
NS-18	Transformer 1 MVA (MV8)	947	--	899	--	988	--	870	--	909	--
NS-19	Transformer 1 MVA (MV9)	1050	--	960	--	1045	--	892	--	878	--
NS-20	Transformer 1 MVA (MV10)	1171	--	1048	--	1127	--	947	--	881	--
NS-21	Transformer 10 MVA	774	18	814	17	904	16	860	17	988	15

Source ID	Source Name	Point of Reception									
		R94		R95		R96		R97		R98	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	1182	16	1099	16	1130	16	1175	16	1175	16
NS-02	Inverter House MV2	1141	16	1143	16	1171	16	1213	15	1202	15
NS-03	Inverter House MV3	1118	16	1215	15	1239	15	1277	15	1254	15
NS-04	Inverter House MV4	1123	16	1307	14	1327	14	1362	14	1329	14
NS-05	Inverter House MV5	1149	13	1401	11	1418	10	1450	10	1408	11
NS-06	Inverter House MV6	1048	17	989	18	1019	17	1063	17	1057	17
NS-07	Inverter House MV7	988	18	1033	17	1057	17	1097	16	1078	17
NS-08	Inverter House MV8	972	18	1121	16	1141	16	1177	16	1146	16
NS-09	Inverter House MV9	988	18	1229	15	1245	15	1277	15	1235	15
NS-10	Inverter House MV10	1035	17	1352	14	1364	14	1392	14	1342	14
NS-11	Transformer 1 MVA (MV1)	1179	--	1095	--	1126	--	1171	--	1171	--
NS-12	Transformer 1 MVA (MV2)	1137	--	1138	--	1166	--	1208	--	1197	--
NS-13	Transformer 1 MVA (MV3)	1114	--	1210	--	1234	--	1273	--	1250	--
NS-14	Transformer 1 MVA (MV4)	1119	--	1303	--	1322	--	1357	--	1324	--
NS-15	Transformer 1 MVA (MV5)	1145	--	1397	--	1413	--	1445	--	1404	--
NS-16	Transformer 1 MVA (MV6)	1045	--	985	--	1014	--	1058	--	1053	--
NS-17	Transformer 1 MVA (MV7)	985	--	1028	--	1053	--	1093	--	1074	--
NS-18	Transformer 1 MVA (MV8)	968	--	1116	--	1137	--	1172	--	1141	--
NS-19	Transformer 1 MVA (MV9)	984	--	1224	--	1240	--	1272	--	1230	--
NS-20	Transformer 1 MVA (MV10)	1030	--	1347	--	1359	--	1387	--	1337	--
NS-21	Transformer 10 MVA	962	16	925	16	953	16	995	15	985	15

Source ID	Source Name	Point of Reception					
		R99		R100		R101	
		Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]	Dist [m]	LEQ [dBA]
NS-01	Inverter House MV1	989	18	643	22	379	28
NS-02	Inverter House MV2	1027	17	696	21	452	26
NS-03	Inverter House MV3	1096	16	791	20	577	23
NS-04	Inverter House MV4	1187	16	910	19	723	21
NS-05	Inverter House MV5	1282	12	1028	14	861	16
NS-06	Inverter House MV6	876	19	776	20	513	25
NS-07	Inverter House MV7	914	19	851	19	604	23
NS-08	Inverter House MV8	1001	17	941	18	716	21
NS-09	Inverter House MV9	1110	16	1053	17	851	19
NS-10	Inverter House MV10	1234	15	1181	16	999	18
NS-11	Transformer 1 MVA (MV1)	985	--	646	--	382	5
NS-12	Transformer 1 MVA (MV2)	1023	--	699	--	454	3
NS-13	Transformer 1 MVA (MV3)	1091	--	792	--	577	1
NS-14	Transformer 1 MVA (MV4)	1183	--	911	--	723	--
NS-15	Transformer 1 MVA (MV5)	1277	--	1029	--	860	--
NS-16	Transformer 1 MVA (MV6)	872	--	779	--	516	2
NS-17	Transformer 1 MVA (MV7)	910	--	854	--	606	1
NS-18	Transformer 1 MVA (MV8)	997	--	943	--	717	--
NS-19	Transformer 1 MVA (MV9)	1105	--	1055	--	851	--
NS-20	Transformer 1 MVA (MV10)	1230	--	1182	--	999	--
NS-21	Transformer 10 MVA	809	17	862	17	600	20

Table A3: Acoustic Assessment Summary Table

Point of Reception	Point of Reception Description	UTM Coordinates [m]		Sound Level at Point of Reception, LEQ [dBA]	Verified by Acoustic Audit	Performance Limit, LEQ [dBA]	Compliance with Performance Limit
		Easting	Northing				
R01	Residential Dwelling	460345	4951886	26	No	45	Yes
R02	Residential Dwelling	460548	4951799	27	No	45	Yes
R03	Residential Dwelling	460587	4951818	28	No	45	Yes
R04	Residential Dwelling	460672	4951779	28	No	45	Yes
R05	Residential Dwelling	460698	4951794	28	No	45	Yes
R06	Residential Dwelling	460725	4951809	28	No	45	Yes
R07	Residential Dwelling	461145	4952105	36	No	45	Yes
R08	Residential Dwelling	461226	4952175	37	No	45	Yes
R09	Residential Dwelling	461229	4952114	35	No	45	Yes
R11	Residential Dwelling	461314	4952130	35	No	45	Yes
R14	Residential Dwelling	461370	4952144	34	No	45	Yes
R15	Vacant Lot	461422	4952057	32	No	45	Yes
R16	Vacant Lot	461545	4952139	31	No	45	Yes
R17	Residential Dwelling	461687	4952215	30	No	45	Yes
R18	Residential Dwelling	461808	4952308	28	No	45	Yes
R19	Residential Dwelling	460445	4954596	18	No	45	Yes
R20	Residential Dwelling	461961	4952475	27	No	45	Yes
R21	Residential Dwelling	461941	4952444	27	No	45	Yes
R22	Residential Dwelling	461923	4952416	27	No	45	Yes
R23	Vacant Lot	461912	4952390	27	No	45	Yes
R24	Residential Dwelling	461880	4952363	27	No	45	Yes
R25	Residential Dwelling	461869	4952338	28	No	45	Yes
R26	Residential Dwelling	461837	4952310	28	No	45	Yes
R27	Residential Dwelling	461788	4952295	28	No	45	Yes
R28	Residential Dwelling	461751	4952265	29	No	45	Yes
R29	Residential Dwelling	461732	4952224	29	No	45	Yes
R30	Residential Dwelling	461705	4952206	29	No	45	Yes
R31	Vacant Lot	461255	4952019	33	No	45	Yes
R32	Vacant Lot	461435	4952157	33	No	45	Yes
R33	Residential Dwelling	461286	4952105	34	No	45	Yes
R34	Residential Dwelling	461269	4952178	36	No	45	Yes
R35	Vacant Lot	461064	4952047	35	No	45	Yes
R36	Vacant Lot	461028	4952036	34	No	45	Yes
R37	Vacant Lot	460495	4951735	26	No	45	Yes
R38	Vacant Lot	460352	4951865	26	No	45	Yes
R39	Residential Dwelling	460337	4951825	26	No	45	Yes
R40	Residential Dwelling	460383	4951820	26	No	45	Yes
R41	Residential Dwelling	460368	4951754	25	No	45	Yes
R42	Vacant Lot	460410	4951745	26	No	45	Yes
R43	Vacant Lot	460420	4951725	26	No	45	Yes
R44	Residential Dwelling	460410	4951686	25	No	45	Yes
R45	Residential Dwelling	460313	4951767	25	No	45	Yes
R46	Residential Dwelling	460340	4951733	25	No	45	Yes
R47	Residential Dwelling	460354	4951705	25	No	45	Yes
R48	Residential Dwelling	460325	4951679	25	No	45	Yes
R49	Residential Dwelling	460310	4951669	24	No	45	Yes
R50	Residential Dwelling	460263	4951548	23	No	45	Yes
R51	Residential Dwelling	460303	4951570	24	No	45	Yes

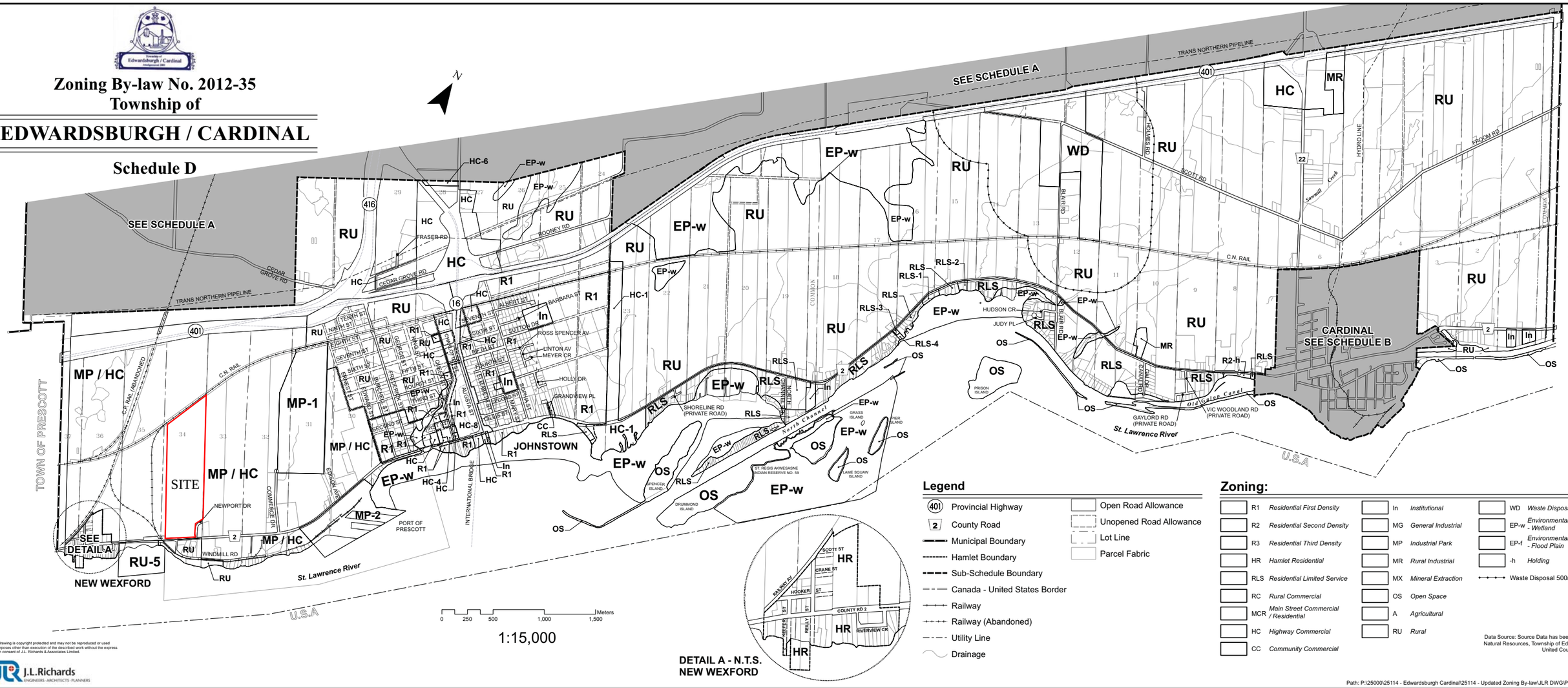
Point of Reception	Point of Reception Description	UTM Coordinates [m]		Sound Level at Point of Reception, LEQ [dBA]	Verified by Acoustic Audit	Performance Limit, LEQ [dBA]	Compliance with Performance Limit
		Easting	Northing				
R52	Residential Dwelling	460321	4951582	24	No	45	Yes
R53	Residential Dwelling	460387	4951643	25	No	45	Yes
R54	Residential Dwelling	460295	4951485	23	No	45	Yes
R55	Residential Dwelling	460308	4951522	23	No	45	Yes
R56	Residential Dwelling	460334	4951535	23	No	45	Yes
R57	Residential Dwelling	460364	4951526	24	No	45	Yes
R58	Residential Dwelling	460372	4951572	24	No	45	Yes
R59	Residential Dwelling	460405	4951590	24	No	45	Yes
R60	Residential Dwelling	460427	4951558	24	No	45	Yes
R61	Residential Dwelling	460437	4951618	25	No	45	Yes
R62	Residential Dwelling	460470	4951565	24	No	45	Yes
R63	Residential Dwelling	460481	4951576	25	No	45	Yes
R64	Residential Dwelling	460497	4951596	25	No	45	Yes
R65	Residential Dwelling	460518	4951610	25	No	45	Yes
R66	Residential Dwelling	460563	4951635	26	No	45	Yes
R67	Residential Dwelling	460574	4951656	26	No	45	Yes
R68	Residential Dwelling	460604	4951672	26	No	45	Yes
R69	Residential Dwelling	460633	4951678	26	No	45	Yes
R70	Residential Dwelling	460649	4951684	27	No	45	Yes
R71	Residential Dwelling	460657	4951696	27	No	45	Yes
R72	Residential Dwelling	460674	4951696	27	No	45	Yes
R73	Residential Dwelling	460683	4951711	27	No	45	Yes
R74	Residential Dwelling	460706	4951721	27	No	45	Yes
R75	Vacant Lot	460621	4951751	27	No	45	Yes
R76	Residential Dwelling	460590	4951727	27	No	45	Yes
R77	Vacant Lot	461284	4952359	41	No	45	Yes
R78	Vacant Lot	461340	4952407	40	No	45	Yes
R79	Vacant Lot	461420	4952456	37	No	45	Yes
R80	Vacant Lot	461847	4952743	29	No	45	Yes
R81	Vacant Lot	461809	4952827	29	No	45	Yes
R82	Vacant Lot	461771	4952893	29	No	45	Yes
R83	Vacant Lot	461702	4953008	30	No	45	Yes
R84	Vacant Lot	461429	4952296	36	No	45	Yes
R85	Vacant Lot	461564	4952390	34	No	45	Yes
R86	Vacant Lot	461730	4952511	31	No	45	Yes
R87	Vacant Lot	461817	4952573	30	No	45	Yes
R88	Vacant Lot	461888	4952650	29	No	45	Yes
R89	Vacant Lot	461959	4952698	28	No	45	Yes
R90	Vacant Lot	461878	4952952	28	No	45	Yes
R91	Vacant Lot	461959	4952993	27	No	45	Yes
R92	Vacant Lot	461771	4953135	28	No	45	Yes
R93	Vacant Lot	461638	4953370	28	No	45	Yes
R94	Vacant Lot	461844	4953206	27	No	45	Yes
R95	Residential Dwelling	462127	4952644	26	No	45	Yes
R96	Residential Dwelling	462149	4952677	26	No	45	Yes
R97	Residential Dwelling	462185	4952709	25	No	45	Yes
R98	Residential Dwelling	462151	4952793	26	No	45	Yes
R99	Residential Dwelling	462008	4952652	27	No	45	Yes
R100	Vacant Lot	460626	4951850	30	No	45	Yes
R101	Vacant Lot	460834	4952016	33	No	45	Yes

APPENDIX B

Zoning Maps

Zoning By-law No. 2012-35
Township of
EDWARDSBURGH / CARDINAL

Schedule D



Legend

- Provincial Highway (401)
- County Road (2)
- Municipal Boundary
- Hamlet Boundary
- Sub-Schedule Boundary
- Canada - United States Border
- Railway
- Railway (Abandoned)
- Utility Line
- Drainage
- Open Road Allowance
- Unopened Road Allowance
- Lot Line
- Parcel Fabric

Zoning:

R1	*Residential First Density*	In	*Institutional*	WD	*Waste Disposal*
R2	*Residential Second Density*	MG	*General Industrial*	EP-w	*Environmental Protection - Wetland*
R3	*Residential Third Density*	MP	*Industrial Park*	EP-f	*Environmental Protection - Flood Plain*
HR	*Hamlet Residential*	MR	*Rural Industrial*	-h	*Holding*
RLS	*Residential Limited Service*	MX	*Mineral Extraction*		Waste Disposal 500m Influence Area
RC	*Rural Commercial*	OS	*Open Space*		
MCR	*Main Street Commercial / Residential*	A	*Agricultural*		
HC	*Highway Commercial*	RU	*Rural*		
CC	*Community Commercial*				

Data Source: Source Data has been provided by the Ministry of Natural Resources, Township of Edwardsburgh/Cardinal and the United Counties of Leeds and Grenville.

Adopted: 25-June-2012
Print Date: 14-Jun-2012
JLR No.: 25114
Path: P:\25000\25114 - Edwardsburgh Cardinal\25114 - Updated Zoning By-law\JLR DWG\PLAN\25114_Schedule D.mxd

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

APPENDIX C

Equipment Sound Data

Table 1: AEI Solaron 500 Sound Power Measurements – Calculated Sound Power Levels in dB, re: $1x10^{-12}$ W

Configuration	LwA	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
1	83.5	77.5	81.0	77.0	80.0	84.0	87.5	79.0	75.5	77.0	76.0	77.5	73.0	74.0	74.0	71.0	70.0	68.0	65.0	64.5	64.5	63.0	58.5	67.5	66.5
2	84.0	77.5	80.5	77.0	80.0	84.0	87.5	78.5	75.5	76.5	76.0	78.0	73.5	74.0	74.0	71.0	70.0	68.0	66.0	66.0	65.5	65.0	62.5	72.0	72.0
3	83.5	77.0	80.5	76.5	80.0	83.5	87.5	78.5	75.5	76.5	77.5	78.0	73.5	74.5	74.0	71.5	72.0	69.5	66.5	65.5	64.5	63.0	58.0	63.0	61.5
4	83.0	77.0	77.0	76.5	80.0	83.5	87.5	78.5	73.5	76.5	76.0	77.5	73.5	74.0	74.0	71.0	70.0	67.5	65.0	64.5	64.5	63.0	58.0	61.5	61.5

*The testing environment did not meet the requirements in the ISO-3744 Standard. The presented data in all 1/3 octave bands should be considered as the upper boundary of the exact sound power levels.

Table 2: AEI Solaron 500 Configuration 1 – Measured Sound Pressure Level at 1m in dB, re: 20µPa

Mic Position	dBA	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
Front	67.7	61.0	69.0	61.0	63.9	68.4	75.2	61.7	57.2	59.5	58.5	59.7	55.9	58.1	57.7	56.1	54.5	51.3	49.5	49.5	48.9	48.1	43.6	52.2	51.1
Left	66.1	59.0	61.1	61.9	65.0	67.4	66.0	59.1	61.0	60.4	61.5	61.9	57.3	56.7	56.4	53.2	52.5	50.3	47.9	46.6	45.8	42.8	39.3	49.3	48.5
Rear	67.8	61.0	65.5	60.1	62.4	65.9	68.3	64.4	59.9	59.4	59.3	59.9	57.3	58.9	60.1	56.3	55.4	52.2	50.7	49.5	49.6	48.7	44.0	54.3	54.7
Right	67.7	58.2	65.6	57.1	63.1	68.7	75.0	66.6	58.9	63.5	58.2	60.8	57.0	56.7	57.1	54.1	52.6	50.2	47.5	46.9	46.9	47.0	41.5	51.9	51.3
Front Top	64.3	60.6	59.4	59.2	61.2	66.7	67.9	56.7	56.2	56.9	57.7	59.5	54.3	55.3	54.5	51.9	51.2	49.3	46.7	45.8	45.5	43.0	39.1	48.2	43.7
Left Top	63.9	60.7	60.6	59.6	59.8	63.0	62.6	55.7	54.2	58.3	56.9	59.7	55.2	55.8	55.0	52.3	50.4	49.3	46.2	45.1	45.0	42.5	38.0	46.7	42.9
Rear Top	64.8	59.5	60.1	57.4	62.5	65.8	62.5	55.8	56.8	58.9	59.3	60.7	55.9	55.1	56.5	52.7	52.2	50.7	46.6	45.9	46.8	45.1	39.7	47.2	43.3
Right Top	64.9	59.8	60.3	56.9	63.4	67.5	67.5	59.4	54.3	56.8	56.3	60.1	55.0	55.4	56.1	52.7	52.7	51.0	47.9	47.2	47.0	46.1	40.9	45.5	43.8
Top	62.3	60.6	59.6	58.3	60.9	64.3	67.7	59.1	57.5	55.8	56.6	56.4	52.5	52.3	52.3	49.9	48.4	49.5	44.4	43.3	46.3	42.7	35.8	41.3	38.5

*The testing environment did not meet the requirements in the ISO-3744 Standard. The presented data in all 1/3 octave bands should be considered as the upper boundary of the exact sound power levels.

SMALL POWER TRANSFORMERS
SOUTH BOSTON, VA.

FULL LOAD KVA		NUMBER OF RADIATOR BANKS IN SERVICE
10000	KNAN	4.0
8000	KNAN	3.0
7000	KNAN	2.0
5000	KNAN	1.0

RISE OVER AMBIENT LIMITED TO 65 DEGREE C.

CALUULATED SOUND LEVEL 63.0 DB

CALCULATED EFFICENCY AND LOSSES

% LOAD	% EFFICENCY	NO-LOAD LOSS	LOAD LOSS	TOTAL LOSS
25	99.51	9731	2459	12190
50	99.61	9731	9849	19580
75	99.58	9731	22149	31880
100	99.51	9731	39379	49110
125	99.43	9731	61529	71260

INSTRUCTION BOOK: PC-1002 | MFR ID: 1LUS | SERIAL: BS41456-#### | MANUFACTURE DATE: ##/##

UNIT 001
UNIT 002
UNIT 003

PROJECT NAME GLENGARRY 1 PV SOLAR
PROJECT NAME HAMILTON SOLAR SITE
PROJECT NAME EDWARDSBURGH SOLAR 1

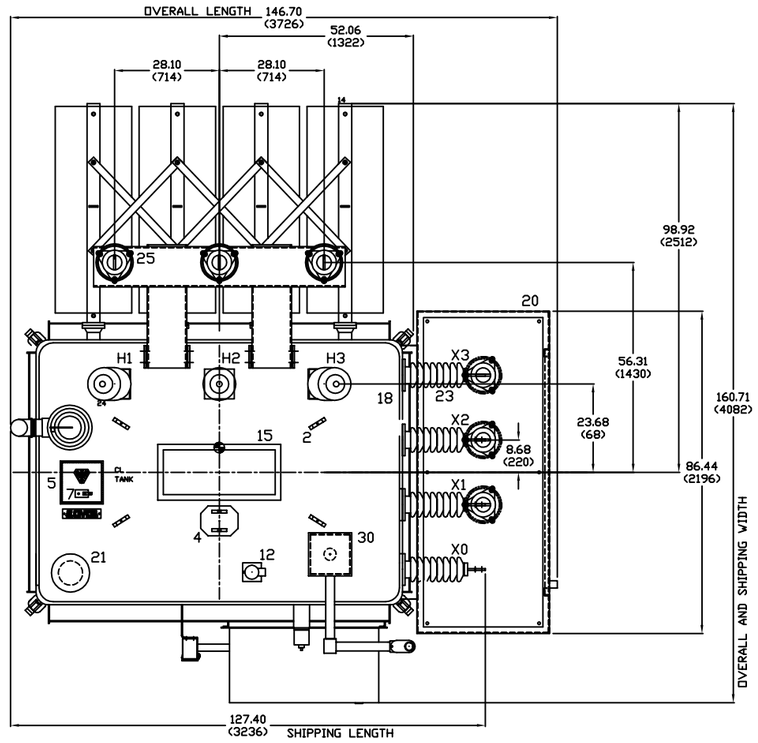
MFR. ID	SHOP ORDER
1LUS	BS41456
MFR. ID	DRAWING #
1LUS	BS41456N1

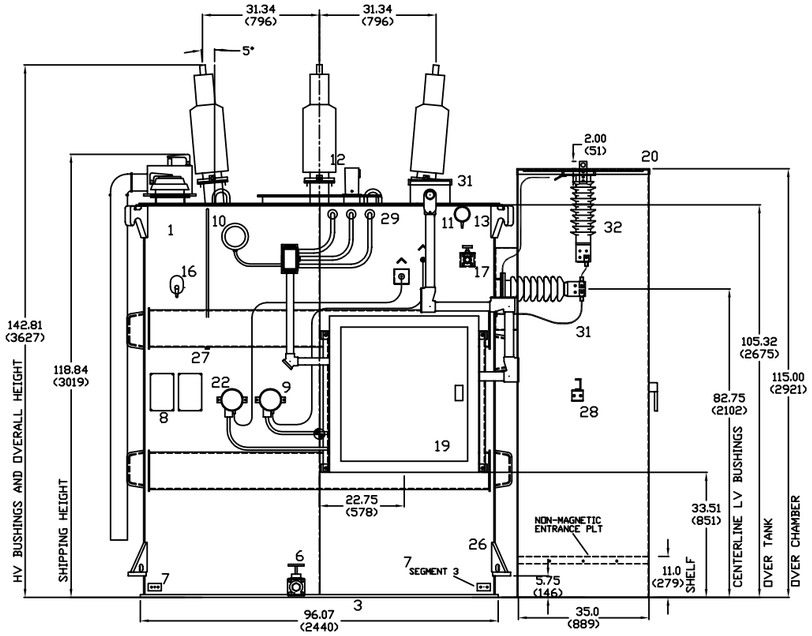
CUSTOMER NOTE: N.P. DWG. IS FOR YOUR INFO & REVIEW. THE IMPEDANCE, MANUFACTURE DATE, AND ABB SERIAL NUMBER ARE LEFT BLANK SINCE DRAWING IS SUBMITTED PRIOR TO MANUFACTURING. THE ACTUAL VALUES ARE ENGRAVED ON THE NAMEPLATE AT TIME OF SHIPMENT. THIS DRAWING REVISED TO ADD TESTED VALUES.

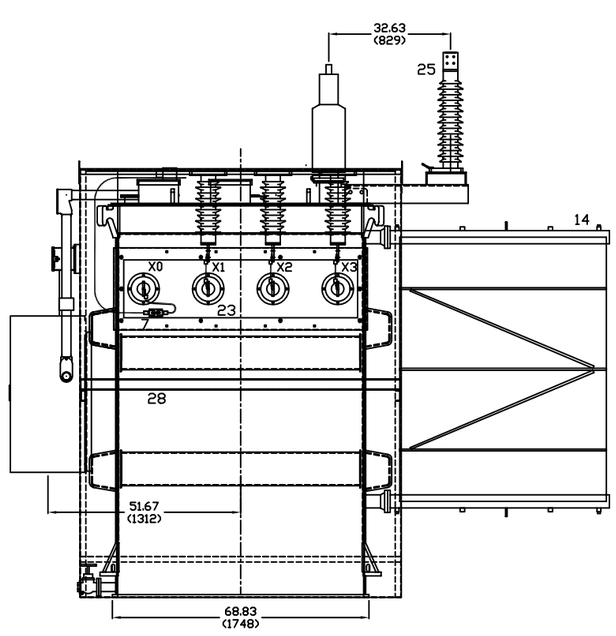
5/16 INCH HOLES FOR 190-32 X 3/16 SCREW
SIZE 6.25 INCHES X 10.0 INCHES AREA 62.5 SQUARE INCHES
DISTANCE BETWEEN CENTERS OF HOLES ON LONG EDGE 9 19/32 INCH ± 1/64 ON SHORT EDGE 5 27/32 INCH ± 1/64

1							
N.P.DRAFT.		DATE	N.P.DRAFT.	DATE	N.P.DRAFT.	DATE	N.P.DRAFT.	DATE
DRAFT.			DRAFT.		DRAFT.		DRAFT.	
ENGINEER	R.Halley	03/20/13	ENGINEER		ENGINEER		ENGINEER	

IT	CHANGE
	2 REVISED PER CUSTOMER COMMENTS ADDED CT FEEDTHRU R. HAILEY 2/11/13 M. CLARK 2/11/13
	3 ADDED LV ARRESTERS REVISED PER CUSTOMER COMMENTS R. HAILEY 3/18/13 M. CLARK 3/18/13







RENEWAL PARTS FOR OUTLINE

A SPARE SET OF ALL GASKETS AND
1 OF EACH STYLE BUSHING IS RECOMMENDED FOR STOCK.
FOR PRICES CONTACT YOUR FIELD SALES OFFICE

ORDER RENEWAL PARTS BY STYLE NUMBER AS FOLLOWS:

STYLE NUMBER = OUTLINE NUMBER - ITEM NUMBER - QUANTITY.

EXAMPLE: BS4145601-24-1.

FOR GASKETS ONLY PLACE A 'G' IN FRONT OF OUTLINE NUMBER
EXAMPLE: GBS4145601-24-1. (ONE GASKET)
EXAMPLE: GBS4145601 (ALL GASKETS)

ABB INC.
SMALL POWER TRANSFORMERS
SOUTH BOSTON, VIRGINIA U.S.A.

APPROXIMATE NET WEIGHTS

CORE AND COILS	33222 LBS.	(15069 KGS.)
TANK AND FITTINGS	13981 LBS.	(6342 KGS.)
LIQUID - NATURAL ESTER FLUID - 2366 GAL. (8956 LITRES)	17979 LBS.	(8155 KGS.)
TOTAL WEIGHT	65182 LBS.	(29566 KGS.)
APPROXIMATE TRANSFORMER SHIPPING WEIGHT	65182 LBS.	(29566 KGS.)
COOLER LIQUID TOTAL -- 218 GAL. (825 LITRES) -	1657 LBS.	(752 KGS.)
MAXIMUM COOLER ASSEMBLY WEIGHT EACH	1441 LBS.	(654 KGS.)

(COOLER WEIGHTS ARE INCLUDED IN TANK AND FITTINGS WEIGHT)
(COOLER LIQUID WEIGHT IS INCLUDED IN LIQUID WEIGHT)

LV CHAMBER WEIGHT 745 LBS. (338 KGS.)

ITEM

1 SEALED TANK - BRACED FOR 15 PSI (103 KP) - COLOR ANSI 70
2 WELDED COVER WITH GASKET AND LIFTING LOOPS FOR LIFTING COVER ONLY.
3 BASE - DESIGNED FOR ROLLING PARALLEL TO CENTERLINES AND TYPICAL ANCHORING IS WELDED.
4 FALL ARREST MOUNTING BASE - FOR MANUFACTURING PURPOSES.
5 EXTERNAL CORE GROUND
6 2.0 (51) DRAIN VALVE/LOWER FILTER PRESS WITH .38 (7) SAMPLER.
7 GROUND PADS METRIC STAINLESS STEEL - 2 HOLE NEMA DRILLING - 04 TOTAL.
8 STAINLESS STEEL NAMEPLATES AND WARNING DECAL.
9 LIQUID TEMPERATURE GAUGE WITH ALARM CONTACTS.
10 MAGNETIC LIQUID LEVEL GAUGE WITH ALARM CONTACTS.
11 METRIC VACUUM PRESSURE GAUGE WITH AIR TEST VALVE AND SEALEDAIRE VALVE.
12 RAPID PRESSURE RISE RELAY.
13 LIFTING HOOK FOR LIFTING COMPLETE TRANSFORMER. THE TRANSFORMER IS DESIGNED FOR LIFTING WITH 4 VERTICAL SLINGS. THIS MAY REQUIRE THE USE OF A SPREADER OR LIFTING BEAM. IF VERTICAL SLINGS ARE NOT POSSIBLE, THE MINIMUM PERMISSIBLE SLING ANGLE RELATIVE TO HORIZONTAL IS 60 DEGREES.
14 20.5 INCH (521) REMOVABLE GALVANIZED PANEL COOLERS - 04 TOTAL.
15 BOLTED MANHOLE - 12.00 (305) X 30.00 (762) OPENING, WITH CORTITE GASKET.
16 DE-ENERGIZED TAP CHANGER - WITH .38 HOLE FOR PADLOCKING.
17 1.0 (25) VALVE WITH .38 (10) SAMPLER FOR UPPER FILTER PRESS CONNECTION.
18 RELIEF DEVICE WITH 4 INCH (102) DIRECTIONAL SHIELD AND SEMAPHORE OVER A 7.00 INCH (178) HANDHOLE.
19 CONTROL CABINET.
** 20 LV FREE STANDING BOTTOM ENTRANCE AIR TERMINAL CHAMBER WITH PADLOCKABLE DOOR, AND NON-MAGNETIC ENTRANCE PLATE.
21 PROCESSING PORT FOR MANUFACTURING.
22 REMOTE HOT SPOT WINDING TEMPERATURE INDICATOR WITH ALARMS.
23 LV BUSHING WARCO STYLE NUMBER 41A5681-1V 17.38 (441) CL TO CL - SEE DETAIL 23
** 24 HV BUSHING STYLE 5028C99H05 31.34 (796) CL TO CL - SEE DETAIL 24
** 25 48 KV HV ARRESTERS - 3 TOTAL - STYLE NO. Q048SA039A.
26 JACKING PROVISIONS ON TANK FOR JACKING COMPLETE UNIT
27 AUXILIARY GAS SPACE IN BRACES-REMOVE DRAIN PLUG, DRAIN FRONT & REAR, THEN REPLACE DRAIN PLUG BEFORE ENERGIZING UNIT.
28 LV CABLE SUPPORTS
29 LV CT FEEDTHRU - 03 TOTAL
30 HV CT FEEDTHU BOX
31 XO BUSHING GROUND CABLE
** 32 24 KV LV ARRESTERS - 3 TOTAL - STYLE NO. Q024SA019A.

** ITEMS ARE REMOVED FOR SHIPMENT

NOTES:
CONDUIT IS GALVANIZED STEEL RIDGID WITH SHORT RUNS OF FLEX
NON-SKID PAINT ON COVER
TANK BASE PLUS 2 INCHES UP THE SIDE OF UNIT IS UNDERCOATED
ALL HARDWARE IS STAINLESS STEEL WITH SILICONE BRONZE NUTS
BUSHING IDENTIFICATION STENCILED ON UNIT

DESIGNATES CENTER OF GRAVITY COMPLETE
FROM GROUND IN FRONT VIEW 43.835(1113)
LEFT OF CENTERLINE TOP VIEW .018(0)
ABOVE CENTERLINE TOP VIEW 6.618(168)

TEMP RISE	KNAN KVA -
65° C	10000

DESIGN IMPEDANCE 7.500 %

HV 250 KV BIL LV 200 KV BIL

PROJECT NAME: GLENGARRY 1 PV SOLAR

PROJECT NAME: HAMILTON SOLAR SITE

PROJECT NAME: EDWARDSBURGH SOLAR 1

APPARATUS SUBSTATION TRANSFORMER CLASS KNAN OUTDOOR
60 HERTZ 10000 KVA HV 44000-DELTA LV 27600Y/15935 3 PH

DFTM Mark Clark	02/06/13	WIRING DIAGRAM	ILUSBS41456WI	MFR. ID	DRAWING NUMBER
CHKD R.Hailey	02/06/13	NAME PLATE	ILUSBS41456NI	ILUS	BS4145601
APPD		INSTRUCTION BOOK	PC-1002		
SMALL POWER TRANSFORMER			DIMENSIONS IN INCHES-SCALE NTS		

Copy of Transformer Type Test Records

Test type:	**Sound Test**

Kva	300	500	750	1000
Onan	48.4	50.8	50.2	48.5
Actual_SN	07J800213	07J776241	07J795291	07J790181
Actual_Date	19-Jun-07	8-May-07	11-Jun-07	29-May-07
Actual_HV	12470	13200	13200	4160

Comments:	

I testify the data above was taken from records of Engineering Department.

Susmitha Tarlapally
Engineering Dept

5/31/2012
Date

ABB Inc.

Distribution Transformer Division
500 West Highway 94
Jefferson City MO 65101-5032

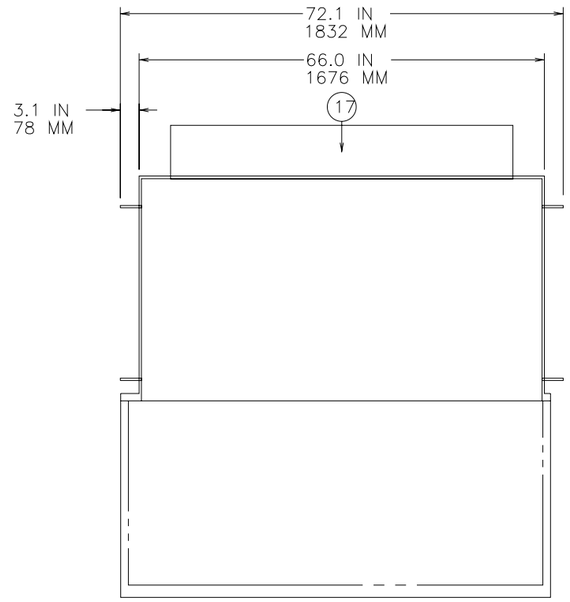
Telephone 573-634-2111
Telefax 573-659-6275

ISO 9001 Certified

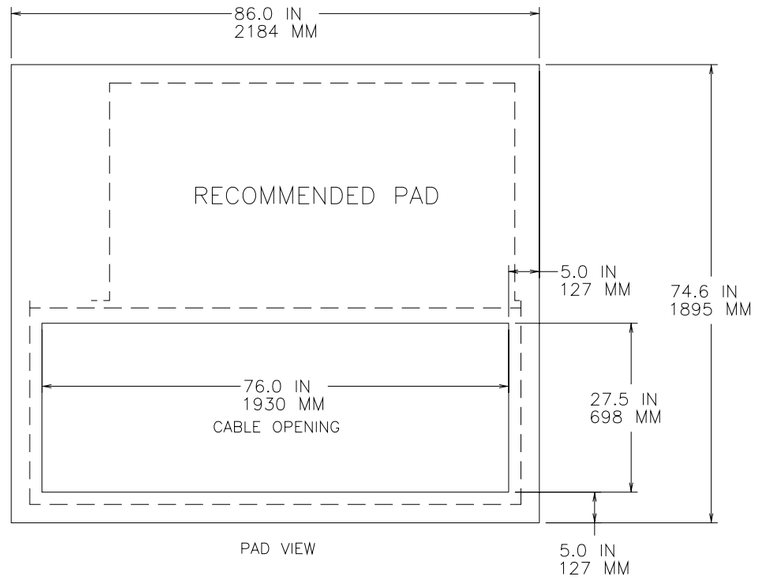
JC65550 3PH 1000.0kVA HV=27600 LV=480Y/277 EQUIPMENT GREEN 2 COAT URETHANE ENVIROTEMP (FR3) Order XAC14123 – 1

DOWNLOAD INSTRUCTION BOOKS AT WWW.ABB.COM/TRANSFORMERS
DESCARGAR LIBRO DE INSTRUCCIONES EN WWW.ABB.COM/TRANSFORMERS

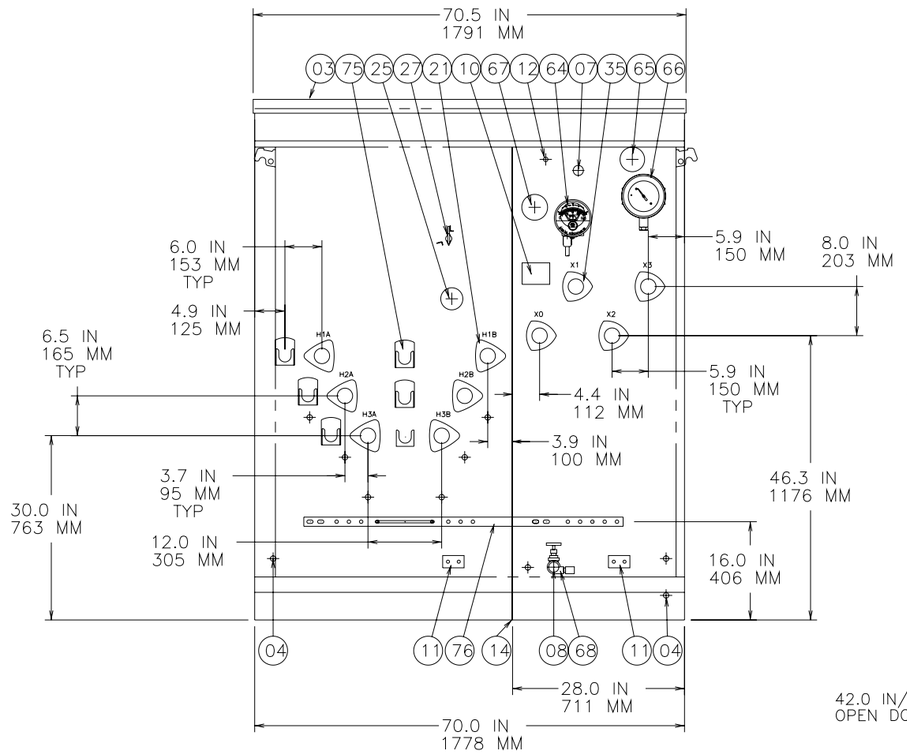
THIS OUTLINE IS FOR ERECTION OR MOUNTING PURPOSES. IT IS NOT TO SCALE AND SHOULD NOT BE REGARDED AS INDICATING THE EXACT DETAILS OF CONSTRUCTION.



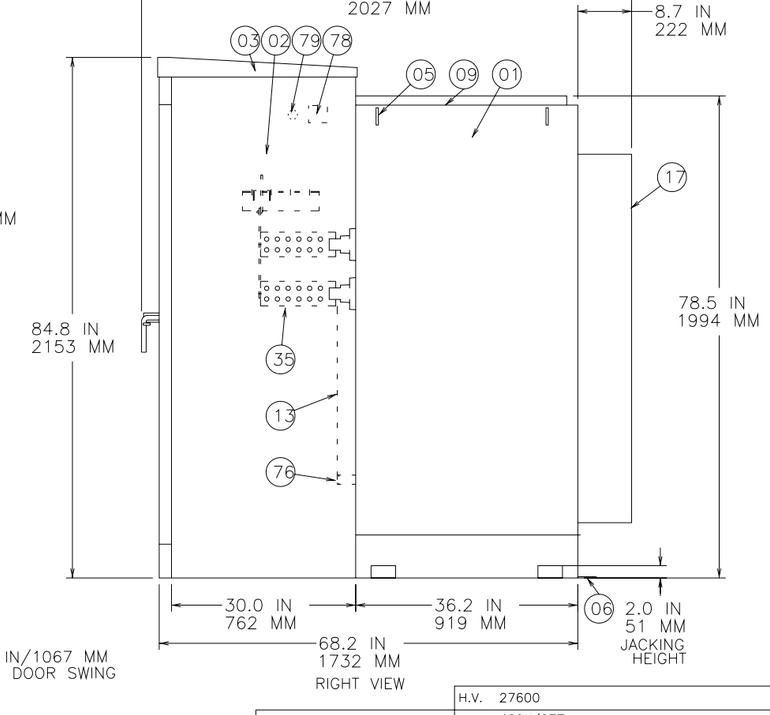
TOP VIEW



PAD VIEW



FRONT VIEW
SHOWN WITHOUT DOORS

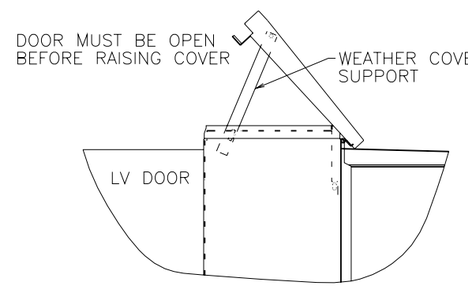


RIGHT VIEW

42.0 IN/1067 MM
OPEN DOOR SWING

01 TANK
02 CABINET BOLTED–ON, REMOVABLE SILLS, OPEN BOTTOM 1.25 INCH FLANGE, HINGED LIFT–OFF DOOR, PROVISION FOR PADLOCK, STOP IN OPEN POSITION.
03 HINGED WEATHER COVER
04 TANK TO CABINET GROUND
05 LIFTING HOOKS, 4 TOTAL
06 SHIPPING BRACKETS
07 1 INCH SST FILL VALVE W/PLUG
08 1 INCH DRAIN PLUG
09 HANDHOLE, 15 INCH X 24 INCH, BOLTED–ON COVER
10 NAMEPLATE MOUNTED ON TANK WALL
11 GROUND PAD
12 PRESSURE RELIEF DEVICE
13 LV NEUTRAL GROUNDING STRAP
14 STEEL HIGH–LOW BARRIER WITH INSULATING BARRIER ON HIGH & LOW VOLTAGE SIDES
17 REAR COOLER
21 HIGH VOLTAGE INTEGRAL NON–LOADBREAK BUSHING – 35 KV 150 BIL COOPER PS CATALOG # 2637459C01
25 TAP CHANGER
27 LBOR TRANSFORMER SWITCH WITH PADLOCKING PROVISION FOR OPEN & CLOSED POSITIONS
35 LOW VOLTAGE BUSHING,WITH 12 HOLE SPADES (SUPPORTED)
64 WINDING TEMPERATURE INDICATOR WITH THREE SETS OF CONTACTS
65 PRESSURE VACUUM GAUGE WITH TWO SETS OF CONTACTS
66 OIL LEVEL GAUGE WITH TWO SETS OF CONTACTS
67 THERMOMETER WITH TWO SETS OF CONTACTS
68 DRAIN VALVE WITH SAMPLER
75 PARKING STAND
76 GROUND BUS– COPPER BAR WITH ELEVEN .56 DIA HOLES
78 EXTERNAL ID TAG (LEFT SIDE)
79 PCB FREE DECAL (LEFT SIDE)

** COVER MOUNTED PRESSURE RELIEF DEVICE WITH TWO SETS OF ALARM CONTACTS
** EXTERIOR COLOR: EQUIPMENT GREEN
** CSA SPEC: C227.4–6, FIGURE 8
** THREE 27 KV ELBOW ARRESTERS SUPPLIED COOPER PS 3238020C27M FIG. 8 INTERFACE FOR USE WITH COOPER PS 600 A 35 kV CLASS T–OP II DEADBREAK CONNECTOR
** INTERNALLY REMOVABLE ELECTROSTATIC SHIELD GROUND
** INTERNALLY REMOVABLE CORE GROUND
** CABINET PARTS GROUNDED TO TANK
** JACKING PADS WITH HOLES FOR PULLING



KVA	1000
H.V.	27600
L.V.	480Y/277

REV DATA
02 ARRESTERS WERE ELASTIMOLD 375ESA–27 FIG. 7 INTERFACE SWG 12–12–12

ABB INC.						REV NO 02
TITLE OL3PPADMNT	DEF XXX	FIN XX	U/M XX	NOTE XX		
DES 3PH OUTLINE					USER GUESTA	
DIMENSIONS IN INCHES–SCALE .1		CADAM 686080511NNMNBZSL02,1				
S,GUERRANT	121112	APPD XXXXX	MMDDYY			
D SPEC N9307		APPD		J801BZSL		
ENG. REF XXXXXX		686089400511NNMNN01,1				
ENGINEERING DEPT.	JEFFERSON CITY, MO.			USA		

Transformer 10 MV														
NEMA (Nr)									63	MV:	10			
										10*logS:	19.6	a	b	H
Correction	3	5	0	0	-6	-11	-16	-23	A	S:	91.0	4.326	4.682	3.927
Lw	85.6	87.6	82.6	82.6	76.6	71.6	66.6	59.6	83.0					

Transformer 1 MV														
NEMA (Nr)									48.5	MV:	1			
										10*logS:	15.1	a	b	H
Correction	3	5	0	0	-6	-11	-16	-23	A	S:	32.4	2.432	2.784	2.453
Lw	66.6	68.6	63.6	63.6	57.6	52.6	47.6	40.6	64.0					

APPENDIX D

Details of Predictive Acoustical Modelling

The predictive model used for this Assessment (*Cadna-A version 4.3.143*) is based on the methods from ISO Standard 9613-2.2 “Acoustics - Attenuation of Sound During Propagation Outdoors” [6], which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures (or by topography and foliage where applicable). This modeling technique is acceptable to the MOE.

The subject site and surrounding area were modelled as flat ground based on observations made during the March 14, 2011 site visit. Ground attenuation was assumed to be spectral for all sources, with the ground factor (G) assumed to be 0.7 in all areas. The temperature and relative humidity were assumed to be 10° C and 70%, respectively.

The predictive modelling considered one order of reflection, with both on-site and off-site shielding/reflections afforded by buildings, walls, etc., with spectral absorptive characteristics applied to structures as appropriate, typically with values representative of corrugated metal or concrete block. No credit has been assumed in the model for self-shielding of the sources on site by the arrays of solar panels themselves. In this regard the predictions are conservative (i.e., may tend to overpredict the sound levels slightly).

All mechanical sources were modeled as point sources of sound and are shown as crosses in Figures 3 and 4.

APPENDIX E

Acoustic Assessment Criteria

The MOE noise assessment guidelines draw a distinction between sound produced by traffic sources and that produced by industrial or commercial activities, which are classified as *stationary sources of sound*. In essence, the sound from the stationary sources is evaluated against (i.e. compared to) the typical background sound at any potentially impacted, sound-sensitive points of reception (e.g., residences). Background sound is considered to include road traffic sound and other typical sounds, but excludes the sound of the facility under assessment. MOE Publication NPC-205, "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Semi-urban)," is a guideline for developing applicable sound level limits. In general, the acceptability limits for stationary sources are site dependent, and are based on the existing ambient background sound levels in the area of the subject site.

Publication NPC-205 stipulates that the sound level limit for a stationary source that can operate during both daytime and nighttime hours in a semi-urban environment is the greater of the minimum one-hour energy-equivalent (L_{EQ}) background sound level, or the exclusionary minimum limits of 45 dBA. The MOE guidelines also stipulate that the noise assessment shall consider a *predictable worst-case hour*, which is defined as an hour when typically busy operation of the stationary sources under consideration could coincide with an hour of low background sound.

The characteristic background sound level can be determined through automated long-term measurement, or by predictive analysis based on road traffic volume counts, in cases where the background sound is dominated by road traffic. For the purposes of this assessment, background sound monitoring was conducted by HGC Engineering in the vicinity of the nearest points of reception to the site using a Brüel & Kjær model 2236 Precision Integrating Sound Level Meter, calibrated before and after the measurements. The minimum one-hour energy-equivalent (L_{EQ}) background sound level was 43 dBA. The applicable criterion for the purposes of this assessment is therefore the exclusionary minimum of 45 dBA.

The results of these measurements are presented graphically in Figure E1.

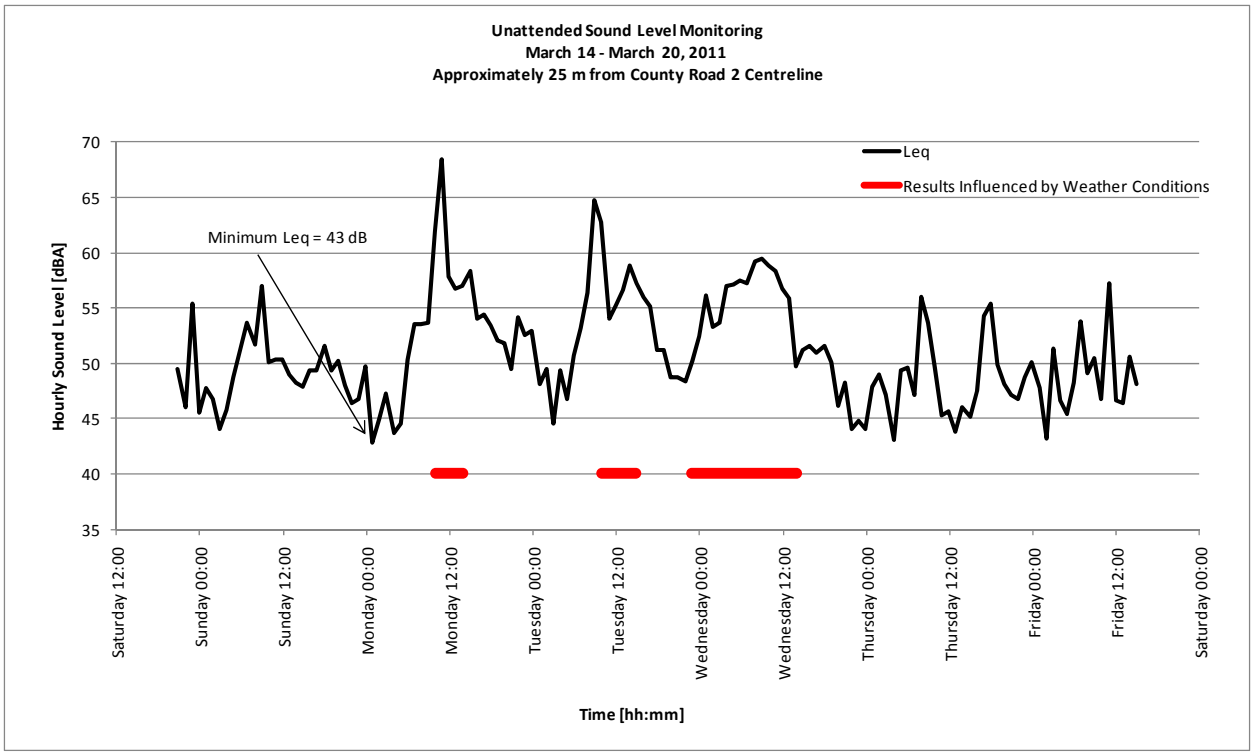


Figure E1 – Background Sound Levels In The Vicinity of Nearest Points of Reception

APPENDIX F

Sample Calculation Results - Condensed, Overall dBA Format

In the following tables of calculation results, the column headings for the various sound attenuation mechanisms follow the terminology of ISO Standard 9613-2. Lx is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) source sound power level, which includes the effects of any source-abatement measures included in the model, and any time-averaging effects for intermittent sources. Lr is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) sound level at the point of reception. The results are presented in terms of overall A-weighted results, at the most impacted off-site point of reception.

R06	Residential Dwelling	460725	4951809	4.5												
Src ID	Src Name	X	Y	Z	LxD	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	ReflD	LrD
NS-01	Inverter House MV1	461083	4952302	2.5	91	66.7	0	0.0	-0.3	0.0	2.1	0.0	0.0	0.0	0.0	23
NS-02	Inverter House MV2	461004	4952435	2.5	91	67.7	0	0.0	-0.3	0.0	2.2	0.0	0.0	0.0	0.0	22
NS-03	Inverter House MV3	460914	4952587	2.5	91	69.1	0	0.0	-0.2	0.0	2.5	0.0	0.0	0.0	0.0	20
NS-04	Inverter House MV4	460823	4952739	2.5	91	70.4	0	0.0	-0.2	0.0	2.8	0.0	0.0	0.0	0.0	18
NS-05	Inverter House MV5	460744	4952872	2.5	88	71.5	0	0.0	-0.1	0.0	3.1	0.0	0.0	0.0	0.0	14
NS-06	Inverter House MV6	461167	4952406	2.5	91	68.4	0	0.0	-0.2	0.0	2.4	0.0	0.0	0.0	0.0	21
NS-07	Inverter House MV7	461098	4952558	2.5	91	69.5	0	0.0	-0.2	0.0	2.6	0.0	0.0	0.0	0.0	19
NS-08	Inverter House MV8	461008	4952710	2.5	91	70.5	0	0.0	-0.2	0.0	2.8	0.0	0.0	0.0	0.0	18
NS-09	Inverter House MV9	460918	4952862	2.5	91	71.6	0	0.0	-0.1	0.0	3.1	0.0	0.0	0.0	0.0	17
NS-10	Inverter House MV10	460827	4953014	2.5	91	72.7	0	0.0	-0.1	0.0	3.4	0.0	0.0	0.0	0.0	15
NS-11	Transformer 1 MVA (MV1)	461088	4952302	2.1	69	66.7	0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1
NS-12	Transformer 1 MVA (MV2)	461009	4952435	2.1	69	67.7	0	0.0	0.1	0.0	1.9	0.0	0.0	0.0	0.0	--
NS-13	Transformer 1 MVA (MV3)	460918	4952587	2.1	69	69.1	0	0.0	0.1	0.0	2.1	0.0	0.0	0.0	0.0	--
NS-14	Transformer 1 MVA (MV4)	460828	4952739	2.1	69	70.4	0	0.0	0.1	0.0	2.4	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MVA (MV5)	460749	4952872	2.1	69	71.5	0	0.0	0.1	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-16	Transformer 1 MVA (MV6)	461172	4952406	2.1	69	68.5	0	0.0	0.1	0.0	2.0	0.0	0.0	0.0	0.0	--
NS-17	Transformer 1 MVA (MV7)	461103	4952558	2.1	69	69.5	0	0.0	0.1	0.0	2.2	0.0	0.0	0.0	0.0	--
NS-18	Transformer 1 MVA (MV8)	461013	4952710	2.1	69	70.5	0	0.0	0.1	0.0	2.4	0.0	0.0	0.0	0.0	--
NS-19	Transformer 1 MVA (MV9)	460922	4952862	2.1	69	71.6	0	0.0	0.1	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-20	Transformer 1 MVA (MV10)	460832	4953014	2.1	69	72.7	0	0.0	0.2	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-21	Transformer 10 MVA	461218	4952477	2.9	88	69.4	0	0.0	-0.6	0.0	2.2	0.0	0.0	0.0	0.0	17

R08	Residential Dwelling	461226	4952175	4.5												
Src ID	Src Name	X	Y	Z	LxD	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	ReflD	LrD
NS-01	Inverter House MV1	461083	4952302	2.5	91	56.6	0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	34
NS-02	Inverter House MV2	461004	4952435	2.5	91	61.7	0	0.0	-0.2	0.0	1.4	0.0	0.0	0.0	0.0	29
NS-03	Inverter House MV3	460914	4952587	2.5	91	65.3	0	0.0	-0.3	0.0	1.8	0.0	0.0	0.0	0.0	25
NS-04	Inverter House MV4	460823	4952739	2.5	91	67.8	0	0.0	-0.3	0.0	2.3	0.0	0.0	0.0	0.0	21
NS-05	Inverter House MV5	460744	4952872	2.5	88	69.6	0	0.0	-0.2	0.0	2.6	0.0	0.0	0.0	0.0	16
NS-06	Inverter House MV6	461167	4952406	2.5	91	58.6	0	0.0	-0.1	0.0	1.1	0.0	0.0	0.0	0.0	32
NS-07	Inverter House MV7	461098	4952558	2.5	91	63.1	0	0.0	-0.3	0.0	1.5	0.0	0.0	0.0	0.0	27
NS-08	Inverter House MV8	461008	4952710	2.5	91	66.2	0	0.0	-0.3	0.0	2.0	0.0	0.0	0.0	0.0	23
NS-09	Inverter House MV9	460918	4952862	2.5	91	68.5	0	0.0	-0.2	0.0	2.4	0.0	0.0	0.0	0.0	21
NS-10	Inverter House MV10	460827	4953014	2.5	91	70.4	0	0.0	-0.2	0.0	2.8	0.0	0.0	0.0	0.0	18
NS-11	Transformer 1 MVA (MV1)	461088	4952302	2.1	69	56.5	0	0.0	0.4	0.0	0.6	0.0	0.0	0.0	0.0	12
NS-12	Transformer 1 MVA (MV2)	461009	4952435	2.1	69	61.6	0	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0	6
NS-13	Transformer 1 MVA (MV3)	460918	4952587	2.1	69	65.2	0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	2
NS-14	Transformer 1 MVA (MV4)	460828	4952739	2.1	69	67.8	0	0.0	0.1	0.0	1.9	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MVA (MV5)	460749	4952872	2.1	69	69.5	0	0.0	0.1	0.0	2.2	0.0	0.0	0.0	0.0	--
NS-16	Transformer 1 MVA (MV6)	461172	4952406	2.1	69	58.5	0	0.0	0.3	0.0	0.8	0.0	0.0	0.0	0.0	9
NS-17	Transformer 1 MVA (MV7)	461103	4952558	2.1	69	63.1	0	0.0	0.1	0.0	1.2	0.0	0.0	0.0	0.0	5
NS-18	Transformer 1 MVA (MV8)	461013	4952710	2.1	69	66.2	0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1
NS-19	Transformer 1 MVA (MV9)	460922	4952862	2.1	69	68.5	0	0.0	0.1	0.0	2.0	0.0	0.0	0.0	0.0	--
NS-20	Transformer 1 MVA (MV10)	460832	4953014	2.1	69	70.3	0	0.0	0.1	0.0	2.4	0.0	0.0	0.0	0.0	--
NS-21	Transformer 10 MVA	461218	4952477	2.9	88	60.6	0	0.0	-0.4	0.0	0.9	0.0	0.0	0.0	0.0	27

R17	Residential Dwelling	461687	4952215	4.5												
Src ID	Src Name	X	Y	Z	LxD	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	ReflD	LrD
NS-01	Inverter House MV1	461083	4952302	2.5	91	66.7	0	0.0	-0.3	0.0	2.1	0.0	0.0	0.0	0.0	23
NS-02	Inverter House MV2	461004	4952435	2.5	91	68.1	0	0.0	-0.2	0.0	2.3	0.0	0.0	0.0	0.0	21
NS-03	Inverter House MV3	460914	4952587	2.5	91	69.7	0	0.0	-0.2	0.0	2.6	0.0	0.0	0.0	0.0	19
NS-04	Inverter House MV4	460823	4952739	2.5	91	71.1	0	0.0	-0.1	0.0	3.0	0.0	0.0	0.0	0.0	17
NS-05	Inverter House MV5	460744	4952872	2.5	88	72.2	0	0.0	-0.1	0.0	3.3	0.0	0.0	0.0	0.0	13
NS-06	Inverter House MV6	461167	4952406	2.5	91	65.9	0	0.0	-0.3	0.0	1.9	0.0	0.0	0.0	0.0	24
NS-07	Inverter House MV7	461098	4952558	2.5	91	67.7	0	0.0	-0.3	0.0	2.2	0.0	0.0	0.0	0.0	22
NS-08	Inverter House MV8	461008	4952710	2.5	91	69.5	0	0.0	-0.2	0.0	2.6	0.0	0.0	0.0	0.0	19
NS-09	Inverter House MV9	460918	4952862	2.5	91	71.0	0	0.0	-0.1	0.0	3.0	0.0	0.0	0.0	0.0	17
NS-10	Inverter House MV10	460827	4953014	2.5	91	72.4	0	0.0	-0.1	0.0	3.3	0.0	0.0	0.0	0.0	16
NS-11	Transformer 1 MVA (MV1)	461088	4952302	2.1	69	66.6	0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1
NS-12	Transformer 1 MVA (MV2)	461009	4952435	2.1	69	68.1	0	0.0	0.1	0.0	1.9	0.0	0.0	0.0	0.0	--
NS-13	Transformer 1 MVA (MV3)	460918	4952587	2.1	69	69.6	0	0.0	0.1	0.0	2.2	0.0	0.0	0.0	0.0	--
NS-14	Transformer 1 MVA (MV4)	460828	4952739	2.1	69	71.1	0	0.0	0.1	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MVA (MV5)	460749	4952872	2.1	69	72.2	0	0.0	0.2	0.0	2.8	0.0	0.0	0.0	0.0	--
NS-16	Transformer 1 MVA (MV6)	461172	4952406	2.1	69	65.8	0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	2
NS-17	Transformer 1 MVA (MV7)	461103	4952558	2.1	69	67.6	0	0.0	0.1	0.0	1.8	0.0	0.0	0.0	0.0	--
NS-18	Transformer 1 MVA (MV8)	461013	4952710	2.1	69	69.5	0	0.0	0.1	0.0	2.2	0.0	0.0	0.0	0.0	--
NS-19	Transformer 1 MVA (MV9)	460922	4952862	2.1	69	71.0	0	0.0	0.1	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-20	Transformer 1 MVA (MV10)	460832	4953014	2.1	69	72.4	0	0.0	0.2	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-21	Transformer 10 MVA	461218	4952477	2.9	88	65.6	0	0.0	-0.6	0.0	1.5	0.0	0.0	0.0	0.0	21

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

R34	Residential Dwelling	461269	4952178	4.5												
Src ID	Src Name	X	Y	Z	LxD	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	ReflD	LrD
NS-01	Inverter House MV1	461083	4952302	2.5	91	58.0	0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	32
NS-02	Inverter House MV2	461004	4952435	2.5	91	62.4	0	0.0	-0.3	0.0	1.4	0.0	0.0	0.0	0.0	28
NS-03	Inverter House MV3	460914	4952587	2.5	91	65.7	0	0.0	-0.3	0.0	1.9	0.0	0.0	0.0	0.0	24
NS-04	Inverter House MV4	460823	4952739	2.5	91	68.1	0	0.0	-0.2	0.0	2.3	0.0	0.0	0.0	0.0	21
NS-05	Inverter House MV5	460744	4952872	2.5	88	69.8	0	0.0	-0.2	0.0	2.7	0.0	0.0	0.0	0.0	16
NS-06	Inverter House MV6	461167	4952406	2.5	91	59.0	0	0.0	-0.1	0.0	1.1	0.0	0.0	0.0	0.0	31
NS-07	Inverter House MV7	461098	4952558	2.5	91	63.4	0	0.0	-0.3	0.0	1.6	0.0	0.0	0.0	0.0	27
NS-08	Inverter House MV8	461008	4952710	2.5	91	66.5	0	0.0	-0.3	0.0	2.0	0.0	0.0	0.0	0.0	23
NS-09	Inverter House MV9	460918	4952862	2.5	91	68.7	0	0.0	-0.2	0.0	2.4	0.0	0.0	0.0	0.0	20
NS-10	Inverter House MV10	460827	4953014	2.5	91	70.5	0	0.0	-0.2	0.0	2.8	0.0	0.0	0.0	0.0	18
NS-11	Transformer 1 MVA (MV1)	461088	4952302	2.1	69	57.8	0	0.0	0.3	0.0	0.7	0.0	0.0	0.0	0.0	10
NS-12	Transformer 1 MVA (MV2)	461009	4952435	2.1	69	62.3	0	0.0	0.1	0.0	1.1	0.0	0.0	0.0	0.0	6
NS-13	Transformer 1 MVA (MV3)	460918	4952587	2.1	69	65.6	0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	2
NS-14	Transformer 1 MVA (MV4)	460828	4952739	2.1	69	68.1	0	0.0	0.1	0.0	1.9	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MVA (MV5)	460749	4952872	2.1	69	69.8	0	0.0	0.1	0.0	2.3	0.0	0.0	0.0	0.0	--
NS-16	Transformer 1 MVA (MV6)	461172	4952406	2.1	69	58.9	0	0.0	0.2	0.0	0.8	0.0	0.0	0.0	0.0	9
NS-17	Transformer 1 MVA (MV7)	461103	4952558	2.1	69	63.4	0	0.0	0.1	0.0	1.2	0.0	0.0	0.0	0.0	4
NS-18	Transformer 1 MVA (MV8)	461013	4952710	2.1	69	66.4	0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1
NS-19	Transformer 1 MVA (MV9)	460922	4952862	2.1	69	68.7	0	0.0	0.1	0.0	2.0	0.0	0.0	0.0	0.0	--
NS-20	Transformer 1 MVA (MV10)	460832	4953014	2.1	69	70.5	0	0.0	0.1	0.0	2.4	0.0	0.0	0.0	0.0	--
NS-21	Transformer 10 MVA	461218	4952477	2.9	88	60.7	0	0.0	-0.4	0.0	0.9	0.0	0.0	0.0	0.0	27

R77	Vacant Lot	461284	4952359	4.5												
Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter House MV1	461083	4952302	2.5	91	57.4	0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	33
NS-02	Inverter House MV2	461004	4952435	2.5	91	60.3	0	0.0	-0.2	0.0	1.2	0.0	0.0	0.0	0.0	30
NS-03	Inverter House MV3	460914	4952587	2.5	91	63.8	0	0.0	-0.3	0.0	1.6	0.0	0.0	0.0	0.0	26
NS-04	Inverter House MV4	460823	4952739	2.5	91	66.5	0	0.0	-0.3	0.0	2.0	0.0	0.0	0.0	0.0	23
NS-05	Inverter House MV5	460744	4952872	2.5	88	68.4	0	0.0	-0.2	0.0	2.4	0.0	0.0	0.0	0.0	18
NS-06	Inverter House MV6	461167	4952406	2.5	91	53.0	0	0.0	-0.1	0.0	0.7	0.0	0.0	0.0	0.0	38
NS-07	Inverter House MV7	461098	4952558	2.5	91	59.7	0	0.0	-0.2	0.0	1.2	0.0	0.0	0.0	0.0	31
NS-08	Inverter House MV8	461008	4952710	2.5	91	64.0	0	0.0	-0.3	0.0	1.7	0.0	0.0	0.0	0.0	26
NS-09	Inverter House MV9	460918	4952862	2.5	91	66.9	0	0.0	-0.3	0.0	2.1	0.0	0.0	0.0	0.0	23
NS-10	Inverter House MV10	460827	4953014	2.5	91	69.0	0	0.0	-0.2	0.0	2.5	0.0	0.0	0.0	0.0	20
NS-11	Transformer 1 MVA (MV1)	461088	4952302	2.1	69	57.2	0	0.0	0.4	0.0	0.7	0.0	0.0	0.0	0.0	11
NS-12	Transformer 1 MVA (MV2)	461009	4952435	2.1	69	60.1	0	0.0	0.2	0.0	0.9	0.0	0.0	0.0	0.0	8
NS-13	Transformer 1 MVA (MV3)	460918	4952587	2.1	69	63.7	0	0.0	0.1	0.0	1.3	0.0	0.0	0.0	0.0	4
NS-14	Transformer 1 MVA (MV4)	460828	4952739	2.1	69	66.5	0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1
NS-15	Transformer 1 MVA (MV5)	460749	4952872	2.1	69	68.4	0	0.0	0.1	0.0	2.0	0.0	0.0	0.0	0.0	--
NS-16	Transformer 1 MVA (MV6)	461172	4952406	2.1	69	52.7	0	0.0	0.3	0.0	0.4	0.0	0.0	0.0	0.0	16
NS-17	Transformer 1 MVA (MV7)	461103	4952558	2.1	69	59.6	0	0.0	0.2	0.0	0.9	0.0	0.0	0.0	0.0	8
NS-18	Transformer 1 MVA (MV8)	461013	4952710	2.1	69	63.9	0	0.0	0.1	0.0	1.3	0.0	0.0	0.0	0.0	4
NS-19	Transformer 1 MVA (MV9)	460922	4952862	2.1	69	66.8	0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0
NS-20	Transformer 1 MVA (MV10)	460832	4953014	2.1	69	69.0	0	0.0	0.1	0.0	2.1	0.0	0.0	0.0	0.0	--
NS-21	Transformer 10 MVA	461218	4952477	2.9	88	53.6	0	0.0	-0.3	0.0	0.5	0.0	0.0	0.0	0.0	34

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl

APPENDIX G

Sample Calculation Results - Octave Band Format

In the following tables of calculation results, the column headings for the various sound attenuation mechanisms follow the terminology of ISO Standard 9613-2. Lx is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) source sound power level, which includes the effects of any source-abatement measures included in the model, and any time-averaging effects for intermittent sources. Lr is the A-weighted, one-hour energy-equivalent (or logarithmic-mean impulse) sound level at the point of reception. The results are presented in terms of full octave band sound levels, at the most impacted off-site point of reception.

R08	Residential Dwelling		461226	4952175	4.5													
Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-01	Inverter House MV1	63	461083	4952302	2.5	66	56.6	0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	12	63
NS-01	Inverter House MV1	125	461083	4952302	2.5	82	56.6	0	0.0	2.3	0.0	0.1	0.0	0.0	0.0	0.0	23	125
NS-01	Inverter House MV1	250	461083	4952302	2.5	81	56.6	0	0.0	3.4	0.0	0.2	0.0	0.0	0.0	0.0	21	250
NS-01	Inverter House MV1	500	461083	4952302	2.5	86	56.6	0	0.0	-0.4	0.0	0.4	0.0	0.0	0.0	0.0	29	500
NS-01	Inverter House MV1	1000	461083	4952302	2.5	86	56.6	0	0.0	-0.9	0.0	0.7	0.0	0.0	0.0	0.0	30	1000
NS-01	Inverter House MV1	2000	461083	4952302	2.5	82	56.6	0	0.0	-0.9	0.0	1.8	0.0	0.0	0.0	0.0	25	2000
NS-01	Inverter House MV1	4000	461083	4952302	2.5	78	56.6	0	0.0	-0.9	0.0	6.3	0.0	0.0	0.0	0.0	16	4000
NS-01	Inverter House MV1	8000	461083	4952302	2.5	77	56.6	0	0.0	-0.9	0.0	22.3	0.0	0.0	0.0	0.0	--	8000
NS-02	Inverter House MV2	63	461004	4952435	2.5	66	61.7	0	0.0	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	8	63
NS-02	Inverter House MV2	125	461004	4952435	2.5	82	61.7	0	0.0	2.6	0.0	0.1	0.0	0.0	0.0	0.0	17	125
NS-02	Inverter House MV2	250	461004	4952435	2.5	81	61.7	0	0.0	3.2	0.0	0.4	0.0	0.0	0.0	0.0	16	250
NS-02	Inverter House MV2	500	461004	4952435	2.5	86	61.7	0	0.0	-0.7	0.0	0.7	0.0	0.0	0.0	0.0	24	500
NS-02	Inverter House MV2	1000	461004	4952435	2.5	86	61.7	0	0.0	-1.2	0.0	1.3	0.0	0.0	0.0	0.0	24	1000
NS-02	Inverter House MV2	2000	461004	4952435	2.5	82	61.7	0	0.0	-1.3	0.0	3.3	0.0	0.0	0.0	0.0	18	2000
NS-02	Inverter House MV2	4000	461004	4952435	2.5	78	61.7	0	0.0	-1.3	0.0	11.2	0.0	0.0	0.0	0.0	6	4000
NS-02	Inverter House MV2	8000	461004	4952435	2.5	77	61.7	0	0.0	-1.3	0.0	40.0	0.0	0.0	0.0	0.0	--	8000
NS-03	Inverter House MV3	63	460914	4952587	2.5	66	65.3	0	0.0	-4.8	0.0	0.1	0.0	0.0	0.0	0.0	5	63
NS-03	Inverter House MV3	125	460914	4952587	2.5	82	65.3	0	0.0	3.1	0.0	0.2	0.0	0.0	0.0	0.0	13	125
NS-03	Inverter House MV3	250	460914	4952587	2.5	81	65.3	0	0.0	3.0	0.0	0.5	0.0	0.0	0.0	0.0	13	250
NS-03	Inverter House MV3	500	460914	4952587	2.5	86	65.3	0	0.0	-0.9	0.0	1.0	0.0	0.0	0.0	0.0	20	500
NS-03	Inverter House MV3	1000	460914	4952587	2.5	86	65.3	0	0.0	-1.4	0.0	1.9	0.0	0.0	0.0	0.0	20	1000
NS-03	Inverter House MV3	2000	460914	4952587	2.5	82	65.3	0	0.0	-1.4	0.0	5.0	0.0	0.0	0.0	0.0	13	2000
NS-03	Inverter House MV3	4000	460914	4952587	2.5	78	65.3	0	0.0	-1.4	0.0	16.9	0.0	0.0	0.0	0.0	--	4000
NS-03	Inverter House MV3	8000	460914	4952587	2.5	77	65.3	0	0.0	-1.4	0.0	60.4	0.0	0.0	0.0	0.0	--	8000
NS-04	Inverter House MV4	63	460823	4952739	2.5	66	67.8	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	3	63
NS-04	Inverter House MV4	125	460823	4952739	2.5	82	67.8	0	0.0	3.7	0.0	0.3	0.0	0.0	0.0	0.0	10	125
NS-04	Inverter House MV4	250	460823	4952739	2.5	81	67.8	0	0.0	2.9	0.0	0.7	0.0	0.0	0.0	0.0	10	250
NS-04	Inverter House MV4	500	460823	4952739	2.5	86	67.8	0	0.0	-1.0	0.0	1.3	0.0	0.0	0.0	0.0	18	500
NS-04	Inverter House MV4	1000	460823	4952739	2.5	86	67.8	0	0.0	-1.5	0.0	2.5	0.0	0.0	0.0	0.0	17	1000
NS-04	Inverter House MV4	2000	460823	4952739	2.5	82	67.8	0	0.0	-1.5	0.0	6.7	0.0	0.0	0.0	0.0	9	2000
NS-04	Inverter House MV4	4000	460823	4952739	2.5	78	67.8	0	0.0	-1.5	0.0	22.7	0.0	0.0	0.0	0.0	--	4000
NS-04	Inverter House MV4	8000	460823	4952739	2.5	77	67.8	0	0.0	-1.5	0.0	81.0	0.0	0.0	0.0	0.0	--	8000
NS-05	Inverter House MV5	63	460744	4952872	2.5	63	69.6	0	0.0	-5.3	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-05	Inverter House MV5	125	460744	4952872	2.5	79	69.6	0	0.0	4.0	0.0	0.4	0.0	0.0	0.0	0.0	5	125
NS-05	Inverter House MV5	250	460744	4952872	2.5	78	69.6	0	0.0	2.8	0.0	0.9	0.0	0.0	0.0	0.0	5	250
NS-05	Inverter House MV5	500	460744	4952872	2.5	83	69.6	0	0.0	-1.0	0.0	1.6	0.0	0.0	0.0	0.0	13	500
NS-05	Inverter House MV5	1000	460744	4952872	2.5	83	69.6	0	0.0	-1.6	0.0	3.1	0.0	0.0	0.0	0.0	12	1000
NS-05	Inverter House MV5	2000	460744	4952872	2.5	79	69.6	0	0.0	-1.6	0.0	8.2	0.0	0.0	0.0	0.0	3	2000
NS-05	Inverter House MV5	4000	460744	4952872	2.5	75	69.6	0	0.0	-1.6	0.0	27.8	0.0	0.0	0.0	0.0	--	4000
NS-05	Inverter House MV5	8000	460744	4952872	2.5	74	69.6	0	0.0	-1.6	0.0	99.0	0.0	0.0	0.0	0.0	--	8000

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-06	Inverter House MV6	63	461167	4952406	2.5	66	58.6	0	0.0	-3.4	0.0	0.0	0.0	0.0	0.0	0.0	11	63
NS-06	Inverter House MV6	125	461167	4952406	2.5	82	58.6	0	0.0	2.4	0.0	0.1	0.0	0.0	0.0	0.0	21	125
NS-06	Inverter House MV6	250	461167	4952406	2.5	81	58.6	0	0.0	3.4	0.0	0.3	0.0	0.0	0.0	0.0	19	250
NS-06	Inverter House MV6	500	461167	4952406	2.5	86	58.6	0	0.0	-0.5	0.0	0.5	0.0	0.0	0.0	0.0	27	500
NS-06	Inverter House MV6	1000	461167	4952406	2.5	86	58.6	0	0.0	-1.0	0.0	0.9	0.0	0.0	0.0	0.0	28	1000
NS-06	Inverter House MV6	2000	461167	4952406	2.5	82	58.6	0	0.0	-1.0	0.0	2.3	0.0	0.0	0.0	0.0	22	2000
NS-06	Inverter House MV6	4000	461167	4952406	2.5	78	58.6	0	0.0	-1.0	0.0	7.8	0.0	0.0	0.0	0.0	13	4000
NS-06	Inverter House MV6	8000	461167	4952406	2.5	77	58.6	0	0.0	-1.0	0.0	27.9	0.0	0.0	0.0	0.0	--	8000
NS-07	Inverter House MV7	63	461098	4952558	2.5	66	63.1	0	0.0	-4.4	0.0	0.1	0.0	0.0	0.0	0.0	7	63
NS-07	Inverter House MV7	125	461098	4952558	2.5	82	63.1	0	0.0	2.8	0.0	0.2	0.0	0.0	0.0	0.0	16	125
NS-07	Inverter House MV7	250	461098	4952558	2.5	81	63.1	0	0.0	3.1	0.0	0.4	0.0	0.0	0.0	0.0	15	250
NS-07	Inverter House MV7	500	461098	4952558	2.5	86	63.1	0	0.0	-0.8	0.0	0.8	0.0	0.0	0.0	0.0	23	500
NS-07	Inverter House MV7	1000	461098	4952558	2.5	86	63.1	0	0.0	-1.3	0.0	1.5	0.0	0.0	0.0	0.0	23	1000
NS-07	Inverter House MV7	2000	461098	4952558	2.5	82	63.1	0	0.0	-1.3	0.0	3.9	0.0	0.0	0.0	0.0	17	2000
NS-07	Inverter House MV7	4000	461098	4952558	2.5	78	63.1	0	0.0	-1.3	0.0	13.2	0.0	0.0	0.0	0.0	3	4000
NS-07	Inverter House MV7	8000	461098	4952558	2.5	77	63.1	0	0.0	-1.3	0.0	47.2	0.0	0.0	0.0	0.0	--	8000
NS-08	Inverter House MV8	63	461008	4952710	2.5	66	66.2	0	0.0	-4.9	0.0	0.1	0.0	0.0	0.0	0.0	4	63
NS-08	Inverter House MV8	125	461008	4952710	2.5	82	66.2	0	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.0	12	125
NS-08	Inverter House MV8	250	461008	4952710	2.5	81	66.2	0	0.0	2.9	0.0	0.6	0.0	0.0	0.0	0.0	12	250
NS-08	Inverter House MV8	500	461008	4952710	2.5	86	66.2	0	0.0	-0.9	0.0	1.1	0.0	0.0	0.0	0.0	19	500
NS-08	Inverter House MV8	1000	461008	4952710	2.5	86	66.2	0	0.0	-1.5	0.0	2.1	0.0	0.0	0.0	0.0	19	1000
NS-08	Inverter House MV8	2000	461008	4952710	2.5	82	66.2	0	0.0	-1.5	0.0	5.6	0.0	0.0	0.0	0.0	12	2000
NS-08	Inverter House MV8	4000	461008	4952710	2.5	78	66.2	0	0.0	-1.5	0.0	18.9	0.0	0.0	0.0	0.0	--	4000
NS-08	Inverter House MV8	8000	461008	4952710	2.5	77	66.2	0	0.0	-1.5	0.0	67.6	0.0	0.0	0.0	0.0	--	8000
NS-09	Inverter House MV9	63	460918	4952862	2.5	66	68.5	0	0.0	-5.2	0.0	0.1	0.0	0.0	0.0	0.0	2	63
NS-09	Inverter House MV9	125	460918	4952862	2.5	82	68.5	0	0.0	3.8	0.0	0.3	0.0	0.0	0.0	0.0	9	125
NS-09	Inverter House MV9	250	460918	4952862	2.5	81	68.5	0	0.0	2.9	0.0	0.8	0.0	0.0	0.0	0.0	9	250
NS-09	Inverter House MV9	500	460918	4952862	2.5	86	68.5	0	0.0	-1.0	0.0	1.5	0.0	0.0	0.0	0.0	17	500
NS-09	Inverter House MV9	1000	460918	4952862	2.5	86	68.5	0	0.0	-1.5	0.0	2.8	0.0	0.0	0.0	0.0	16	1000
NS-09	Inverter House MV9	2000	460918	4952862	2.5	82	68.5	0	0.0	-1.6	0.0	7.3	0.0	0.0	0.0	0.0	8	2000
NS-09	Inverter House MV9	4000	460918	4952862	2.5	78	68.5	0	0.0	-1.6	0.0	24.7	0.0	0.0	0.0	0.0	--	4000
NS-09	Inverter House MV9	8000	460918	4952862	2.5	77	68.5	0	0.0	-1.6	0.0	88.0	0.0	0.0	0.0	0.0	--	8000
NS-10	Inverter House MV10	63	460827	4953014	2.5	66	70.4	0	0.0	-5.3	0.0	0.1	0.0	0.0	0.0	0.0	1	63
NS-10	Inverter House MV10	125	460827	4953014	2.5	82	70.4	0	0.0	4.1	0.0	0.4	0.0	0.0	0.0	0.0	7	125
NS-10	Inverter House MV10	250	460827	4953014	2.5	81	70.4	0	0.0	2.8	0.0	1.0	0.0	0.0	0.0	0.0	7	250
NS-10	Inverter House MV10	500	460827	4953014	2.5	86	70.4	0	0.0	-1.0	0.0	1.8	0.0	0.0	0.0	0.0	15	500
NS-10	Inverter House MV10	1000	460827	4953014	2.5	86	70.4	0	0.0	-1.6	0.0	3.4	0.0	0.0	0.0	0.0	14	1000
NS-10	Inverter House MV10	2000	460827	4953014	2.5	82	70.4	0	0.0	-1.6	0.0	9.0	0.0	0.0	0.0	0.0	4	2000
NS-10	Inverter House MV10	4000	460827	4953014	2.5	78	70.4	0	0.0	-1.6	0.0	30.5	0.0	0.0	0.0	0.0	--	4000
NS-10	Inverter House MV10	8000	460827	4953014	2.5	77	70.4	0	0.0	-1.6	0.0	108.6	0.0	0.0	0.0	0.0	--	8000
NS-11	Transformer 1 MVA (MV1)	63	461088	4952302	2.1	45	56.5	0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	--	63

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-11	Transformer 1 MVA (MV1)	125	461088	4952302	2.1	58	56.5	0	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0	--	125
NS-11	Transformer 1 MVA (MV1)	250	461088	4952302	2.1	60	56.5	0	0.0	4.0	0.0	0.2	0.0	0.0	0.0	0.0	--	250
NS-11	Transformer 1 MVA (MV1)	500	461088	4952302	2.1	65	56.5	0	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	8	500
NS-11	Transformer 1 MVA (MV1)	1000	461088	4952302	2.1	63	56.5	0	0.0	-0.8	0.0	0.7	0.0	0.0	0.0	0.0	6	1000
NS-11	Transformer 1 MVA (MV1)	2000	461088	4952302	2.1	59	56.5	0	0.0	-0.9	0.0	1.8	0.0	0.0	0.0	0.0	1	2000
NS-11	Transformer 1 MVA (MV1)	4000	461088	4952302	2.1	54	56.5	0	0.0	-0.9	0.0	6.2	0.0	0.0	0.0	0.0	--	4000
NS-11	Transformer 1 MVA (MV1)	8000	461088	4952302	2.1	45	56.5	0	0.0	-0.9	0.0	22.0	0.0	0.0	0.0	0.0	--	8000
NS-12	Transformer 1 MVA (MV2)	63	461009	4952435	2.1	45	61.6	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-12	Transformer 1 MVA (MV2)	125	461009	4952435	2.1	58	61.6	0	0.0	2.4	0.0	0.1	0.0	0.0	0.0	0.0	--	125
NS-12	Transformer 1 MVA (MV2)	250	461009	4952435	2.1	60	61.6	0	0.0	3.7	0.0	0.4	0.0	0.0	0.0	0.0	--	250
NS-12	Transformer 1 MVA (MV2)	500	461009	4952435	2.1	65	61.6	0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	3	500
NS-12	Transformer 1 MVA (MV2)	1000	461009	4952435	2.1	63	61.6	0	0.0	-1.2	0.0	1.2	0.0	0.0	0.0	0.0	1	1000
NS-12	Transformer 1 MVA (MV2)	2000	461009	4952435	2.1	59	61.6	0	0.0	-1.3	0.0	3.3	0.0	0.0	0.0	0.0	--	2000
NS-12	Transformer 1 MVA (MV2)	4000	461009	4952435	2.1	54	61.6	0	0.0	-1.3	0.0	11.1	0.0	0.0	0.0	0.0	--	4000
NS-12	Transformer 1 MVA (MV2)	8000	461009	4952435	2.1	45	61.6	0	0.0	-1.3	0.0	39.6	0.0	0.0	0.0	0.0	--	8000
NS-13	Transformer 1 MVA (MV3)	63	460918	4952587	2.1	45	65.2	0	0.0	-4.8	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-13	Transformer 1 MVA (MV3)	125	460918	4952587	2.1	58	65.2	0	0.0	3.1	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-13	Transformer 1 MVA (MV3)	250	460918	4952587	2.1	60	65.2	0	0.0	3.6	0.0	0.5	0.0	0.0	0.0	0.0	--	250
NS-13	Transformer 1 MVA (MV3)	500	460918	4952587	2.1	65	65.2	0	0.0	-0.2	0.0	1.0	0.0	0.0	0.0	0.0	--	500
NS-13	Transformer 1 MVA (MV3)	1000	460918	4952587	2.1	63	65.2	0	0.0	-1.4	0.0	1.9	0.0	0.0	0.0	0.0	--	1000
NS-13	Transformer 1 MVA (MV3)	2000	460918	4952587	2.1	59	65.2	0	0.0	-1.5	0.0	5.0	0.0	0.0	0.0	0.0	--	2000
NS-13	Transformer 1 MVA (MV3)	4000	460918	4952587	2.1	54	65.2	0	0.0	-1.5	0.0	16.9	0.0	0.0	0.0	0.0	--	4000
NS-13	Transformer 1 MVA (MV3)	8000	460918	4952587	2.1	45	65.2	0	0.0	-1.5	0.0	60.1	0.0	0.0	0.0	0.0	--	8000
NS-14	Transformer 1 MVA (MV4)	63	460828	4952739	2.1	45	67.8	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-14	Transformer 1 MVA (MV4)	125	460828	4952739	2.1	58	67.8	0	0.0	3.7	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-14	Transformer 1 MVA (MV4)	250	460828	4952739	2.1	60	67.8	0	0.0	3.5	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-14	Transformer 1 MVA (MV4)	500	460828	4952739	2.1	65	67.8	0	0.0	-0.3	0.0	1.3	0.0	0.0	0.0	0.0	--	500
NS-14	Transformer 1 MVA (MV4)	1000	460828	4952739	2.1	63	67.8	0	0.0	-1.5	0.0	2.5	0.0	0.0	0.0	0.0	--	1000
NS-14	Transformer 1 MVA (MV4)	2000	460828	4952739	2.1	59	67.8	0	0.0	-1.5	0.0	6.7	0.0	0.0	0.0	0.0	--	2000
NS-14	Transformer 1 MVA (MV4)	4000	460828	4952739	2.1	54	67.8	0	0.0	-1.5	0.0	22.6	0.0	0.0	0.0	0.0	--	4000
NS-14	Transformer 1 MVA (MV4)	8000	460828	4952739	2.1	45	67.8	0	0.0	-1.5	0.0	80.7	0.0	0.0	0.0	0.0	--	8000
NS-15	Transformer 1 MVA (MV5)	63	460749	4952872	2.1	45	69.5	0	0.0	-5.3	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-15	Transformer 1 MVA (MV5)	125	460749	4952872	2.1	58	69.5	0	0.0	4.1	0.0	0.4	0.0	0.0	0.0	0.0	--	125
NS-15	Transformer 1 MVA (MV5)	250	460749	4952872	2.1	60	69.5	0	0.0	3.4	0.0	0.9	0.0	0.0	0.0	0.0	--	250
NS-15	Transformer 1 MVA (MV5)	500	460749	4952872	2.1	65	69.5	0	0.0	-0.3	0.0	1.6	0.0	0.0	0.0	0.0	--	500
NS-15	Transformer 1 MVA (MV5)	1000	460749	4952872	2.1	63	69.5	0	0.0	-1.5	0.0	3.1	0.0	0.0	0.0	0.0	--	1000
NS-15	Transformer 1 MVA (MV5)	2000	460749	4952872	2.1	59	69.5	0	0.0	-1.6	0.0	8.2	0.0	0.0	0.0	0.0	--	2000
NS-15	Transformer 1 MVA (MV5)	4000	460749	4952872	2.1	54	69.5	0	0.0	-1.6	0.0	27.7	0.0	0.0	0.0	0.0	--	4000
NS-15	Transformer 1 MVA (MV5)	8000	460749	4952872	2.1	45	69.5	0	0.0	-1.6	0.0	98.7	0.0	0.0	0.0	0.0	--	8000
NS-16	Transformer 1 MVA (MV6)	63	461172	4952406	2.1	45	58.5	0	0.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-16	Transformer 1 MVA (MV6)	125	461172	4952406	2.1	58	58.5	0	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0	--	125

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-16	Transformer 1 MVA (MV6)	250	461172	4952406	2.1	60	58.5	0	0.0	3.9	0.0	0.3	0.0	0.0	0.0	0.0	--	250
NS-16	Transformer 1 MVA (MV6)	500	461172	4952406	2.1	65	58.5	0	0.0	0.2	0.0	0.5	0.0	0.0	0.0	0.0	6	500
NS-16	Transformer 1 MVA (MV6)	1000	461172	4952406	2.1	63	58.5	0	0.0	-1.0	0.0	0.9	0.0	0.0	0.0	0.0	4	1000
NS-16	Transformer 1 MVA (MV6)	2000	461172	4952406	2.1	59	58.5	0	0.0	-1.1	0.0	2.3	0.0	0.0	0.0	0.0	--	2000
NS-16	Transformer 1 MVA (MV6)	4000	461172	4952406	2.1	54	58.5	0	0.0	-1.1	0.0	7.8	0.0	0.0	0.0	0.0	--	4000
NS-16	Transformer 1 MVA (MV6)	8000	461172	4952406	2.1	45	58.5	0	0.0	-1.1	0.0	27.8	0.0	0.0	0.0	0.0	--	8000
NS-17	Transformer 1 MVA (MV7)	63	461103	4952558	2.1	45	63.1	0	0.0	-4.5	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-17	Transformer 1 MVA (MV7)	125	461103	4952558	2.1	58	63.1	0	0.0	2.7	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-17	Transformer 1 MVA (MV7)	250	461103	4952558	2.1	60	63.1	0	0.0	3.7	0.0	0.4	0.0	0.0	0.0	0.0	--	250
NS-17	Transformer 1 MVA (MV7)	500	461103	4952558	2.1	65	63.1	0	0.0	-0.1	0.0	0.8	0.0	0.0	0.0	0.0	2	500
NS-17	Transformer 1 MVA (MV7)	1000	461103	4952558	2.1	63	63.1	0	0.0	-1.3	0.0	1.5	0.0	0.0	0.0	0.0	--	1000
NS-17	Transformer 1 MVA (MV7)	2000	461103	4952558	2.1	59	63.1	0	0.0	-1.4	0.0	3.9	0.0	0.0	0.0	0.0	--	2000
NS-17	Transformer 1 MVA (MV7)	4000	461103	4952558	2.1	54	63.1	0	0.0	-1.4	0.0	13.2	0.0	0.0	0.0	0.0	--	4000
NS-17	Transformer 1 MVA (MV7)	8000	461103	4952558	2.1	45	63.1	0	0.0	-1.4	0.0	47.1	0.0	0.0	0.0	0.0	--	8000
NS-18	Transformer 1 MVA (MV8)	63	461013	4952710	2.1	45	66.2	0	0.0	-5.0	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-18	Transformer 1 MVA (MV8)	125	461013	4952710	2.1	58	66.2	0	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-18	Transformer 1 MVA (MV8)	250	461013	4952710	2.1	60	66.2	0	0.0	3.5	0.0	0.6	0.0	0.0	0.0	0.0	--	250
NS-18	Transformer 1 MVA (MV8)	500	461013	4952710	2.1	65	66.2	0	0.0	-0.2	0.0	1.1	0.0	0.0	0.0	0.0	--	500
NS-18	Transformer 1 MVA (MV8)	1000	461013	4952710	2.1	63	66.2	0	0.0	-1.4	0.0	2.1	0.0	0.0	0.0	0.0	--	1000
NS-18	Transformer 1 MVA (MV8)	2000	461013	4952710	2.1	59	66.2	0	0.0	-1.5	0.0	5.6	0.0	0.0	0.0	0.0	--	2000
NS-18	Transformer 1 MVA (MV8)	4000	461013	4952710	2.1	54	66.2	0	0.0	-1.5	0.0	18.9	0.0	0.0	0.0	0.0	--	4000
NS-18	Transformer 1 MVA (MV8)	8000	461013	4952710	2.1	45	66.2	0	0.0	-1.5	0.0	67.4	0.0	0.0	0.0	0.0	--	8000
NS-19	Transformer 1 MVA (MV9)	63	460922	4952862	2.1	45	68.5	0	0.0	-5.2	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-19	Transformer 1 MVA (MV9)	125	460922	4952862	2.1	58	68.5	0	0.0	3.9	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-19	Transformer 1 MVA (MV9)	250	460922	4952862	2.1	60	68.5	0	0.0	3.5	0.0	0.8	0.0	0.0	0.0	0.0	--	250
NS-19	Transformer 1 MVA (MV9)	500	460922	4952862	2.1	65	68.5	0	0.0	-0.3	0.0	1.4	0.0	0.0	0.0	0.0	--	500
NS-19	Transformer 1 MVA (MV9)	1000	460922	4952862	2.1	63	68.5	0	0.0	-1.5	0.0	2.8	0.0	0.0	0.0	0.0	--	1000
NS-19	Transformer 1 MVA (MV9)	2000	460922	4952862	2.1	59	68.5	0	0.0	-1.6	0.0	7.3	0.0	0.0	0.0	0.0	--	2000
NS-19	Transformer 1 MVA (MV9)	4000	460922	4952862	2.1	54	68.5	0	0.0	-1.6	0.0	24.6	0.0	0.0	0.0	0.0	--	4000
NS-19	Transformer 1 MVA (MV9)	8000	460922	4952862	2.1	45	68.5	0	0.0	-1.6	0.0	87.8	0.0	0.0	0.0	0.0	--	8000
NS-20	Transformer 1 MVA (MV10)	63	460832	4953014	2.1	45	70.3	0	0.0	-5.4	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-20	Transformer 1 MVA (MV10)	125	460832	4953014	2.1	58	70.3	0	0.0	4.2	0.0	0.4	0.0	0.0	0.0	0.0	--	125
NS-20	Transformer 1 MVA (MV10)	250	460832	4953014	2.1	60	70.3	0	0.0	3.4	0.0	1.0	0.0	0.0	0.0	0.0	--	250
NS-20	Transformer 1 MVA (MV10)	500	460832	4953014	2.1	65	70.3	0	0.0	-0.3	0.0	1.8	0.0	0.0	0.0	0.0	--	500
NS-20	Transformer 1 MVA (MV10)	1000	460832	4953014	2.1	63	70.3	0	0.0	-1.5	0.0	3.4	0.0	0.0	0.0	0.0	--	1000
NS-20	Transformer 1 MVA (MV10)	2000	460832	4953014	2.1	59	70.3	0	0.0	-1.6	0.0	9.0	0.0	0.0	0.0	0.0	--	2000
NS-20	Transformer 1 MVA (MV10)	4000	460832	4953014	2.1	54	70.3	0	0.0	-1.6	0.0	30.4	0.0	0.0	0.0	0.0	--	4000
NS-20	Transformer 1 MVA (MV10)	8000	460832	4953014	2.1	45	70.3	0	0.0	-1.6	0.0	108.4	0.0	0.0	0.0	0.0	--	8000
NS-21	Transformer 10 MVA	63	461218	4952477	2.9	64	60.6	0	0.0	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	8	63
NS-21	Transformer 10 MVA	125	461218	4952477	2.9	77	60.6	0	0.0	2.7	0.0	0.1	0.0	0.0	0.0	0.0	13	125
NS-21	Transformer 10 MVA	250	461218	4952477	2.9	79	60.6	0	0.0	2.6	0.0	0.3	0.0	0.0	0.0	0.0	15	250

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-21	Transformer 10 MVA	500	461218	4952477	2.9	84	60.6	0	0.0	-0.9	0.0	0.6	0.0	0.0	0.0	0.0	24	500
NS-21	Transformer 10 MVA	1000	461218	4952477	2.9	82	60.6	0	0.0	-1.1	0.0	1.1	0.0	0.0	0.0	0.0	21	1000
NS-21	Transformer 10 MVA	2000	461218	4952477	2.9	78	60.6	0	0.0	-1.1	0.0	2.9	0.0	0.0	0.0	0.0	15	2000
NS-21	Transformer 10 MVA	4000	461218	4952477	2.9	73	60.6	0	0.0	-1.1	0.0	9.9	0.0	0.0	0.0	0.0	3	4000
NS-21	Transformer 10 MVA	8000	461218	4952477	2.9	64	60.6	0	0.0	-1.1	0.0	35.3	0.0	0.0	0.0	0.0	--	8000

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl