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Acoustic Assessment Report
"Penn Energy – S. Glengarry_St. Lawrence-1" Solar Farm
United Counties of Stormont
Dundas and Glengarry, Ontario

FIT Contract ID# F-000627-SPV-130-505

Prepared for

Penn Energy Renewables, Ltd.
620 Righters Ferry Road,
Bala Cynwyd, PA, 19004
USA

Prepared by

Petr Chocensky, PhD, (Civ.Eng.)

Reviewed by,

Ian Bonsma, P.Eng

LICENSED PROFESSIONAL ENGINEER
I. R. BONSMA
100100550
December 7, 2011
PROVINCE OF ONTARIO

December 7, 2011

VERSION CONTROL

Penn Energy – S. Glengarry_St. Lawrence-1 Solar Farm, 18423 & 18461 County Road 19, South Glengarry, United Counties of Stormont, Dundas and Glengarry, Ontario

Ver.	Date	Version Description	Prepared By
1	DRAFT: April 18, 2011	Original Acoustic Assessment Report supporting an application for a Renewable Energy Approval	P. Chocensky
2	July 7, 2011	Updated Acoustic Assessment Report supporting an application for a Renewable Energy Approval; revised main transformer location	P. Chocensky
3	December 7, 2011	Updated Acoustic Assessment Report addressing MOE requirement to include additional receptor locations	P. Chocensky

EXECUTIVE SUMMARY

Penn Energy Renewables Limited retained HGC Engineering to undertake an Acoustic Assessment of their proposed S. Glengarry_St. Lawrence-1 (South Glengarry) Solar Farm in South Glengarry, United Counties of Stormont, Dundas and Glengarry, Ontario. The study is required in support of an application for a Renewable Energy Approval from the Ontario Ministry of The Environment ("MOE"), under the Renewable Energy Act ("REA"), pursuant to Ontario Regulation 359/09. The assessment considers all acoustically significant sound sources currently proposed for use at the facility. This assessment has been prepared in accordance with the Ontario Ministry of the Environment publication "Basic Comprehensive Certificates of Approval (AIR) – User Guide".

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 environmental sound emissions associated with the facility.

The predictive analysis indicates that the sound emissions of the facility, with the benefit of the noise control measures in Section 6, will be within the sound level limits as set out in MOE guideline NPC-232 during normal 'predictable worst case' operations at the nearest residential receptors.

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ACOUSTIC ASSESSMENT REPORT CHECK-LIST

Company Name: Penn Energy Renewables, Ltd.

Company Address: 620 Righters Ferry Road

Bala Cynwyd, PA, 19004, USA

Location of Facility: 18423 & 18461 County Road 19, South Glengarry

United Counties of Stormont, Dundas & Glengarry, Ontario

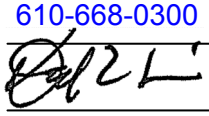
The attached Acoustic Assessment Report was prepared in accordance with the guidance in the ministry document “Information to be Submitted for Approval of Stationary Source of Sound” (NPC 233) dated October 1995 and the minimum required information identified in the check-list on the reverse of this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

Company Contact:

Name: David Savoia

Representing: Penn Energy Renewables, Ltd.

Phone Number: 610-668-0300

Signature: 

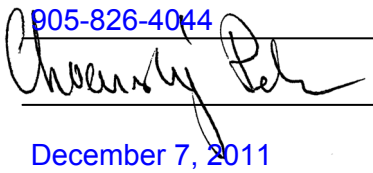
Date: December 7, 2011

Technical Contact:

Name: Petr Chocensky, PhD, (Civ. Eng.)

Representing: HGC Engineering

Phone Number: 905-826-4044

Signature: 

Date: December 7, 2011

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	Section 6
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	Section 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

The South Glengarry Solar Farm will be located at 18423 and 18461 County Road 19 in South Glengarry, 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 [Ref. 1], and "Supporting Information for the Preparation of an Acoustic Assessment Report", dated November 2003 [Ref. 2].

A zoning map identifying the land uses surrounding the subject facility, obtained from the Township of South Glengarry, is included as Appendix B. The lands surrounding the South Glengarry Solar Plant are generally zoned for rural and agricultural use. Forty four 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, labelled as locations R01 through R44 in Figure 2. Two houses (marked as locations O1 and O2 in Figure 2), located on the property/parcel of the project, are owned by the proponent and have not been included in this assessment pursuant to Ontario Regulation 359/09 [Ref. 3].

HGC Engineering visited the site and surrounding area on March 14, 2011. The proposed site is rural in nature, both acoustically and in general character, with agricultural land uses widely in evidence, including scattered dwellings near the major roadways. Therefore, the area is best characterized as a "Class 3" rural area, under MOE noise assessment guidelines.

2 FACILITY DESCRIPTION

The South Glengarry Solar Farm is a proposed 10 MW solar electrical generation project. The farm will consist of numerous fixed array mounted solar panels, up to eleven collection houses, and one primary transformer. The sound sources associated with the facility will be the collection houses - which include a secondary transformer, two inverters and a ventilation fan - and the primary transformer. 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 facility will operate 24 hours per day, 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.

Inverters

The site plan for the proposed development includes eleven inverter collection houses which will be distributed throughout the site. Each inverter collection house will include two 500 kW inverters. Sound emissions from the combined 1000 kW pair have been included in the acoustic model (NS-01 through NS-11). Sound emissions from the combined inverters are specified to have a maximum A-weighted sound power level of 92 dBA. This maximum sound power level is based on sound measurement data for a typical unit provided by the manufacturer, included in Appendix C.

Transformers

Each inverter station will be accompanied by a small, 1 MVA transformer (NS-12 through NS-22), which step up the voltage of the generated power. The plant will also have one larger, 10 MVA, transformer (NS-23). Sound levels from all transformers were predicted utilizing standard engineering texts [Ref. 4]. These calculations are included in Appendix C.

Inverter Collection House Fans

Depending on the final selection of inverter collection houses each house could include a ventilation fan. For this assessment, each inverter collection house was assumed to include a ventilation fan (NS-24 through NS-34), sound emissions of which were based on manufacturer's data (included herein as 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 forty four key receptors chosen to represent the residential dwellings surrounding the site are shown as locations R01 through R44 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 "Rural" (Class 3) acoustical environment. Accordingly, the relevant document for defining the applicable sound level limits is MOE guidelines NPC-232 [Ref. 5]. 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 40 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 [Ref. 6] 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 with the exception of inverter station ventilation fans (NS-01 through NS-23).

6 NOISE CONTROL MEASURES

Ventilation air inlets and outlets of three inverter collection houses (NS-07, NS-10 and NS-11) will be equipped with acoustic hoods providing the acoustical performance listed in Table 1, below.

Table 1 – Acoustic Hood Insertion Loss Specifications, [dB]

Source ID	Source Name	Octave Band Centre Frequency, [Hz]							
		63	125	250	500	1k	2k	4k	8k
NS-07, NS-10 and NS-11	Inverter Collection House Air Inlet and Outlet	0	0	1	4	7	6	0	0

7 IMPACT ASSESSMENT

The predictive analysis indicates that the sound levels of the subject plant will be in the range of 27 to 40 dBA, with the benefit of the noise control measures specified above, which is within the applicable limit at all key points of reception.

Discussions with the MOE indicate the proponent should consider the cumulative effects from adjacent approved or existing solar farms. There are two additional solar farms proposed for lands adjacent to this facility to the west. Information regarding the adjacent sites was not available at the time of this assessment. However, the sound level predictions for the South Glengarry site indicate sound levels 4 dBA below the applicable criterion at the closest receptors potentially impacted by the other sites, which affords an ample allowance for the combined emissions of all three sites to meet the applicable criterion jointly.

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.

8 CONCLUSIONS

The acoustical measurements and analysis indicate that the predicted sound levels of the facility will be within the applicable sound level limits specified in MOE guidelines NPC-232, during all hours of the day and night, under typical “predictable worst case” operating conditions at all identified existing off-site receptor locations, with the benefit of the noise control measures specified in Section 6.

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. Environmental Protection Act, *ONTARIO REGULATION 359/09*, Part 1, Section 1, Subsection (6), October 1, 2009.

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

5. Ontario Ministry of the Environment Publication NPC-232, *Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)*, October, 1995..

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

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

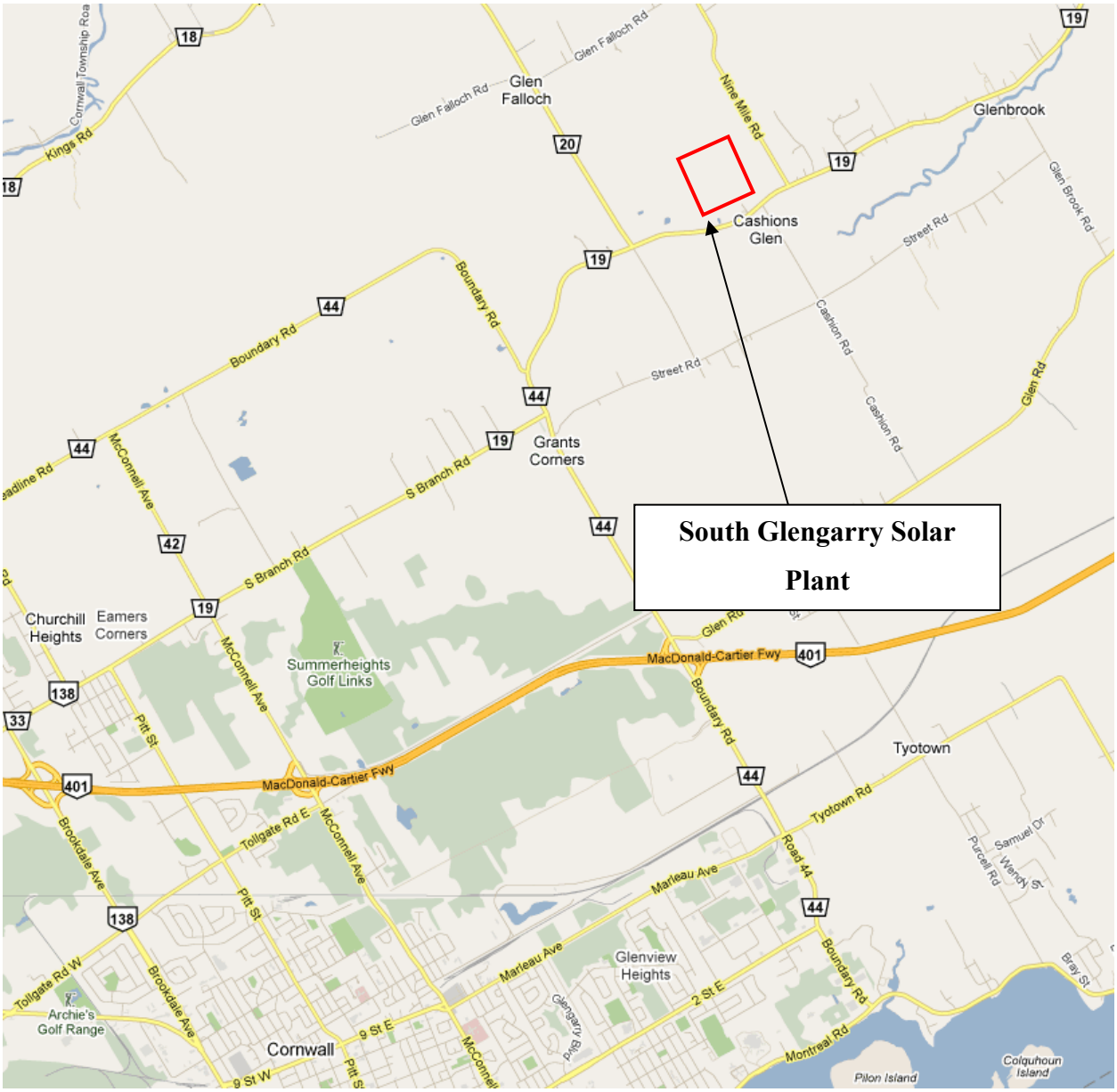


Figure 1: Location Map

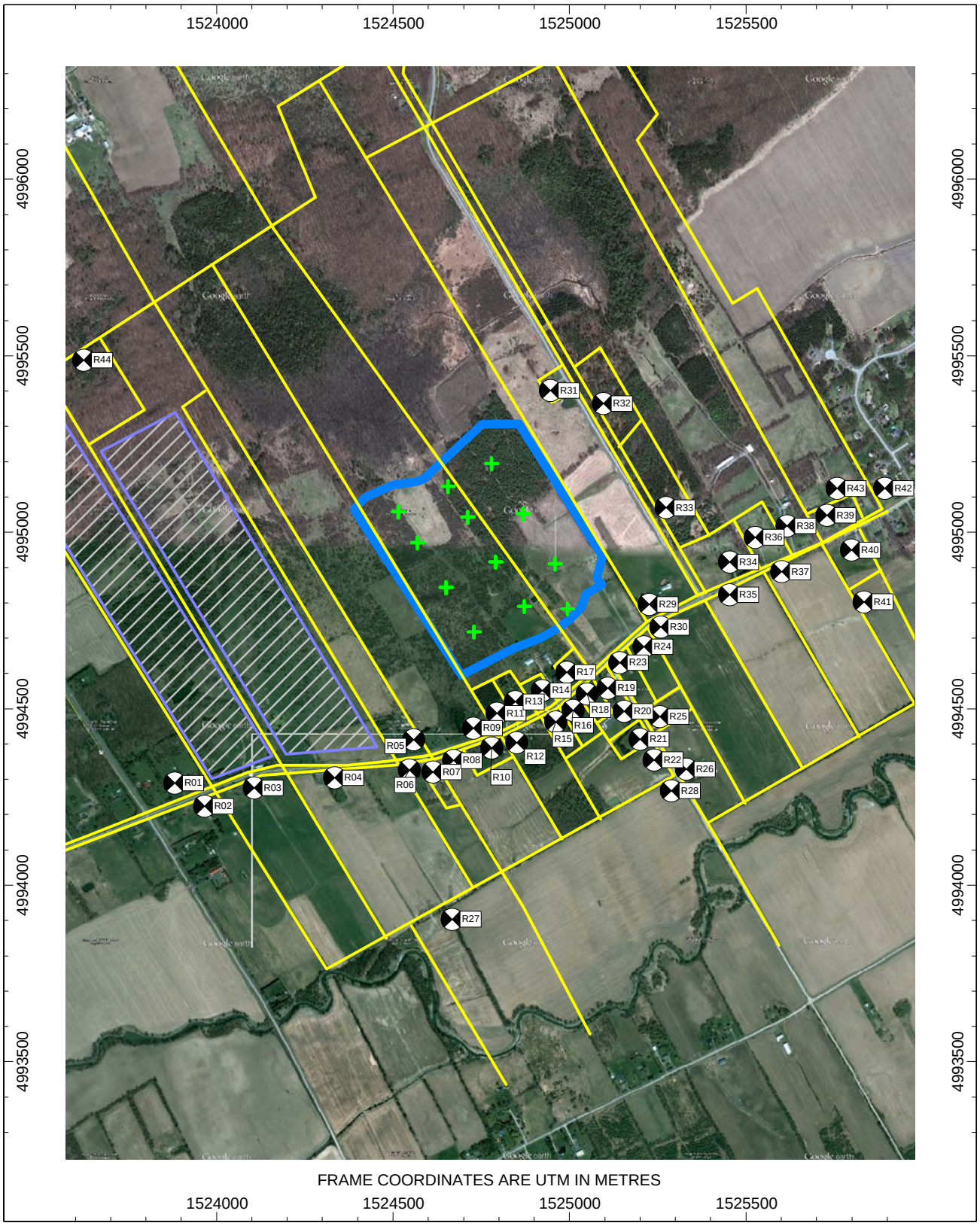


Figure 2: Key Location Plan With Points of Reception
South Glengarry Solar Plant

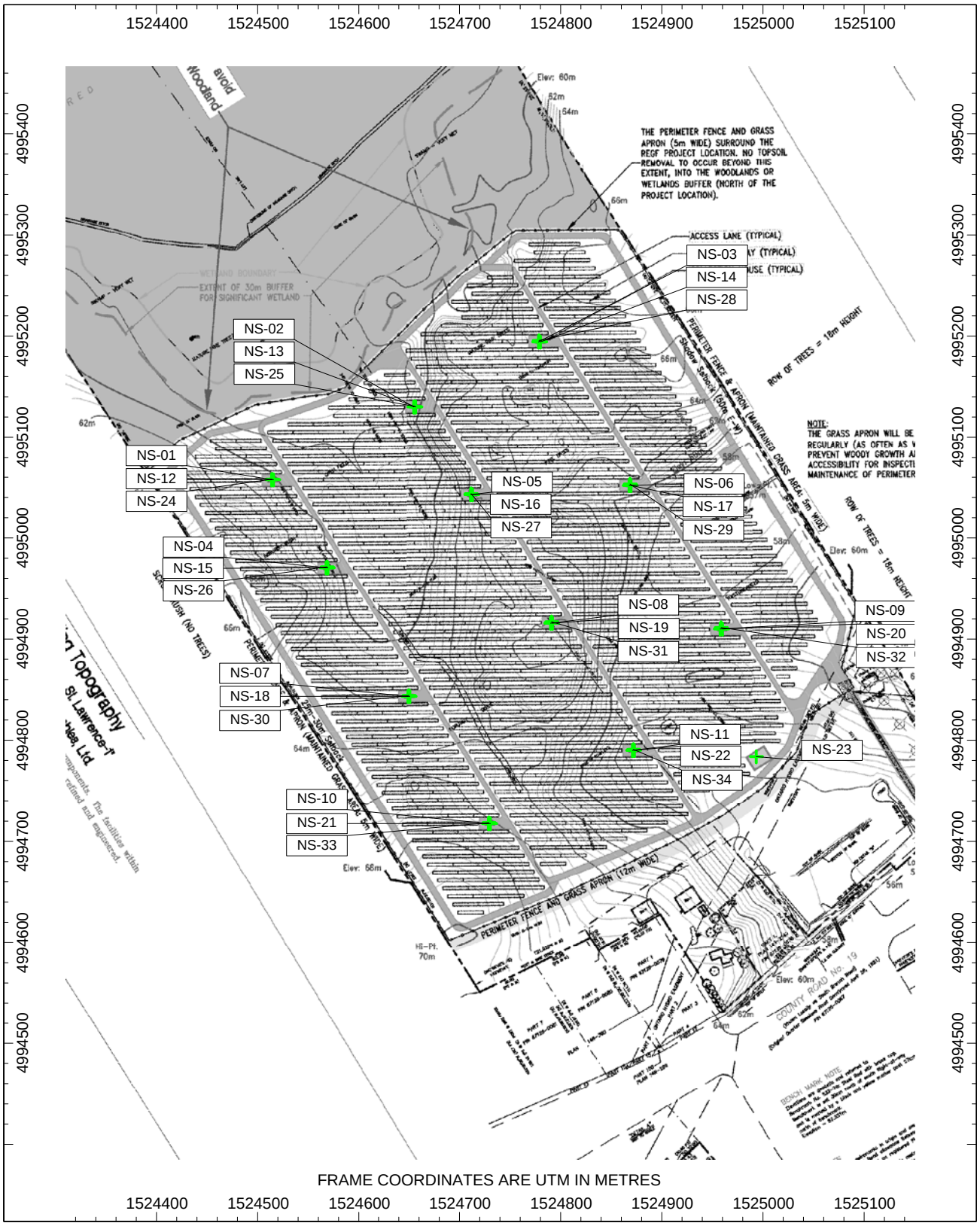


Figure 3: Location of Sound Sources
South Glengarry Solar Plant

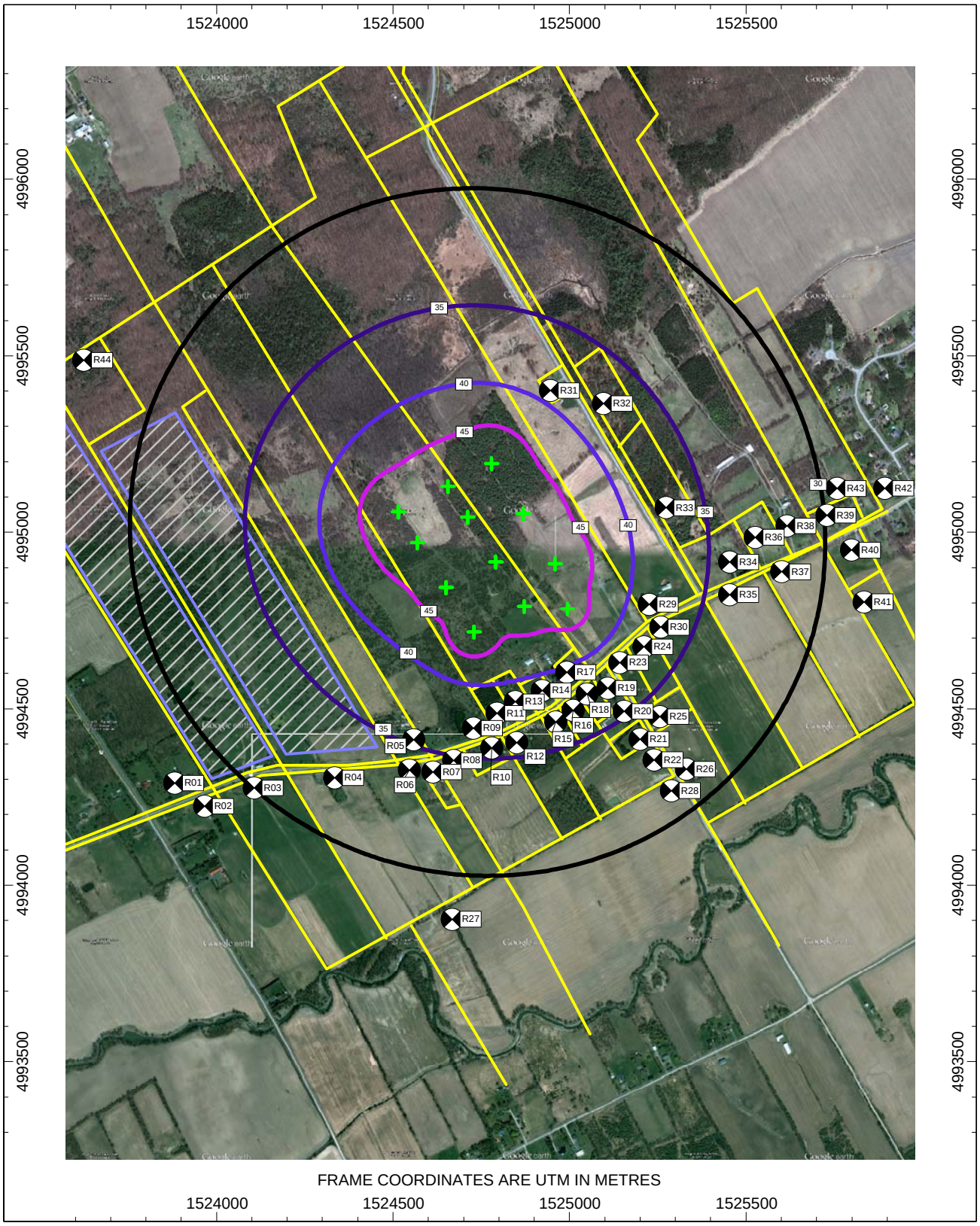


Figure 4: Predicted Sound Level Contours (Leq) at 4.5 m Above Grade
South Glengarry Solar Plant

APPENDIX A
Acoustic Assessment Summary Tables

VERSION CONTROL

Penn Energy – S. Glengarry_St. Lawrence-1 Solar Farm, 18423 & 18461 County Road 19, South Glengarry, United Counties of Stormont, Dundas and Glengarry, Ontario

Tables Ver.	Date	Issued as Part of AAR?	Version Description	Prepared By
1.0	DRAFT: April 18, 2011	Y	Original version of tables as part of Ver. 1 of Acoustic Assessment Report	P. Chocensky
2.0	July 7, 2011	Y	Updated version of tables as part of Ver. 2 of Acoustic Assessment Report	P. Chocensky
3.0	December 7, 2011	Y	Updated version of tables as part of Ver. 3 of Acoustic Assessment Report	P. Chocensky

Table A1: Noise Source Summary Table

Source ID	Source Description	Sound Power Level [dBA re 10^-12 W]	Source Location	Sound Characteristic	Noise Control Measure
NS-01	Inverter	97	O	S,T	U
NS-02	Inverter	97	O	S,T	U
NS-03	Inverter	97	O	S,T	U
NS-04	Inverter	97	O	S,T	U
NS-05	Inverter	97	O	S,T	U
NS-06	Inverter	97	O	S,T	U
NS-07	Inverter	94	O	S,T	S
NS-08	Inverter	97	O	S,T	U
NS-09	Inverter	97	O	S,T	U
NS-10	Inverter	94	O	S,T	S
NS-11	Inverter	94	O	S,T	S
NS-12	Transformer 1 MV	77	O	S,T	U
NS-13	Transformer 1 MV	77	O	S,T	U
NS-14	Transformer 1 MV	77	O	S,T	U
NS-15	Transformer 1 MV	77	O	S,T	U
NS-16	Transformer 1 MV	77	O	S,T	U
NS-17	Transformer 1 MV	77	O	S,T	U
NS-18	Transformer 1 MV	77	O	S,T	U
NS-19	Transformer 1 MV	77	O	S,T	U
NS-20	Transformer 1 MV	77	O	S,T	U
NS-21	Transformer 1 MV	77	O	S,T	U
NS-22	Transformer 1 MV	77	O	S,T	U
NS-23	Transformer 10 MV	89	O	S,T	U
NS-24	Fan	73	O	S	U
NS-25	Fan	73	O	S	U
NS-26	Fan	73	O	S	U
NS-27	Fan	73	O	S	U
NS-28	Fan	73	O	S	U
NS-29	Fan	73	O	S	U
NS-30	Fan	73	O	S	U
NS-31	Fan	73	O	S	U
NS-32	Fan	73	O	S	U
NS-33	Fan	73	O	S	U
NS-34	Fan	73	O	S	U

Legend

Sound Characteristics
S: Steady

Noise Control Measures
S: Silencer, Acoustic Louvre, Muffler

Q: Quasi-steady impulsive
I: Impulsive
B: Buzzing
T: Tonal
C: Cyclically varying
O: Occasional

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		R06		R07		R08		R09		R10	
		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-01	Inverter	995	20	998	20	882	21	775	23	647	25	733	23	744	23	722	23	649	25	720	24
NS-02	Inverter	1142	18	1138	18	1015	20	886	21	723	23	811	22	810	22	777	23	689	24	752	23
NS-03	Inverter	1274	17	1265	17	1138	18	995	20	812	22	899	21	889	21	848	22	751	23	806	22
NS-04	Inverter	967	20	959	20	834	22	707	24	558	26	645	25	652	25	627	25	550	26	620	25
NS-05	Inverter	1120	18	1107	18	976	20	829	22	648	25	736	23	728	23	691	24	598	26	658	25
NS-06	Inverter	1246	17	1224	17	1087	19	918	21	710	24	794	22	774	23	726	23	623	25	669	24
NS-07	Inverter	946	15	922	16	784	17	624	20	439	24	527	22	523	22	491	22	406	24	473	23
NS-08	Inverter	1103	18	1076	19	936	20	763	23	554	26	638	25	621	25	575	26	475	28	528	27
NS-09	Inverter	1242	17	1206	17	1061	19	869	21	638	25	714	24	682	24	626	25	519	27	551	26
NS-10	Inverter	949	15	908	16	762	18	571	21	349	26	432	24	413	24	369	25	273	28	333	26
NS-11	Inverter	1108	13	1067	14	921	16	724	18	490	22	566	21	535	21	480	23	373	25	412	24
NS-12	Transformer 1 MV	997	1	999	1	882	2	775	4	646	6	733	4	743	4	722	5	649	6	720	5
NS-13	Transformer 1 MV	1143	--	1139	--	1016	1	887	2	724	5	812	3	810	3	777	4	689	5	752	4
NS-14	Transformer 1 MV	1275	--	1267	--	1139	--	996	1	812	3	899	2	889	2	849	3	751	4	806	3
NS-15	Transformer 1 MV	969	1	961	1	835	3	707	5	558	7	645	6	651	6	626	6	549	7	619	6
NS-16	Transformer 1 MV	1122	--	1108	--	977	1	830	3	649	6	736	4	729	4	691	5	598	7	658	6
NS-17	Transformer 1 MV	1248	--	1226	--	1088	0	920	2	711	5	795	4	775	4	727	5	623	6	670	5
NS-18	Transformer 1 MV	948	2	923	2	786	4	625	6	440	10	527	8	523	8	490	9	405	11	472	9
NS-19	Transformer 1 MV	1105	--	1077	0	937	2	764	4	555	7	639	6	621	6	576	7	475	9	528	8
NS-20	Transformer 1 MV	1244	--	1208	--	1063	0	871	3	639	6	716	5	683	5	627	6	520	8	552	7
NS-21	Transformer 1 MV	950	2	910	2	764	4	572	7	350	12	433	10	413	10	369	11	273	14	333	12
NS-22	Transformer 1 MV	1110	--	1069	0	922	2	725	5	491	9	567	7	536	8	481	9	374	11	412	10
NS-23	Transformer 10 MV	1217	13	1170	13	1022	15	815	17	572	21	640	20	599	20	538	22	430	24	449	23
NS-24	Fan	996	--	999	--	882	--	776	1	647	3	733	1	744	1	723	1	650	3	720	2
NS-25	Fan	1143	--	1139	--	1016	--	887	--	724	1	812	0	811	0	778	1	689	2	752	1
NS-26	Fan	968	--	960	--	835	--	707	2	559	4	646	3	652	3	627	3	550	4	620	3
NS-27	Fan	1122	--	1108	--	977	--	830	--	649	3	737	1	730	1	692	2	599	3	659	2
NS-28	Fan	1275	--	1267	--	1139	--	996	--	813	0	900	--	890	--	849	--	752	1	807	0
NS-29	Fan	1248	--	1226	--	1088	--	920	--	712	2	796	0	776	1	728	1	625	3	671	2
NS-30	Fan	948	--	923	--	786	1	626	3	441	7	529	5	525	5	492	6	407	7	474	6
NS-31	Fan	1105	--	1077	--	937	--	764	1	555	4	640	3	622	3	577	4	476	6	529	5
NS-32	Fan	1244	--	1207	--	1063	--	871	--	640	3	716	2	684	2	628	3	521	5	553	4
NS-33	Fan	950	--	909	--	764	1	572	4	350	9	433	7	414	7	370	8	274	11	334	9
NS-34	Fan	1110	--	1068	--	922	--	725	1	491	6	568	4	536	5	482	6	375	8	413	7

Source ID	Source Name	Point of Reception																			
		R11		R12		R13		R14		R15		R16		R17		R18		R19		R20	
		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-01	Inverter	636	25	736	23	633	25	651	25	745	23	750	23	661	24	745	23	777	23	855	22
NS-02	Inverter	658	25	753	23	640	25	638	25	735	23	727	23	626	25	709	24	730	23	810	22
NS-03	Inverter	707	24	794	22	679	24	659	25	755	23	736	23	629	25	707	24	717	24	797	22
NS-04	Inverter	534	27	634	25	531	27	550	26	643	25	649	25	562	26	646	25	681	24	757	23
NS-05	Inverter	562	26	655	25	541	27	536	27	632	25	624	25	523	27	606	25	627	25	707	24
NS-06	Inverter	569	26	649	25	533	27	504	27	597	26	574	26	466	28	542	27	550	26	629	25
NS-07	Inverter	384	25	484	23	379	25	400	24	493	22	501	22	419	24	502	22	541	21	615	20
NS-08	Inverter	429	29	516	27	401	30	388	30	485	28	475	28	373	31	456	28	479	28	559	26
NS-09	Inverter	453	29	518	27	406	30	360	31	448	29	418	29	309	32	380	30	383	30	462	28
NS-10	Inverter	240	30	337	26	231	30	256	29	346	26	359	26	289	28	367	25	412	24	482	23
NS-11	Inverter	312	27	387	25	272	28	244	29	340	26	326	27	223	30	306	27	332	26	411	24
NS-12	Transformer 1 MV	635	6	735	4	632	6	650	6	744	4	749	4	659	6	743	4	776	4	853	3
NS-13	Transformer 1 MV	657	6	752	4	640	6	637	6	734	4	726	5	625	6	708	5	729	4	809	3
NS-14	Transformer 1 MV	707	5	794	4	678	5	659	6	754	4	736	4	628	6	707	5	716	5	796	4
NS-15	Transformer 1 MV	533	8	633	6	530	8	549	7	642	6	648	6	561	7	644	6	679	5	756	4
NS-16	Transformer 1 MV	562	7	654	6	540	8	535	8	632	6	623	6	521	8	604	6	626	6	706	5
NS-17	Transformer 1 MV	569	7	649	6	533	8	503	8	597	7	574	7	465	9	541	8	549	7	628	6
NS-18	Transformer 1 MV	384	11	483	9	378	11	399	11	491	9	500	8	418	10	500	8	539	8	614	6

		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-19	Transformer 1 MV	429	10	516	8	400	11	388	11	484	9	474	9	372	11	455	9	478	9	558	7
NS-20	Transformer 1 MV	454	9	518	8	407	11	360	12	448	10	418	10	308	13	379	11	382	11	461	9
NS-21	Transformer 1 MV	239	16	336	12	230	16	255	15	344	12	357	12	287	14	365	12	411	10	480	9
NS-22	Transformer 1 MV	312	13	387	11	272	14	244	15	339	12	325	13	222	16	305	13	331	13	410	10
NS-23	Transformer 10 MV	356	26	406	24	302	27	242	29	323	26	288	27	180	32	249	29	253	29	333	26
NS-24	Fan	636	3	736	1	633	3	651	3	745	1	750	1	660	2	744	1	777	1	854	--
NS-25	Fan	658	3	753	1	640	3	638	3	735	1	727	1	626	3	709	2	730	1	810	0
NS-26	Fan	534	5	634	3	531	5	550	4	643	3	649	3	562	4	645	3	680	2	757	1
NS-27	Fan	563	4	656	3	542	5	536	5	633	3	624	3	523	5	606	3	628	3	708	2
NS-28	Fan	708	2	795	0	679	2	660	2	755	1	737	1	630	3	708	2	718	2	797	0
NS-29	Fan	571	4	650	3	534	5	505	5	598	4	576	4	467	6	543	5	551	4	630	3
NS-30	Fan	385	8	485	6	380	8	401	8	493	6	501	5	420	7	502	5	541	5	616	3
NS-31	Fan	430	7	517	5	401	8	389	8	486	6	475	6	373	8	456	6	480	6	559	4
NS-32	Fan	454	6	519	5	408	7	362	9	449	6	419	7	310	10	381	8	384	8	463	6
NS-33	Fan	240	12	338	9	231	13	256	12	346	9	358	9	288	11	366	8	412	7	482	6
NS-34	Fan	313	10	388	8	273	11	245	12	341	9	326	10	223	13	307	10	332	9	411	7

Source ID	Source Name	Point of Reception																			
		R21		R22		R23		R24		R25		R26		R27		R28		R29		R30	
		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-01	Inverter	942	20	1010	20	760	23	795	22	942	20	1095	19	1165	18	1106	18	759	23	813	22
NS-02	Inverter	901	21	970	20	698	24	718	24	887	21	1048	19	1227	17	1070	19	662	24	724	23
NS-03	Inverter	888	21	957	20	671	24	676	24	862	21	1027	19	1296	16	1058	19	600	26	667	24
NS-04	Inverter	843	22	911	21	668	24	708	24	847	22	998	20	1072	19	1007	20	682	24	731	23
NS-05	Inverter	798	22	867	21	597	26	621	25	786	23	946	20	1140	18	967	20	572	26	630	25
NS-06	Inverter	720	24	789	22	503	27	509	27	693	24	859	21	1166	18	890	21	441	29	506	27
NS-07	Inverter	699	19	766	18	537	21	586	21	709	18	854	16	940	15	860	16	579	21	620	20
NS-08	Inverter	649	25	718	24	454	29	485	28	640	25	799	22	1020	19	818	22	453	29	504	27
NS-09	Inverter	553	26	622	25	335	32	345	31	525	27	690	24	1047	19	722	23	292	33	350	31
NS-10	Inverter	561	21	626	20	423	24	484	23	580	21	717	18	816	17	718	18	504	22	530	22
NS-11	Inverter	500	22	570	21	315	27	359	26	496	22	652	19	909	16	668	19	356	26	392	25
NS-12	Transformer 1 MV	940	2	1008	1	758	4	793	4	941	2	1094	--	1165	--	1105	--	758	4	811	3
NS-13	Transformer 1 MV	900	2	969	1	697	5	717	5	886	2	1047	0	1227	--	1069	0	661	6	722	5
NS-14	Transformer 1 MV	887	2	956	1	670	5	675	5	860	3	1026	1	1296	--	1057	0	599	7	666	5
NS-15	Transformer 1 MV	842	3	909	2	666	5	706	5	845	3	996	1	1072	0	1005	1	680	5	729	4
NS-16	Transformer 1 MV	796	4	866	3	596	7	619	6	784	4	945	2	1140	--	965	1	570	7	629	6
NS-17	Transformer 1 MV	719	5	788	4	502	8	508	8	692	5	858	3	1166	--	889	2	439	10	504	8
NS-18	Transformer 1 MV	697	5	764	4	535	8	585	7	707	5	853	3	940	2	858	3	577	7	618	6
NS-19	Transformer 1 MV	648	6	717	5	452	9	483	9	639	6	797	4	1020	1	816	3	451	9	502	8
NS-20	Transformer 1 MV	552	7	621	6	334	12	344	12	524	8	689	5	1048	0	721	5	290	14	348	12
NS-21	Transformer 1 MV	560	7	625	6	421	10	482	9	578	7	716	5	816	3	717	5	502	8	528	8
NS-22	Transformer 1 MV	499	8	568	7	313	13	357	12	495	9	650	6	910	2	667	5	354	12	390	11
NS-23	Transformer 10 MV	424	24	493	22	213	30	243	29	403	24	566	21	938	16	594	21	233	29	270	28
NS-24	Fan	941	--	1010	--	760	1	795	0	942	--	1095	--	1165	--	1106	--	759	1	813	0
NS-25	Fan	901	--	970	--	698	2	718	2	887	--	1048	--	1227	--	1070	--	662	2	723	1
NS-26	Fan	843	--	911	--	667	2	707	2	847	--	997	--	1073	--	1006	--	681	2	730	1
NS-27	Fan	798	0	867	--	597	4	621	3	786	1	946	--	1141	--	967	--	572	4	630	3
NS-28	Fan	889	--	958	--	672	2	676	2	862	--	1028	--	1297	--	1058	--	600	3	668	2
NS-29	Fan	721	2	790	1	504	5	510	5	694	2	860	--	1167	--	891	--	441	7	506	5
NS-30	Fan	699	2	766	1	537	5	586	4	709	2	855	--	941	--	860	--	579	4	619	3
NS-31	Fan	649	3	719	2	453	6	485	6	640	3	799	0	1021	--	818	0	452	6	503	5
NS-32	Fan	554	4	623	3	336	9	345	9	526	5	691	2	1049	--	723	1	292	11	350	9
NS-33	Fan	561	4	626	3	422	7	484	6	580	4	717	2	817	0	718	2	503	5	529	5
NS-34	Fan	501	5	570	4	314	10	358	9	496	5	652	3	911	--	669	2	355	9	391	8

Source ID	Source Name	Point of Reception																			
		R31		R32		R33		R34		R35		R36		R37		R38		R39		R40	
		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-01	Inverter	553	26	659	25	760	23	951	20	969	20	1015	20	1100	19	1103	18	1216	17	1290	17
NS-02	Inverter	399	30	500	27	622	25	828	22	856	22	884	21	977	20	968	20	1078	19	1158	18

		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-03	Inverter	267	34	361	31	511	27	732	23	771	23	777	23	878	21	857	22	963	20	1050	19
NS-04	Inverter	573	26	659	25	712	24	888	21	898	21	959	20	1036	19	1050	19	1165	18	1231	17
NS-05	Inverter	429	29	502	27	563	26	755	23	775	23	818	22	904	21	906	21	1019	19	1092	19
NS-06	Inverter	358	31	388	30	406	30	602	26	629	25	662	24	751	23	750	23	862	21	937	20
NS-07	Inverter	633	20	687	19	664	19	809	17	805	17	889	16	953	15	983	15	1100	14	1155	13
NS-08	Inverter	510	27	544	27	507	27	665	24	670	24	740	23	812	22	833	22	949	20	1010	20
NS-09	Inverter	492	28	475	28	354	31	497	28	503	27	574	26	643	25	667	24	784	23	842	22
NS-10	Inverter	718	18	745	18	649	19	753	18	733	18	842	17	889	16	938	15	1055	14	1095	14
NS-11	Inverter	616	20	617	20	490	22	597	20	584	21	685	19	737	18	780	17	897	16	942	15
NS-12	Transformer 1 MV	551	7	657	6	758	4	949	2	967	1	1013	1	1098	--	1101	--	1214	--	1288	--
NS-13	Transformer 1 MV	397	11	499	8	620	6	826	3	854	3	882	2	975	1	966	1	1076	0	1157	--
NS-14	Transformer 1 MV	266	15	360	12	509	8	730	4	769	4	775	4	876	2	855	3	961	1	1048	0
NS-15	Transformer 1 MV	572	7	658	6	710	5	886	2	896	2	957	1	1034	1	1048	0	1163	--	1229	--
NS-16	Transformer 1 MV	428	10	501	8	561	7	753	4	773	4	816	3	902	2	904	2	1017	1	1090	0
NS-17	Transformer 1 MV	358	12	386	11	404	11	600	7	627	6	660	6	749	4	748	4	860	3	935	2
NS-18	Transformer 1 MV	632	6	686	5	662	6	807	3	803	3	887	2	951	2	981	1	1098	--	1153	--
NS-19	Transformer 1 MV	510	8	542	8	506	8	663	6	668	5	738	4	810	3	831	3	947	2	1008	1
NS-20	Transformer 1 MV	492	9	475	9	352	12	495	9	501	8	572	7	641	6	665	5	782	4	840	3
NS-21	Transformer 1 MV	717	5	744	4	647	6	751	4	731	4	840	3	887	2	936	2	1053	0	1093	--
NS-22	Transformer 1 MV	616	6	617	6	489	9	595	7	582	7	683	5	735	4	778	4	895	2	940	2
NS-23	Transformer 10 MV	620	20	590	21	400	24	480	23	462	23	570	21	616	20	666	19	783	18	822	17
NS-24	Fan	552	4	658	3	759	1	951	--	968	--	1015	--	1100	--	1103	--	1215	--	1289	--
NS-25	Fan	398	8	499	5	621	3	827	0	855	--	883	--	976	--	967	--	1077	--	1158	--
NS-26	Fan	572	4	658	2	712	2	888	--	897	--	958	--	1036	--	1049	--	1164	--	1230	--
NS-27	Fan	428	7	501	5	562	4	754	1	774	1	817	0	903	--	905	--	1018	--	1092	--
NS-28	Fan	266	12	360	9	510	5	731	1	771	1	777	1	878	--	856	--	962	--	1049	--
NS-29	Fan	357	9	386	8	405	7	602	3	629	3	662	2	751	1	749	1	861	--	936	--
NS-30	Fan	631	3	686	2	663	2	808	0	804	0	888	--	952	--	982	--	1099	--	1154	--
NS-31	Fan	509	5	542	5	506	5	664	2	670	2	739	1	811	0	832	--	948	--	1009	--
NS-32	Fan	490	6	474	6	352	9	496	5	503	5	573	4	643	3	666	2	783	1	841	--
NS-33	Fan	717	2	743	1	648	3	752	1	732	1	841	--	888	--	936	--	1054	--	1094	--
NS-34	Fan	615	3	616	3	489	6	596	4	583	4	683	2	736	1	778	1	896	--	941	--

Source ID	Source Name	Point of Reception							
		R41		R42		R43		R44	
		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-01	Inverter	1345	16	1381	16	1246	17	988	20
NS-02	Inverter	1224	17	1239	17	1103	18	1091	19
NS-03	Inverter	1126	18	1117	18	982	20	1191	18
NS-04	Inverter	1277	17	1334	16	1200	17	1076	19
NS-05	Inverter	1149	18	1185	18	1050	19	1174	18
NS-06	Inverter	998	20	1028	19	893	21	1318	16
NS-07	Inverter	1186	13	1276	12	1144	13	1211	12
NS-08	Inverter	1050	19	1123	18	990	20	1299	16
NS-09	Inverter	883	21	960	20	828	22	1454	15
NS-10	Inverter	1109	13	1234	12	1107	13	1347	11
NS-11	Inverter	963	15	1076	14	948	15	1429	10
NS-12	Transformer 1 MV	1343	--	1379	--	1244	--	990	1
NS-13	Transformer 1 MV	1222	--	1237	--	1101	--	1093	--
NS-14	Transformer 1 MV	1124	--	1115	--	980	1	1193	--
NS-15	Transformer 1 MV	1275	--	1332	--	1198	--	1078	0
NS-16	Transformer 1 MV	1147	--	1183	--	1048	0	1176	--
NS-17	Transformer 1 MV	996	1	1026	1	891	2	1320	--
NS-18	Transformer 1 MV	1184	--	1274	--	1142	--	1213	--
NS-19	Transformer 1 MV	1048	0	1121	--	988	1	1300	--
NS-20	Transformer 1 MV	881	2	958	1	826	3	1456	--
NS-21	Transformer 1 MV	1107	--	1232	--	1105	--	1348	--
NS-22	Transformer 1 MV	961	1	1074	0	946	2	1431	--
NS-23	Transformer 10 MV	841	17	962	16	837	17	1540	10
NS-24	Fan	1344	--	1380	--	1245	--	989	--

		Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]	Dist [m]	Leq [dBA]
NS-25	Fan	1223	--	1238	--	1102	--	1092	--												
NS-26	Fan	1277	--	1333	--	1199	--	1077	--												
NS-27	Fan	1148	--	1184	--	1049	--	1175	--												
NS-28	Fan	1126	--	1117	--	982	--	1191	--												
NS-29	Fan	998	--	1027	--	892	--	1318	--												
NS-30	Fan	1185	--	1275	--	1143	--	1211	--												
NS-31	Fan	1050	--	1122	--	989	--	1299	--												
NS-32	Fan	882	--	958	--	827	0	1454	--												
NS-33	Fan	1108	--	1233	--	1106	--	1347	--												
NS-34	Fan	962	--	1075	--	947	--	1429	--												

Table A3: Acoustic Assessment Summary Table

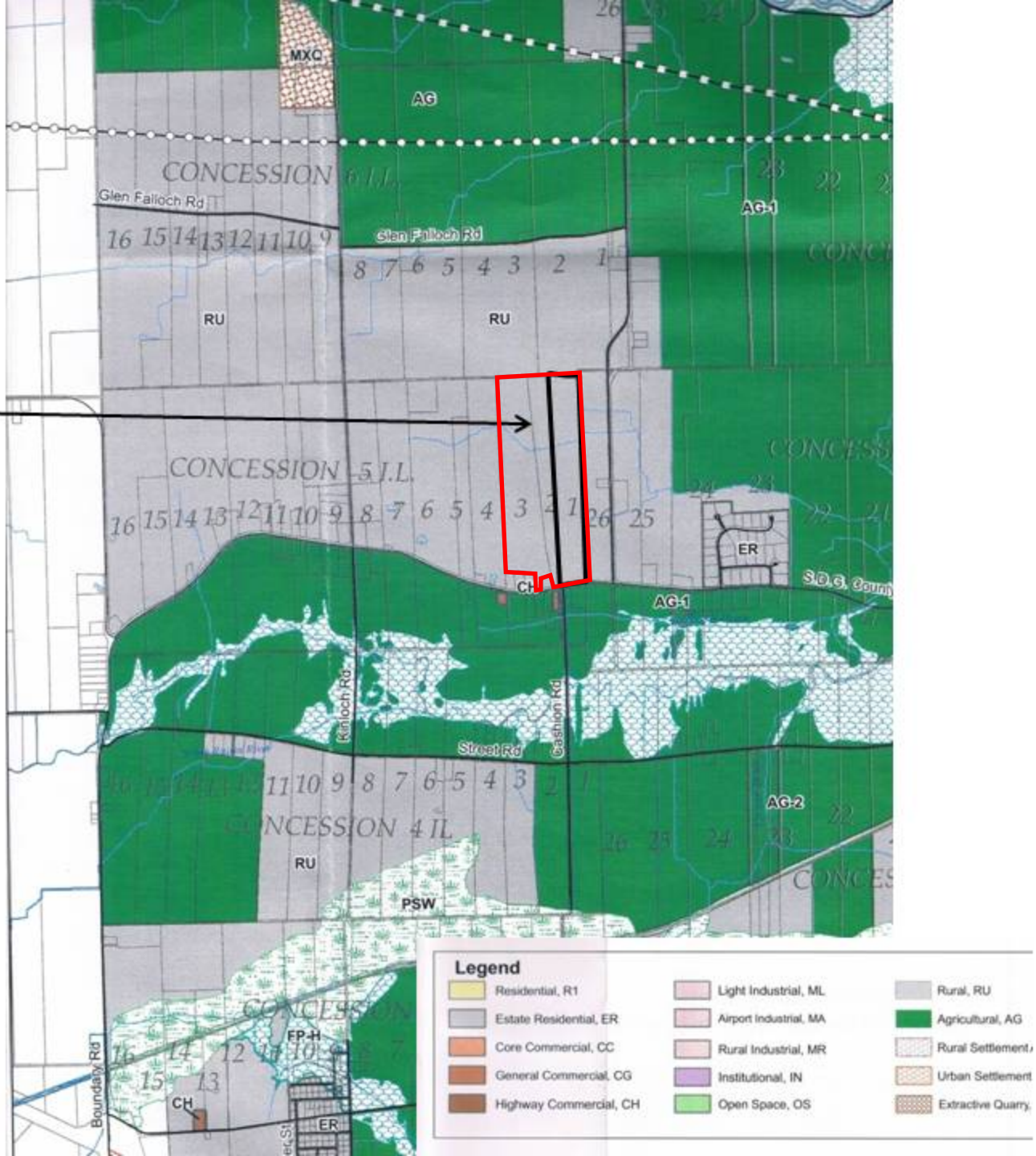
Point of Reception	Point of Reception Description	Sound Level at Point of Reception, LEQ [dBA]	Verified by Acoustic Audit	Performance Limit, LEQ [dBA]	Compliance with Performance Limit
R01	Receptor	28	No	40	Yes
R02	Receptor	28	No	40	Yes
R03	Receptor	30	No	40	Yes
R04	Receptor	32	No	40	Yes
R05	Receptor	35	No	40	Yes
R06	Receptor	34	No	40	Yes
R07	Receptor	34	No	40	Yes
R08	Receptor	35	No	40	Yes
R09	Receptor	37	No	40	Yes
R10	Receptor	36	No	40	Yes
R11	Receptor	38	No	40	Yes
R12	Receptor	36	No	40	Yes
R13	Receptor	38	No	40	Yes
R14	Receptor	39	No	40	Yes
R15	Receptor	37	No	40	Yes
R16	Receptor	37	No	40	Yes
R17	Receptor	40	No	40	Yes
R18	Receptor	37	No	40	Yes
R19	Receptor	37	No	40	Yes
R20	Receptor	35	No	40	Yes
R21	Receptor	34	No	40	Yes
R22	Receptor	32	No	40	Yes
R23	Receptor	38	No	40	Yes
R24	Receptor	37	No	40	Yes
R25	Receptor	34	No	40	Yes
R26	Receptor	31	No	40	Yes
R27	Receptor	28	No	40	Yes
R28	Receptor	31	No	40	Yes
R29	Receptor	38	No	40	Yes
R30	Receptor	37	No	40	Yes
R31	Receptor	39	No	40	Yes
R32	Receptor	37	No	40	Yes
R33	Receptor	37	No	40	Yes
R34	Receptor	34	No	40	Yes
R35	Receptor	34	No	40	Yes
R36	Receptor	33	No	40	Yes
R37	Receptor	32	No	40	Yes
R38	Receptor	31	No	40	Yes

Point of Reception	Point of Reception Description	Sound Level at Point of Reception, LEQ [dBA]	Verified by Acoustic Audit	Performance Limit, LEQ [dBA]	Compliance with Performance Limit
R39	Receptor	30	No	40	Yes
R40	Receptor	29	No	40	Yes
R41	Receptor	29	No	40	Yes
R42	Receptor	28	No	40	Yes
R43	Receptor	29	No	40	Yes
R44	Receptor	27	No	40	Yes

APPENDIX B
Zoning Maps

Township of South Glengarry
Zoning By-law No. 38-09

Subject Property:
18461 County Road 19
Zoned: RU - Rural



APPENDIX C
Equipment Sound Data

		63	125	250	500	1000	2000	4000	8000	A		
Transformer 10 MV												
	NEMA (Nr)									67	MV:	10
											10*logS:	16.5
	Correction	3	5	0	0	-6	-11	-16	-23			
	Lw	86.5	88.5	83.5	83.5	77.5	72.5	67.5	60.5	83.9		
Transformer 1 MV												
	NEMA (Nr)									58	MV:	1
											10*logS:	14
	Correction	3	5	0	0	-6	-11	-16	-23			
	Lw	75	77	72	72	66	61	56	49	72.4		

Table 1: Xantrex GT500 Sound Power Measurements – Overall Sound Power Level Data, PWL in dB re: 1×10^{-12}W

1/3 octave band frequency -->	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k
Total PWL, 305V, 100% Load	69	77	71	73	84	78	79	80	83	80	77	75	82	74	72	73	72	71	68	65	64	72	56	50
Total PWL, 345V, 100% Load	68	77	71	74	83	78	79	81	82	80	77	75	82	73	72	73	73	71	68	66	66	78	60	48
Total PWL, 480V, 100% Load	69	77	72	74	85	79	79	81	83	80	77	75	82	74	72	74	73	71	68	67	69	85	66	47

Table 2: Xantrex GT500 Sound Power Measurements – 305V/100% Load PWL in dB re: 1×10^{-12}W and SPL in dB re: 20µPa

1/3 octave band frequency -->	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k
Total PWL, 305V, 100% Load	69	77	71	73	84	78	79	80	83	80	77	75	82	74	72	73	72	71	68	65	64	72	56	50
Average SPL, Front, 1.2m setback	52	62	55	57	71	63	65	67	68	66	62	62	66	58	57	56	55	55	53	51	52	63	50	39
Average SPL, Rear, 1.2m setback	59	65	59	61	73	66	67	69	71	67	66	65	68	63	61	63	62	61	60	57	56	66	54	46
Average SPL, Left, 1.2m setback	56	64	56	57	71	61	61	64	66	64	62	61	65	59	58	58	58	56	54	52	52	61	48	38
Average SPL, Right, 1.2m setback	56	64	56	57	73	61	63	66	68	65	63	62	66	60	59	59	59	58	56	54	53	62	50	41
Average SPL, Top, 1.2m setback	54	62	56	58	69	61	62	66	69	65	64	63	67	60	59	59	59	58	55	53	53	62	49	40
Average SPL, Front, 2.0m setback	53	61	56	59	69	62	64	66	68	65	61	61	64	58	57	56	56	55	54	52	53	63	53	44
Average SPL, Rear, 2.0m setback	60	64	60	64	75	67	67	68	69	67	64	64	68	62	59	61	61	60	59	57	57	67	58	49
Average SPL, Left, 2.0m setback	55	62	56	59	71	61	61	64	64	61	59	59	63	57	56	56	56	55	53	52	51	60	50	41
Average SPL, Right, 2.0m setback	56	62	55	60	70	60	62	64	67	63	62	63	65	60	59	59	58	57	56	54	53	61	52	44

Table 3: Xantrex GT500 Sound Power Measurements – 345V/100% Load PWL in dB re: 1×10^{-12}W and SPL in dB re: 20µPa

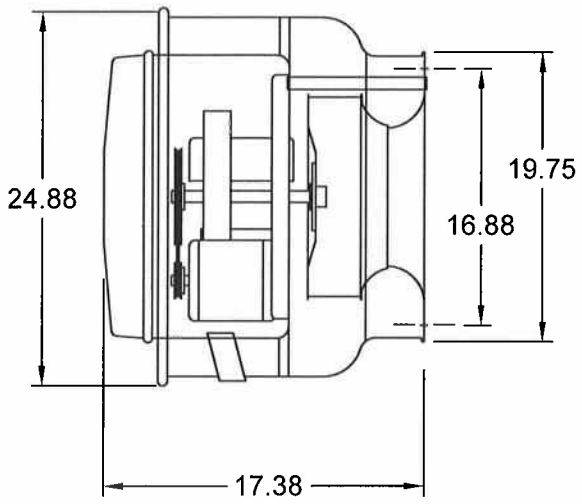
1/3 octave band frequency -->	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k
Total PWL, 345V, 100% Load	68	77	71	74	83	78	79	81	82	80	77	75	82	73	72	73	73	71	68	66	66	78	60	48
Average SPL, Front, 1.2m setback	53	63	56	57	69	63	65	67	68	65	62	61	67	59	58	57	57	56	55	54	54	68	51	45
Average SPL, Rear, 1.2m setback	60	65	60	61	71	66	67	69	70	67	65	63	69	63	61	63	63	61	59	58	58	71	55	47
Average SPL, Left, 1.2m setback	56	64	56	58	69	61	61	64	65	63	61	60	66	59	58	58	58	57	55	54	53	66	50	41
Average SPL, Right, 1.2m setback	56	64	56	57	70	61	62	66	67	64	62	61	67	60	59	59	59	58	57	55	55	67	53	47
Average SPL, Top, 1.2m setback	54	62	56	59	67	62	62	67	68	65	63	62	68	60	59	59	59	58	56	54	54	67	51	43

Table 4: Xantrex GT500 Sound Power Measurements –408V/100% Load PWL in dB re: 1×10^{-12}W and SPL in dB re: 20µPa

1/3 octave band frequency -->	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k
Total PWL, 480V, 100% Load	69	77	72	74	85	79	79	81	83	80	77	75	82	74	72	74	73	71	68	67	69	85	66	47
Average SPL, Front, 1.2m setback	54	63	56	57	71	63	65	67	68	65	63	63	67	60	59	59	58	57	56	56	59	77	58	47
Average SPL, Rear, 1.2m setback	60	66	60	62	73	67	67	69	72	67	65	66	69	63	62	64	63	62	60	60	62	80	64	51
Average SPL, Left, 1.2m setback	56	62	56	57	71	61	61	64	65	63	62	62	66	59	58	59	58	57	55	55	57	74	57	44
Average SPL, Right, 1.2m setback	56	63	56	57	72	61	63	67	68	65	63	65	67	61	59	60	60	60	59	58	59	75	59	49
Average SPL, Top, 1.2m setback	55	61	57	59	68	62	62	67	69	65	64	65	68	62	60	60	60	59	57	56	58	75	59	46
Average SPL, Rear, 2.0m setback	60	63	60	63	73	66	67	68	69	66	65	65	69	63	61	62	61	60	59	60	63	79	68	56

GREENHECK
Building Value in Air.

Printed Date: 6/3/2010
Job: DEEPWELL - GT500MV
Product Type: Fan
Mark: EF-1



Model: CWB-101-4

Belt Drive Centrifugal Sidewall Exhaust Fan

Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Birdscreen mounted to the discharge perimeter - Removable mounting plate - Ball bearing motors - Motor and drives isolated on shock mounts - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearing meet or exceed temperature rating of fan - Static free belts - Corrosion resistant fasteners

Options & Accessories:

UL/cUL 705 Listed - "Power Ventilators"
Switch, Nema-1, Toggle, Junction Box Mounted and Wired
Damper, WD-323-PB-12X12, Gravity Actuated (Shipped Loose)
Birdscreen, Galvanized

Dimensional

Qty	Weight w/o Accessories (lb)	Weight with Accessories (lb)	Wall Opening (in)	Optional Damper (in)
1	61	69	12.5 x 12.5	12 x 12

Performance

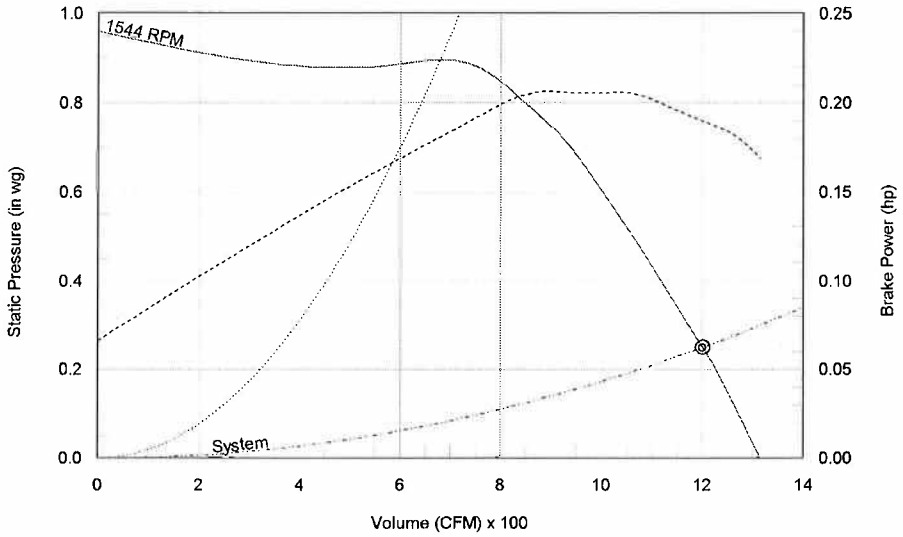
Requested Volume (CFM)	Actual Volume (CFM)	Requested SP (in wg)	Actual SP (in wg)	Fan RPM	Operating Power (hp)	Elevation (ft)	Airstream Temperature (F)
1,200	1,200	0.25	0.25	1,544	0.19	777	70

Motor

Motor Mounted	Size (hp)	V/C/P	Encl.	Motor RPM	Windings	NEC FLA* (Amps)
Yes	1/4	208/60/1	ODP	1725	1	3.2

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	73	72	78	69	63	66	58	52	73	62	11.2



RPM Curve
System Curve
Brake Power Curve
Do not select to the left of this surge curve
Desired operating point
Actual operating point

amca CERTIFIED RATINGS SOUND AND AIR PERFORMANCE AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

Notes:

All dimensions shown are in units of in.
*FLA - based on tables 150 or 148 of National Electrical Code 2002. Actual motor FLA may vary, for sizing thermal overload, consult factory.
LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighed sound pressure level, based on 11.5 dB attenuation per Octave band at 5.0 ft - dBA levels are not licensed by AMCA International
Sones - calculated using AMCA 301 at 5.0 ft

APPENDIX D
Details of Predictive Acoustical Modeling

The predictive model used for this Assessment (*Cadna-A version 4.1.137*) is based on the methods from ISO Standard 9613-2.2 "Acoustics - Attenuation of Sound During Propagation Outdoors" [Ref. 7], 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 onsite and offsite 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-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)," 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.

MOE Publication NPC-232 states that the sound level limit for a stationary source that operates during daytime and nighttime hours in a Class 3 (rural) environment is the lower of the minimum one-hour L_{EQ} ambient (background) sound level or the minimum one-hour ninetieth percentile L_{90} sound level plus 10 dB (i.e. L_{90} + 10 dB) at any potentially impacted residential point of reception. In addition, NPC-232 also states exclusionary minimum limits of 45 dBA during daytime hours (07:00 – 19:00) and 40 dBA during nighttime hours (19:00 – 07:00).

Based on the rural nature of the area surrounding the subject site, background sound levels are expected to fall below the exclusionary minimum limits stipulated in NPC-232 during the quietest hours of the day and night. Given that the equipment at the subject facility will be energized during the day and night with steady sound emissions when daylight conditions allow, the most stringent nighttime criterion of 40 dBA is the applicable sound level limit at all 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.

R01	Receptor	1523882	4994289	4.5												
Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	71.0	0	0.0	0.5	0.0	5.4	0.0	0.0	0.0	0.0	20
NS-02	Inverter	1524655	4995130	1.5	97	72.2	0	0.0	0.5	0.0	5.9	0.0	0.0	0.0	0.0	18
NS-03	Inverter	1524778	4995195	1.5	97	73.1	0	0.0	0.6	0.0	6.2	0.0	0.0	0.0	0.0	17
NS-04	Inverter	1524568	4994971	1.5	97	70.7	0	0.0	0.4	0.0	5.4	0.0	0.0	0.0	0.0	20
NS-05	Inverter	1524711	4995043	1.5	97	72.0	0	0.0	0.5	0.0	5.8	0.0	0.0	0.0	0.0	18
NS-06	Inverter	1524868	4995052	1.5	97	72.9	0	0.0	0.6	0.0	6.1	0.0	0.0	0.0	0.0	17
NS-07	Inverter	1524649	4994843	1.5	94	70.5	0	0.0	1.7	0.0	6.8	0.0	0.0	0.0	0.0	15
NS-08	Inverter	1524790	4994916	1.5	97	71.9	0	0.0	0.5	0.0	5.7	0.0	0.0	0.0	0.0	18
NS-09	Inverter	1524958	4994910	1.5	97	72.9	0	0.0	0.6	0.0	6.1	0.0	0.0	0.0	0.0	17
NS-10	Inverter	1524728	4994718	1.5	94	70.5	0	0.0	1.7	0.0	6.8	0.0	0.0	0.0	0.0	15
NS-11	Inverter	1524871	4994790	1.5	94	71.9	0	0.0	1.8	0.0	7.1	0.0	0.0	0.0	0.0	13
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	71.0	0	0.0	2.9	0.0	2.5	0.0	0.0	0.0	0.0	1
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	72.2	0	0.0	3.0	0.0	2.8	0.0	0.0	0.0	0.0	--
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	73.1	0	0.0	3.0	0.0	3.1	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	70.7	0	0.0	2.9	0.0	2.5	0.0	0.0	0.0	0.0	1
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	72.0	0	0.0	3.0	0.0	2.8	0.0	0.0	0.0	0.0	--
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	72.9	0	0.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	70.5	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	2
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	71.9	0	0.0	3.0	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	72.9	0	0.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	70.6	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	2
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	71.9	0	0.0	3.0	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	72.7	0	0.0	0.3	0.0	3.0	0.0	0.0	0.0	0.0	13
NS-24	Fan	1524515	4995059	2.0	73	71.0	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-25	Fan	1524656	4995131	2.0	73	72.2	0	0.0	1.6	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-26	Fan	1524569	4994972	2.0	73	70.7	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-27	Fan	1524712	4995044	2.0	73	72.0	0	0.0	1.6	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-28	Fan	1524779	4995196	2.0	73	73.1	0	0.0	1.7	0.0	3.2	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	72.9	0	0.0	1.7	0.0	3.2	0.0	0.0	0.0	0.0	--
NS-30	Fan	1524650	4994845	2.0	73	70.5	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-31	Fan	1524791	4994917	2.0	73	71.9	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-32	Fan	1524959	4994912	2.0	73	72.9	0	0.0	1.7	0.0	3.2	0.0	0.0	0.0	0.0	--
NS-33	Fan	1524729	4994719	2.0	73	70.6	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--
NS-34	Fan	1524872	4994791	2.0	73	71.9	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--

R02	Receptor	1523967	4994224	4.5												
Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	71.0	0	0.0	0.5	0.0	5.5	0.0	0.0	0.0	0.0	20
NS-02	Inverter	1524655	4995130	1.5	97	72.1	0	0.0	0.5	0.0	5.8	0.0	0.0	0.0	0.0	18
NS-03	Inverter	1524778	4995195	1.5	97	73.0	0	0.0	0.6	0.0	6.2	0.0	0.0	0.0	0.0	17
NS-04	Inverter	1524568	4994971	1.5	97	70.6	0	0.0	0.4	0.0	5.3	0.0	0.0	0.0	0.0	20
NS-05	Inverter	1524711	4995043	1.5	97	71.9	0	0.0	0.5	0.0	5.8	0.0	0.0	0.0	0.0	18
NS-06	Inverter	1524868	4995052	1.5	97	72.8	0	0.0	0.6	0.0	6.1	0.0	0.0	0.0	0.0	17
NS-07	Inverter	1524649	4994843	1.5	94	70.3	0	0.0	1.7	0.0	6.8	0.0	0.0	0.0	0.0	16
NS-08	Inverter	1524790	4994916	1.5	97	71.6	0	0.0	0.5	0.0	5.7	0.0	0.0	0.0	0.0	19
NS-09	Inverter	1524958	4994910	1.5	97	72.6	0	0.0	0.6	0.0	6.0	0.0	0.0	0.0	0.0	17
NS-10	Inverter	1524728	4994718	1.5	94	70.2	0	0.0	1.7	0.0	6.7	0.0	0.0	0.0	0.0	16
NS-11	Inverter	1524871	4994790	1.5	94	71.6	0	0.0	1.8	0.0	7.1	0.0	0.0	0.0	0.0	14
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	71.0	0	0.0	2.9	0.0	2.5	0.0	0.0	0.0	0.0	1
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	72.1	0	0.0	3.0	0.0	2.8	0.0	0.0	0.0	0.0	--
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	73.1	0	0.0	3.0	0.0	3.1	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	70.7	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	1
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	71.9	0	0.0	3.0	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	72.8	0	0.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	70.3	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	2
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	71.7	0	0.0	2.9	0.0	2.7	0.0	0.0	0.0	0.0	0
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	72.6	0	0.0	3.0	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	70.2	0	0.0	2.9	0.0	2.3	0.0	0.0	0.0	0.0	2
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	71.6	0	0.0	2.9	0.0	2.7	0.0	0.0	0.0	0.0	0
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	72.4	0	0.0	0.3	0.0	2.9	0.0	0.0	0.0	0.0	13
NS-24	Fan	1524515	4995059	2.0	73	71.0	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-25	Fan	1524656	4995131	2.0	73	72.1	0	0.0	1.6	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-26	Fan	1524569	4994972	2.0	73	70.7	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--

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

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-27	Fan	1524712	4995044	2.0	73	71.9	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-28	Fan	1524779	4995196	2.0	73	73.1	0	0.0	1.7	0.0	3.2	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	72.8	0	0.0	1.6	0.0	3.1	0.0	0.0	0.0	0.0	--
NS-30	Fan	1524650	4994845	2.0	73	70.3	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--
NS-31	Fan	1524791	4994917	2.0	73	71.7	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-32	Fan	1524959	4994912	2.0	73	72.6	0	0.0	1.6	0.0	3.1	0.0	0.0	0.0	0.0	--
NS-33	Fan	1524729	4994719	2.0	73	70.2	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--
NS-34	Fan	1524872	4994791	2.0	73	71.6	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--

R03	Receptor	1524107	4994276	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	69.9	0	0.0	0.4	0.0	5.1	0.0	0.0	0.0	0.0	21
NS-02	Inverter	1524655	4995130	1.5	97	71.1	0	0.0	0.5	0.0	5.5	0.0	0.0	0.0	0.0	20
NS-03	Inverter	1524778	4995195	1.5	97	72.1	0	0.0	0.5	0.0	5.8	0.0	0.0	0.0	0.0	18
NS-04	Inverter	1524568	4994971	1.5	97	69.4	0	0.0	0.4	0.0	5.0	0.0	0.0	0.0	0.0	22
NS-05	Inverter	1524711	4995043	1.5	97	70.8	0	0.0	0.4	0.0	5.4	0.0	0.0	0.0	0.0	20
NS-06	Inverter	1524868	4995052	1.5	97	71.7	0	0.0	0.5	0.0	5.7	0.0	0.0	0.0	0.0	19
NS-07	Inverter	1524649	4994843	1.5	94	68.9	0	0.0	1.6	0.0	6.5	0.0	0.0	0.0	0.0	17
NS-08	Inverter	1524790	4994916	1.5	97	70.4	0	0.0	0.4	0.0	5.3	0.0	0.0	0.0	0.0	20
NS-09	Inverter	1524958	4994910	1.5	97	71.5	0	0.0	0.5	0.0	5.6	0.0	0.0	0.0	0.0	19
NS-10	Inverter	1524728	4994718	1.5	94	68.7	0	0.0	1.6	0.0	6.4	0.0	0.0	0.0	0.0	18
NS-11	Inverter	1524871	4994790	1.5	94	70.3	0	0.0	1.7	0.0	6.8	0.0	0.0	0.0	0.0	16
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	69.9	0	0.0	2.8	0.0	2.3	0.0	0.0	0.0	0.0	2
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	71.1	0	0.0	2.9	0.0	2.6	0.0	0.0	0.0	0.0	1
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	72.1	0	0.0	3.0	0.0	2.8	0.0	0.0	0.0	0.0	--
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	69.4	0	0.0	2.8	0.0	2.2	0.0	0.0	0.0	0.0	3
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	70.8	0	0.0	2.9	0.0	2.5	0.0	0.0	0.0	0.0	1
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	71.7	0	0.0	2.9	0.0	2.7	0.0	0.0	0.0	0.0	0
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	68.9	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	4
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	70.4	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	2
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	71.5	0	0.0	2.9	0.0	2.7	0.0	0.0	0.0	0.0	0
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	68.7	0	0.0	2.8	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	70.3	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	2
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	71.2	0	0.0	0.3	0.0	2.6	0.0	0.0	0.0	0.0	15
NS-24	Fan	1524515	4995059	2.0	73	69.9	0	0.0	1.4	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-25	Fan	1524656	4995131	2.0	73	71.1	0	0.0	1.5	0.0	2.8	0.0	0.0	0.0	0.0	--
NS-26	Fan	1524569	4994972	2.0	73	69.4	0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	--
NS-27	Fan	1524712	4995044	2.0	73	70.8	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-28	Fan	1524779	4995196	2.0	73	72.1	0	0.0	1.6	0.0	3.0	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	71.7	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-30	Fan	1524650	4994845	2.0	73	68.9	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-31	Fan	1524791	4994917	2.0	73	70.4	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--
NS-32	Fan	1524959	4994912	2.0	73	71.5	0	0.0	1.6	0.0	2.9	0.0	0.0	0.0	0.0	--
NS-33	Fan	1524729	4994719	2.0	73	68.7	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-34	Fan	1524872	4994791	2.0	73	70.3	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--

R04	Receptor	1524335	4994304	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	68.8	0	0.0	0.3	0.0	4.8	0.0	0.0	0.0	0.0	23
NS-02	Inverter	1524655	4995130	1.5	97	70.0	0	0.0	0.4	0.0	5.1	0.0	0.0	0.0	0.0	21
NS-03	Inverter	1524778	4995195	1.5	97	71.0	0	0.0	0.5	0.0	5.5	0.0	0.0	0.0	0.0	20
NS-04	Inverter	1524568	4994971	1.5	97	68.0	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	24
NS-05	Inverter	1524711	4995043	1.5	97	69.4	0	0.0	0.4	0.0	5.0	0.0	0.0	0.0	0.0	22
NS-06	Inverter	1524868	4995052	1.5	97	70.3	0	0.0	0.4	0.0	5.2	0.0	0.0	0.0	0.0	21
NS-07	Inverter	1524649	4994843	1.5	94	66.9	0	0.0	1.4	0.0	6.1	0.0	0.0	0.0	0.0	20
NS-08	Inverter	1524790	4994916	1.5	97	68.7	0	0.0	0.3	0.0	4.8	0.0	0.0	0.0	0.0	23
NS-09	Inverter	1524958	4994910	1.5	97	69.8	0	0.0	0.4	0.0	5.1	0.0	0.0	0.0	0.0	21
NS-10	Inverter	1524728	4994718	1.5	94	66.1	0	0.0	1.4	0.0	6.0	0.0	0.0	0.0	0.0	21
NS-11	Inverter	1524871	4994790	1.5	94	68.2	0	0.0	1.5	0.0	6.3	0.0	0.0	0.0	0.0	18
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	68.8	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	4
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	70.0	0	0.0	2.8	0.0	2.3	0.0	0.0	0.0	0.0	2
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	71.0	0	0.0	2.9	0.0	2.5	0.0	0.0	0.0	0.0	1
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	68.0	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	69.4	0	0.0	2.8	0.0	2.2	0.0	0.0	0.0	0.0	3
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	70.3	0	0.0	2.9	0.0	2.4	0.0	0.0	0.0	0.0	2

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

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	66.9	0	0.0	2.6	0.0	1.7	0.0	0.0	0.0	0.0	6
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	68.7	0	0.0	2.8	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	69.8	0	0.0	2.8	0.0	2.3	0.0	0.0	0.0	0.0	3
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	66.2	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	68.2	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	69.2	0	0.0	0.2	0.0	2.2	0.0	0.0	0.0	0.0	17
NS-24	Fan	1524515	4995059	2.0	73	68.8	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-25	Fan	1524656	4995131	2.0	73	70.0	0	0.0	1.5	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-26	Fan	1524569	4994972	2.0	73	68.0	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	2
NS-27	Fan	1524712	4995044	2.0	73	69.4	0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	--
NS-28	Fan	1524779	4995196	2.0	73	71.0	0	0.0	1.5	0.0	2.7	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	70.3	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--
NS-30	Fan	1524650	4994845	2.0	73	66.9	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-31	Fan	1524791	4994917	2.0	73	68.7	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-32	Fan	1524959	4994912	2.0	73	69.8	0	0.0	1.4	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-33	Fan	1524729	4994719	2.0	73	66.2	0	0.0	1.2	0.0	1.9	0.0	0.0	0.0	0.0	4
NS-34	Fan	1524872	4994791	2.0	73	68.2	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	1

R05	Receptor	1524558	4994413	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	67.2	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-02	Inverter	1524655	4995130	1.5	97	68.2	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	23
NS-03	Inverter	1524778	4995195	1.5	97	69.2	0	0.0	0.4	0.0	4.9	0.0	0.0	0.0	0.0	22
NS-04	Inverter	1524568	4994971	1.5	97	65.9	0	0.0	0.2	0.0	4.1	0.0	0.0	0.0	0.0	26
NS-05	Inverter	1524711	4995043	1.5	97	67.2	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-06	Inverter	1524868	4995052	1.5	97	68.0	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	24
NS-07	Inverter	1524649	4994843	1.5	94	63.9	0	0.0	1.3	0.0	5.6	0.0	0.0	0.0	0.0	24
NS-08	Inverter	1524790	4994916	1.5	97	65.9	0	0.0	0.2	0.0	4.1	0.0	0.0	0.0	0.0	26
NS-09	Inverter	1524958	4994910	1.5	97	67.1	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-10	Inverter	1524728	4994718	1.5	94	61.9	0	0.0	1.2	0.0	5.4	0.0	0.0	0.0	0.0	26
NS-11	Inverter	1524871	4994790	1.5	94	64.8	0	0.0	1.3	0.0	5.8	0.0	0.0	0.0	0.0	22
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	67.2	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	68.2	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	69.2	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	3
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	65.9	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	67.2	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	68.0	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	63.9	0	0.0	2.5	0.0	1.3	0.0	0.0	0.0	0.0	10
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	65.9	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	67.1	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	61.9	0	0.0	2.5	0.0	1.1	0.0	0.0	0.0	0.0	12
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	64.8	0	0.0	2.5	0.0	1.4	0.0	0.0	0.0	0.0	9
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	66.2	0	0.0	0.2	0.0	1.6	0.0	0.0	0.0	0.0	21
NS-24	Fan	1524515	4995059	2.0	73	67.2	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-25	Fan	1524656	4995131	2.0	73	68.2	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-26	Fan	1524569	4994972	2.0	73	66.0	0	0.0	1.2	0.0	1.8	0.0	0.0	0.0	0.0	4
NS-27	Fan	1524712	4995044	2.0	73	67.3	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-28	Fan	1524779	4995196	2.0	73	69.2	0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	0
NS-29	Fan	1524869	4995054	2.0	73	68.1	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	2
NS-30	Fan	1524650	4994845	2.0	73	63.9	0	0.0	1.2	0.0	1.5	0.0	0.0	0.0	0.0	7
NS-31	Fan	1524791	4994917	2.0	73	65.9	0	0.0	1.2	0.0	1.8	0.0	0.0	0.0	0.0	4
NS-32	Fan	1524959	4994912	2.0	73	67.1	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-33	Fan	1524729	4994719	2.0	73	61.9	0	0.0	1.2	0.0	1.3	0.0	0.0	0.0	0.0	9
NS-34	Fan	1524872	4994791	2.0	73	64.8	0	0.0	1.2	0.0	1.6	0.0	0.0	0.0	0.0	6

R06	Receptor	1524546	4994326	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	68.3	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-02	Inverter	1524655	4995130	1.5	97	69.2	0	0.0	0.4	0.0	4.9	0.0	0.0	0.0	0.0	22
NS-03	Inverter	1524778	4995195	1.5	97	70.1	0	0.0	0.4	0.0	5.2	0.0	0.0	0.0	0.0	21
NS-04	Inverter	1524568	4994971	1.5	97	67.2	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-05	Inverter	1524711	4995043	1.5	97	68.3	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-06	Inverter	1524868	4995052	1.5	97	69.0	0	0.0	0.3	0.0	4.9	0.0	0.0	0.0	0.0	22
NS-07	Inverter	1524649	4994843	1.5	94	65.4	0	0.0	1.3	0.0	5.9	0.0	0.0	0.0	0.0	22
NS-08	Inverter	1524790	4994916	1.5	97	67.1	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25

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

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-09	Inverter	1524958	4994910	1.5	97	68.1	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	24
NS-10	Inverter	1524728	4994718	1.5	94	63.7	0	0.0	1.3	0.0	5.6	0.0	0.0	0.0	0.0	24
NS-11	Inverter	1524871	4994790	1.5	94	66.1	0	0.0	1.4	0.0	6.0	0.0	0.0	0.0	0.0	21
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	68.3	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	69.2	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	3
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	70.1	0	0.0	2.8	0.0	2.3	0.0	0.0	0.0	0.0	2
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	67.2	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	68.3	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	69.0	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	4
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	65.5	0	0.0	2.6	0.0	1.5	0.0	0.0	0.0	0.0	8
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	67.1	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	68.1	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	63.7	0	0.0	2.5	0.0	1.3	0.0	0.0	0.0	0.0	10
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	66.1	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	67.1	0	0.0	0.2	0.0	1.8	0.0	0.0	0.0	0.0	20
NS-24	Fan	1524515	4995059	2.0	73	68.3	0	0.0	1.4	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-25	Fan	1524656	4995131	2.0	73	69.2	0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	0
NS-26	Fan	1524569	4994972	2.0	73	67.2	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-27	Fan	1524712	4995044	2.0	73	68.4	0	0.0	1.4	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-28	Fan	1524779	4995196	2.0	73	70.1	0	0.0	1.5	0.0	2.6	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	69.0	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	0
NS-30	Fan	1524650	4994845	2.0	73	65.5	0	0.0	1.2	0.0	1.7	0.0	0.0	0.0	0.0	5
NS-31	Fan	1524791	4994917	2.0	73	67.1	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-32	Fan	1524959	4994912	2.0	73	68.1	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	2
NS-33	Fan	1524729	4994719	2.0	73	63.7	0	0.0	1.2	0.0	1.5	0.0	0.0	0.0	0.0	7
NS-34	Fan	1524872	4994791	2.0	73	66.1	0	0.0	1.2	0.0	1.8	0.0	0.0	0.0	0.0	4

R07	Receptor	1524614	4994321	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	68.4	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-02	Inverter	1524655	4995130	1.5	97	69.2	0	0.0	0.4	0.0	4.9	0.0	0.0	0.0	0.0	22
NS-03	Inverter	1524778	4995195	1.5	97	70.0	0	0.0	0.4	0.0	5.1	0.0	0.0	0.0	0.0	21
NS-04	Inverter	1524568	4994971	1.5	97	67.3	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-05	Inverter	1524711	4995043	1.5	97	68.3	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-06	Inverter	1524868	4995052	1.5	97	68.8	0	0.0	0.3	0.0	4.8	0.0	0.0	0.0	0.0	23
NS-07	Inverter	1524649	4994843	1.5	94	65.4	0	0.0	1.3	0.0	5.9	0.0	0.0	0.0	0.0	22
NS-08	Inverter	1524790	4994916	1.5	97	66.9	0	0.0	0.3	0.0	4.3	0.0	0.0	0.0	0.0	25
NS-09	Inverter	1524958	4994910	1.5	97	67.7	0	0.0	0.3	0.0	4.5	0.0	0.0	0.0	0.0	24
NS-10	Inverter	1524728	4994718	1.5	94	63.3	0	0.0	1.3	0.0	5.6	0.0	0.0	0.0	0.0	24
NS-11	Inverter	1524871	4994790	1.5	94	65.6	0	0.0	1.4	0.0	5.9	0.0	0.0	0.0	0.0	21
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	68.4	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	69.2	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	3
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	70.0	0	0.0	2.8	0.0	2.3	0.0	0.0	0.0	0.0	2
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	67.3	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	68.3	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	68.8	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	4
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	65.4	0	0.0	2.6	0.0	1.5	0.0	0.0	0.0	0.0	8
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	66.9	0	0.0	2.6	0.0	1.7	0.0	0.0	0.0	0.0	6
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	67.7	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	63.3	0	0.0	2.5	0.0	1.2	0.0	0.0	0.0	0.0	10
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	65.6	0	0.0	2.6	0.0	1.5	0.0	0.0	0.0	0.0	8
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	66.6	0	0.0	0.2	0.0	1.7	0.0	0.0	0.0	0.0	20
NS-24	Fan	1524515	4995059	2.0	73	68.4	0	0.0	1.4	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-25	Fan	1524656	4995131	2.0	73	69.2	0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	0
NS-26	Fan	1524569	4994972	2.0	73	67.3	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-27	Fan	1524712	4995044	2.0	73	68.3	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-28	Fan	1524779	4995196	2.0	73	70.0	0	0.0	1.5	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	68.8	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-30	Fan	1524650	4994845	2.0	73	65.4	0	0.0	1.2	0.0	1.7	0.0	0.0	0.0	0.0	5
NS-31	Fan	1524791	4994917	2.0	73	66.9	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-32	Fan	1524959	4994912	2.0	73	67.7	0	0.0	1.3	0.0	2.1	0.0	0.0	0.0	0.0	2
NS-33	Fan	1524729	4994719	2.0	73	63.3	0	0.0	1.2	0.0	1.4	0.0	0.0	0.0	0.0	7
NS-34	Fan	1524872	4994791	2.0	73	65.6	0	0.0	1.2	0.0	1.8	0.0	0.0	0.0	0.0	5

R08	Receptor	1524671	4994353	4.5

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

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	68.2	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	23
NS-02	Inverter	1524655	4995130	1.5	97	68.8	0	0.0	0.3	0.0	4.8	0.0	0.0	0.0	0.0	23
NS-03	Inverter	1524778	4995195	1.5	97	69.6	0	0.0	0.4	0.0	5.0	0.0	0.0	0.0	0.0	22
NS-04	Inverter	1524568	4994971	1.5	97	66.9	0	0.0	0.3	0.0	4.3	0.0	0.0	0.0	0.0	25
NS-05	Inverter	1524711	4995043	1.5	97	67.8	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	24
NS-06	Inverter	1524868	4995052	1.5	97	68.2	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-07	Inverter	1524649	4994843	1.5	94	64.8	0	0.0	1.3	0.0	5.8	0.0	0.0	0.0	0.0	22
NS-08	Inverter	1524790	4994916	1.5	97	66.2	0	0.0	0.2	0.0	4.2	0.0	0.0	0.0	0.0	26
NS-09	Inverter	1524958	4994910	1.5	97	66.9	0	0.0	0.3	0.0	4.3	0.0	0.0	0.0	0.0	25
NS-10	Inverter	1524728	4994718	1.5	94	62.4	0	0.0	1.2	0.0	5.4	0.0	0.0	0.0	0.0	25
NS-11	Inverter	1524871	4994790	1.5	94	64.6	0	0.0	1.3	0.0	5.8	0.0	0.0	0.0	0.0	23
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	68.2	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	68.8	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	4
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	69.6	0	0.0	2.8	0.0	2.2	0.0	0.0	0.0	0.0	3
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	66.9	0	0.0	2.6	0.0	1.7	0.0	0.0	0.0	0.0	6
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	67.8	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	68.2	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	5
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	64.8	0	0.0	2.5	0.0	1.4	0.0	0.0	0.0	0.0	9
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	66.2	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	67.0	0	0.0	2.7	0.0	1.7	0.0	0.0	0.0	0.0	6
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	62.4	0	0.0	2.5	0.0	1.1	0.0	0.0	0.0	0.0	11
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	64.7	0	0.0	2.5	0.0	1.4	0.0	0.0	0.0	0.0	9
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	65.6	0	0.0	0.2	0.0	1.5	0.0	0.0	0.0	0.0	22
NS-24	Fan	1524515	4995059	2.0	73	68.2	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-25	Fan	1524656	4995131	2.0	73	68.8	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-26	Fan	1524569	4994972	2.0	73	67.0	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-27	Fan	1524712	4995044	2.0	73	67.8	0	0.0	1.3	0.0	2.1	0.0	0.0	0.0	0.0	2
NS-28	Fan	1524779	4995196	2.0	73	69.6	0	0.0	1.4	0.0	2.5	0.0	0.0	0.0	0.0	--
NS-29	Fan	1524869	4995054	2.0	73	68.2	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	1
NS-30	Fan	1524650	4994845	2.0	73	64.8	0	0.0	1.2	0.0	1.6	0.0	0.0	0.0	0.0	6
NS-31	Fan	1524791	4994917	2.0	73	66.2	0	0.0	1.3	0.0	1.9	0.0	0.0	0.0	0.0	4
NS-32	Fan	1524959	4994912	2.0	73	67.0	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-33	Fan	1524729	4994719	2.0	73	62.4	0	0.0	1.2	0.0	1.3	0.0	0.0	0.0	0.0	8
NS-34	Fan	1524872	4994791	2.0	73	64.7	0	0.0	1.2	0.0	1.6	0.0	0.0	0.0	0.0	6

R09	Receptor	1524728	4994445	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	67.3	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-02	Inverter	1524655	4995130	1.5	97	67.8	0	0.0	0.3	0.0	4.5	0.0	0.0	0.0	0.0	24
NS-03	Inverter	1524778	4995195	1.5	97	68.5	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-04	Inverter	1524568	4994971	1.5	97	65.8	0	0.0	0.2	0.0	4.1	0.0	0.0	0.0	0.0	26
NS-05	Inverter	1524711	4995043	1.5	97	66.5	0	0.0	0.2	0.0	4.2	0.0	0.0	0.0	0.0	26
NS-06	Inverter	1524868	4995052	1.5	97	66.9	0	0.0	0.3	0.0	4.3	0.0	0.0	0.0	0.0	25
NS-07	Inverter	1524649	4994843	1.5	94	63.2	0	0.0	1.3	0.0	5.6	0.0	0.0	0.0	0.0	24
NS-08	Inverter	1524790	4994916	1.5	97	64.5	0	0.0	0.2	0.0	3.8	0.0	0.0	0.0	0.0	28
NS-09	Inverter	1524958	4994910	1.5	97	65.3	0	0.0	0.2	0.0	4.0	0.0	0.0	0.0	0.0	27
NS-10	Inverter	1524728	4994718	1.5	94	59.7	0	0.0	1.2	0.0	5.1	0.0	0.0	0.0	0.0	28
NS-11	Inverter	1524871	4994790	1.5	94	62.5	0	0.0	1.2	0.0	5.5	0.0	0.0	0.0	0.0	25
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	67.2	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	67.8	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	68.5	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	65.8	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	66.5	0	0.0	2.6	0.0	1.7	0.0	0.0	0.0	0.0	7
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	66.9	0	0.0	2.6	0.0	1.7	0.0	0.0	0.0	0.0	6
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	63.2	0	0.0	2.5	0.0	1.2	0.0	0.0	0.0	0.0	11
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	64.5	0	0.0	2.5	0.0	1.4	0.0	0.0	0.0	0.0	9
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	65.3	0	0.0	2.6	0.0	1.5	0.0	0.0	0.0	0.0	8
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	59.7	0	0.0	2.5	0.0	0.9	0.0	0.0	0.0	0.0	14
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	62.5	0	0.0	2.5	0.0	1.1	0.0	0.0	0.0	0.0	11
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	63.7	0	0.0	0.2	0.0	1.3	0.0	0.0	0.0	0.0	24
NS-24	Fan	1524515	4995059	2.0	73	67.3	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-25	Fan	1524656	4995131	2.0	73	67.8	0	0.0	1.3	0.0	2.1	0.0	0.0	0.0	0.0	2
NS-26	Fan	1524569	4994972	2.0	73	65.8	0	0.0	1.2	0.0	1.8	0.0	0.0	0.0	0.0	4
NS-27	Fan	1524712	4995044	2.0	73	66.6	0	0.0	1.3	0.0	1.9	0.0	0.0	0.0	0.0	3

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

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-28	Fan	1524779	4995196	2.0	73	68.5	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-29	Fan	1524869	4995054	2.0	73	66.9	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-30	Fan	1524650	4994845	2.0	73	63.2	0	0.0	1.2	0.0	1.4	0.0	0.0	0.0	0.0	7
NS-31	Fan	1524791	4994917	2.0	73	64.6	0	0.0	1.2	0.0	1.6	0.0	0.0	0.0	0.0	6
NS-32	Fan	1524959	4994912	2.0	73	65.3	0	0.0	1.2	0.0	1.7	0.0	0.0	0.0	0.0	5
NS-33	Fan	1524729	4994719	2.0	73	59.7	0	0.0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	11
NS-34	Fan	1524872	4994791	2.0	73	62.5	0	0.0	1.2	0.0	1.3	0.0	0.0	0.0	0.0	8

R10	Receptor	1524780	4994389	4.5

Src ID	Src Name	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr
NS-01	Inverter	1524514	4995058	1.5	97	68.2	0	0.0	0.3	0.0	4.6	0.0	0.0	0.0	0.0	24
NS-02	Inverter	1524655	4995130	1.5	97	68.5	0	0.0	0.3	0.0	4.7	0.0	0.0	0.0	0.0	23
NS-03	Inverter	1524778	4995195	1.5	97	69.1	0	0.0	0.3	0.0	4.9	0.0	0.0	0.0	0.0	22
NS-04	Inverter	1524568	4994971	1.5	97	66.8	0	0.0	0.3	0.0	4.3	0.0	0.0	0.0	0.0	25
NS-05	Inverter	1524711	4995043	1.5	97	67.4	0	0.0	0.3	0.0	4.4	0.0	0.0	0.0	0.0	25
NS-06	Inverter	1524868	4995052	1.5	97	67.5	0	0.0	0.3	0.0	4.5	0.0	0.0	0.0	0.0	24
NS-07	Inverter	1524649	4994843	1.5	94	64.5	0	0.0	1.3	0.0	5.7	0.0	0.0	0.0	0.0	23
NS-08	Inverter	1524790	4994916	1.5	97	65.4	0	0.0	0.2	0.0	4.0	0.0	0.0	0.0	0.0	27
NS-09	Inverter	1524958	4994910	1.5	97	65.8	0	0.0	0.2	0.0	4.1	0.0	0.0	0.0	0.0	26
NS-10	Inverter	1524728	4994718	1.5	94	61.5	0	0.0	1.2	0.0	5.3	0.0	0.0	0.0	0.0	26
NS-11	Inverter	1524871	4994790	1.5	94	63.3	0	0.0	1.3	0.0	5.6	0.0	0.0	0.0	0.0	24
NS-12	Transformer 1 MV	1524516	4995058	1.0	77	68.1	0	0.0	2.7	0.0	1.9	0.0	0.0	0.0	0.0	5
NS-13	Transformer 1 MV	1524657	4995130	1.0	77	68.5	0	0.0	2.7	0.0	2.0	0.0	0.0	0.0	0.0	4
NS-14	Transformer 1 MV	1524780	4995195	1.0	77	69.1	0	0.0	2.8	0.0	2.1	0.0	0.0	0.0	0.0	3
NS-15	Transformer 1 MV	1524570	4994971	1.0	77	66.8	0	0.0	2.6	0.0	1.7	0.0	0.0	0.0	0.0	6
NS-16	Transformer 1 MV	1524713	4995043	1.0	77	67.4	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	6
NS-17	Transformer 1 MV	1524870	4995052	1.0	77	67.5	0	0.0	2.7	0.0	1.8	0.0	0.0	0.0	0.0	5
NS-18	Transformer 1 MV	1524651	4994843	1.0	77	64.5	0	0.0	2.5	0.0	1.4	0.0	0.0	0.0	0.0	9
NS-19	Transformer 1 MV	1524792	4994916	1.0	77	65.4	0	0.0	2.6	0.0	1.5	0.0	0.0	0.0	0.0	8
NS-20	Transformer 1 MV	1524960	4994910	1.0	77	65.8	0	0.0	2.6	0.0	1.6	0.0	0.0	0.0	0.0	7
NS-21	Transformer 1 MV	1524730	4994718	1.0	77	61.4	0	0.0	2.5	0.0	1.0	0.0	0.0	0.0	0.0	12
NS-22	Transformer 1 MV	1524873	4994790	1.0	77	63.3	0	0.0	2.5	0.0	1.2	0.0	0.0	0.0	0.0	10
NS-23	Transformer 10 MV	1524994	4994784	2.0	89	64.1	0	0.0	0.2	0.0	1.3	0.0	0.0	0.0	0.0	23
NS-24	Fan	1524515	4995059	2.0	73	68.2	0	0.0	1.3	0.0	2.2	0.0	0.0	0.0	0.0	2
NS-25	Fan	1524656	4995131	2.0	73	68.5	0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	1
NS-26	Fan	1524569	4994972	2.0	73	66.9	0	0.0	1.3	0.0	2.0	0.0	0.0	0.0	0.0	3
NS-27	Fan	1524712	4995044	2.0	73	67.4	0	0.0	1.3	0.0	2.1	0.0	0.0	0.0	0.0	2
NS-28	Fan	1524779	4995196	2.0	73	69.1	0	0.0	1.4	0.0	2.4	0.0	0.0	0.0	0.0	0
NS-29	Fan	1524869	4995054	2.0	73	67.5	0	0.0	1.3	0.0	2.1	0.0	0.0	0.0	0.0	2
NS-30	Fan	1524650	4994845	2.0	73	64.5	0	0.0	1.2	0.0	1.6	0.0	0.0	0.0	0.0	6
NS-31	Fan	1524791	4994917	2.0	73	65.5	0	0.0	1.2	0.0	1.7	0.0	0.0	0.0	0.0	5
NS-32	Fan	1524959	4994912	2.0	73	65.9	0	0.0	1.2	0.0	1.8	0.0	0.0	0.0	0.0	4
NS-33	Fan	1524729	4994719	2.0	73	61.5	0	0.0	1.2	0.0	1.2	0.0	0.0	0.0	0.0	9
NS-34	Fan	1524872	4994791	2.0	73	63.3	0	0.0	1.2	0.0	1.4	0.0	0.0	0.0	0.0	7

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.

R17	Receptor		1524993	4994604	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	32	1524514	4995058	1.5	--	67.4	0	0.0	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-01	Inverter	63	1524514	4995058	1.5	61	67.4	0	0.0	-5.2	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-01	Inverter	125	1524514	4995058	1.5	78	67.4	0	0.0	3.7	0.0	0.3	0.0	0.0	0.0	0.0	7	125
NS-01	Inverter	250	1524514	4995058	1.5	86	67.4	0	0.0	4.4	0.0	0.7	0.0	0.0	0.0	0.0	13	250
NS-01	Inverter	500	1524514	4995058	1.5	87	67.4	0	0.0	1.9	0.0	1.3	0.0	0.0	0.0	0.0	17	500
NS-01	Inverter	1000	1524514	4995058	1.5	91	67.4	0	0.0	-1.1	0.0	2.4	0.0	0.0	0.0	0.0	22	1000
NS-01	Inverter	2000	1524514	4995058	1.5	88	67.4	0	0.0	-1.6	0.0	6.4	0.0	0.0	0.0	0.0	16	2000
NS-01	Inverter	4000	1524514	4995058	1.5	82	67.4	0	0.0	-1.6	0.0	21.6	0.0	0.0	0.0	0.0	--	4000
NS-01	Inverter	8000	1524514	4995058	1.5	92	67.4	0	0.0	-1.6	0.0	77.2	0.0	0.0	0.0	0.0	--	8000
NS-02	Inverter	32	1524655	4995130	1.5	--	66.9	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-02	Inverter	63	1524655	4995130	1.5	61	66.9	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-02	Inverter	125	1524655	4995130	1.5	78	66.9	0	0.0	3.5	0.0	0.3	0.0	0.0	0.0	0.0	7	125
NS-02	Inverter	250	1524655	4995130	1.5	86	66.9	0	0.0	4.4	0.0	0.7	0.0	0.0	0.0	0.0	14	250
NS-02	Inverter	500	1524655	4995130	1.5	87	66.9	0	0.0	1.9	0.0	1.2	0.0	0.0	0.0	0.0	17	500
NS-02	Inverter	1000	1524655	4995130	1.5	91	66.9	0	0.0	-1.1	0.0	2.3	0.0	0.0	0.0	0.0	23	1000
NS-02	Inverter	2000	1524655	4995130	1.5	88	66.9	0	0.0	-1.5	0.0	6.1	0.0	0.0	0.0	0.0	17	2000
NS-02	Inverter	4000	1524655	4995130	1.5	82	66.9	0	0.0	-1.5	0.0	20.5	0.0	0.0	0.0	0.0	--	4000
NS-02	Inverter	8000	1524655	4995130	1.5	92	66.9	0	0.0	-1.5	0.0	73.2	0.0	0.0	0.0	0.0	--	8000
NS-03	Inverter	32	1524778	4995195	1.5	--	67.0	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-03	Inverter	63	1524778	4995195	1.5	61	67.0	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-03	Inverter	125	1524778	4995195	1.5	78	67.0	0	0.0	3.6	0.0	0.3	0.0	0.0	0.0	0.0	7	125
NS-03	Inverter	250	1524778	4995195	1.5	86	67.0	0	0.0	4.4	0.0	0.7	0.0	0.0	0.0	0.0	14	250
NS-03	Inverter	500	1524778	4995195	1.5	87	67.0	0	0.0	2.0	0.0	1.2	0.0	0.0	0.0	0.0	17	500
NS-03	Inverter	1000	1524778	4995195	1.5	91	67.0	0	0.0	-1.1	0.0	2.3	0.0	0.0	0.0	0.0	23	1000
NS-03	Inverter	2000	1524778	4995195	1.5	88	67.0	0	0.0	-1.5	0.0	6.1	0.0	0.0	0.0	0.0	17	2000
NS-03	Inverter	4000	1524778	4995195	1.5	82	67.0	0	0.0	-1.5	0.0	20.6	0.0	0.0	0.0	0.0	--	4000
NS-03	Inverter	8000	1524778	4995195	1.5	92	67.0	0	0.0	-1.5	0.0	73.6	0.0	0.0	0.0	0.0	--	8000
NS-04	Inverter	32	1524568	4994971	1.5	--	66.0	0	0.0	-5.0	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-04	Inverter	63	1524568	4994971	1.5	61	66.0	0	0.0	-5.0	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-04	Inverter	125	1524568	4994971	1.5	78	66.0	0	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.0	9	125
NS-04	Inverter	250	1524568	4994971	1.5	86	66.0	0	0.0	4.4	0.0	0.6	0.0	0.0	0.0	0.0	15	250
NS-04	Inverter	500	1524568	4994971	1.5	87	66.0	0	0.0	2.0	0.0	1.1	0.0	0.0	0.0	0.0	18	500
NS-04	Inverter	1000	1524568	4994971	1.5	91	66.0	0	0.0	-1.1	0.0	2.1	0.0	0.0	0.0	0.0	24	1000
NS-04	Inverter	2000	1524568	4994971	1.5	88	66.0	0	0.0	-1.5	0.0	5.4	0.0	0.0	0.0	0.0	18	2000
NS-04	Inverter	4000	1524568	4994971	1.5	82	66.0	0	0.0	-1.5	0.0	18.4	0.0	0.0	0.0	0.0	--	4000
NS-04	Inverter	8000	1524568	4994971	1.5	92	66.0	0	0.0	-1.5	0.0	65.8	0.0	0.0	0.0	0.0	--	8000
NS-05	Inverter	32	1524711	4995043	1.5	--	65.4	0	0.0	-5.0	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-05	Inverter	63	1524711	4995043	1.5	61	65.4	0	0.0	-5.0	0.0	0.1	0.0	0.0	0.0	0.0	0	63
NS-05	Inverter	125	1524711	4995043	1.5	78	65.4	0	0.0	3.1	0.0	0.2	0.0	0.0	0.0	0.0	9	125
NS-05	Inverter	250	1524711	4995043	1.5	86	65.4	0	0.0	4.4	0.0	0.6	0.0	0.0	0.0	0.0	15	250
NS-05	Inverter	500	1524711	4995043	1.5	87	65.4	0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	19	500
NS-05	Inverter	1000	1524711	4995043	1.5	91	65.4	0	0.0	-1.0	0.0	1.9	0.0	0.0	0.0	0.0	25	1000
NS-05	Inverter	2000	1524711	4995043	1.5	88	65.4	0	0.0	-1.5	0.0	5.1	0.0	0.0	0.0	0.0	19	2000
NS-05	Inverter	4000	1524711	4995043	1.5	82	65.4	0	0.0	-1.5	0.0	17.1	0.0	0.0	0.0	0.0	1	4000
NS-05	Inverter	8000	1524711	4995043	1.5	92	65.4	0	0.0	-1.5	0.0	61.1	0.0	0.0	0.0	0.0	--	8000
NS-06	Inverter	32	1524868	4995052	1.5	--	64.4	0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-06	Inverter	63	1524868	4995052	1.5	61	64.4	0	0.0	-4.8	0.0	0.1	0.0	0.0	0.0	0.0	1	63
NS-06	Inverter	125	1524868	4995052	1.5	78	64.4	0	0.0	2.8	0.0	0.2	0.0	0.0	0.0	0.0	11	125
NS-06	Inverter	250	1524868	4995052	1.5	86	64.4	0	0.0	4.5	0.0	0.5	0.0	0.0	0.0	0.0	16	250
NS-06	Inverter	500	1524868	4995052	1.5	87	64.4	0	0.0	2.0	0.0	0.9	0.0	0.0	0.0	0.0	20	500
NS-06	Inverter	1000	1524868	4995052	1.5	91	64.4	0	0.0	-1.0	0.0	1.7	0.0	0.0	0.0	0.0	26	1000
NS-06	Inverter	2000	1524868	4995052	1.5	88	64.4	0	0.0	-1.5	0.0	4.5	0.0	0.0	0.0	0.0	21	2000
NS-06	Inverter	4000	1524868	4995052	1.5	82	64.4	0	0.0	-1.5	0.0	15.2	0.0	0.0	0.0	0.0	4	4000
NS-06	Inverter	8000	1524868	4995052	1.5	92	64.4	0	0.0	-1.5	0.0	54.5	0.0	0.0	0.0	0.0	--	8000
NS-07	Inverter	32	1524649	4994843	1.5	--	63.5	0	0.0	-4.7	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-07	Inverter	63	1524649	4994843	1.5	61	63.5	0	0.0	-4.7	0.0	0.1	0.0	0.0	0.0	0.0	2	63
NS-07	Inverter	125	1524649	4994843	1.5	78	63.5	0	0.0	2.6	0.0	0.2	0.0	0.0	0.0	0.0	12	125
NS-07	Inverter	250	1524649	4994843	1.5	85	63.5	0	0.0	4.5	0.0	0.4	0.0	0.0	0.0	0.0	16	250
NS-07	Inverter	500	1524649	4994843	1.5	83	63.5	0	0.0	2.1	0.0	0.8	0.0	0.0	0.0	0.0	17	500
NS-07	Inverter	1000	1524649	4994843	1.5	84	63.5	0	0.0	-1.0	0.0	1.5	0.0	0.0	0.0	0.0	20	1000
NS-07	Inverter	2000	1524649	4994843	1.5	82	63.5	0	0.0	-1.4	0.0	4.1	0.0	0.0	0.0	0.0	16	2000
NS-07	Inverter	4000	1524649	4994843	1.5	82	63.5	0	0.0	-1.4	0.0	13.7	0.0	0.0	0.0	0.0	6	4000
NS-07	Inverter	8000	1524649	4994843	1.5	92	63.5	0	0.0	-1.4	0.0	49.1	0.0	0.0	0.0	0.0	--	8000
NS-08	Inverter	32	1524790	4994916	1.5	--	62.4	0	0.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-08	Inverter	63	1524790	4994916	1.5	61	62.4	0	0.0	-4.6	0.0	0.1	0.0	0.0	0.0	0.0	3	63
NS-08	Inverter	125	1524790	4994916	1.5	78	62.4	0	0.0	2.4	0.0	0.2	0.0	0.0	0.0	0.0	13	125
NS-08	Inverter	250	1524790	4994916	1.5	86	62.4	0	0.0	4.6	0.0	0.4	0.0	0.0	0.0	0.0	18	250
NS-08	Inverter	500	1524790	4994916	1.5	87	62.4	0	0.0	2.1	0.0	0.7	0.0	0.0	0.0	0.0	22	500
NS-08	Inverter	1000	1524790	4994916	1.5	91	62.4	0	0.0	-0.9	0.0	1.4	0.0	0.0	0.0	0.0	28	1000
NS-08	Inverter	2000	1524790	4994916	1.5	88	62.4	0	0.0	-1.4	0.0	3.6	0.0	0.0	0.0	0.0	23	2000
NS-08	Inverter	4000	1524790	4994916	1.5	82	62.4	0	0.0	-1.4	0.0	12.2	0.0	0.0	0.0	0.0	9	4000
NS-08	Inverter	8000	1524790	4994916	1.5	92	62.4	0	0.0	-1.4	0.0	43.7	0.0	0.0	0.0	0.0	--	8000
NS-09	Inverter	32	1524958	4994910	1.5	--	60.8	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-09	Inverter	63	1524958	4994910	1.5	61	60.8	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	4	63

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

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-09	Inverter	125	1524958	4994910	1.5	78	60.8	0	0.0	2.1	0.0	0.1	0.0	0.0	0.0	0.0	15	125
NS-09	Inverter	250	1524958	4994910	1.5	86	60.8	0	0.0	4.6	0.0	0.3	0.0	0.0	0.0	0.0	20	250
NS-09	Inverter	500	1524958	4994910	1.5	87	60.8	0	0.0	2.2	0.0	0.6	0.0	0.0	0.0	0.0	24	500
NS-09	Inverter	1000	1524958	4994910	1.5	91	60.8	0	0.0	-0.8	0.0	1.1	0.0	0.0	0.0	0.0	30	1000
NS-09	Inverter	2000	1524958	4994910	1.5	88	60.8	0	0.0	-1.3	0.0	3.0	0.0	0.0	0.0	0.0	26	2000
NS-09	Inverter	4000	1524958	4994910	1.5	82	60.8	0	0.0	-1.3	0.0	10.1	0.0	0.0	0.0	0.0	12	4000
NS-09	Inverter	8000	1524958	4994910	1.5	92	60.8	0	0.0	-1.3	0.0	36.1	0.0	0.0	0.0	0.0	--	8000
NS-10	Inverter	32	1524728	4994718	1.5	--	60.2	0	0.0	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-10	Inverter	63	1524728	4994718	1.5	61	60.2	0	0.0	-4.1	0.0	0.1	0.0	0.0	0.0	0.0	4	63
NS-10	Inverter	125	1524728	4994718	1.5	78	60.2	0	0.0	2.1	0.0	0.1	0.0	0.0	0.0	0.0	16	125
NS-10	Inverter	250	1524728	4994718	1.5	85	60.2	0	0.0	4.7	0.0	0.3	0.0	0.0	0.0	0.0	19	250
NS-10	Inverter	500	1524728	4994718	1.5	83	60.2	0	0.0	2.2	0.0	0.6	0.0	0.0	0.0	0.0	20	500
NS-10	Inverter	1000	1524728	4994718	1.5	84	60.2	0	0.0	-0.8	0.0	1.1	0.0	0.0	0.0	0.0	24	1000
NS-10	Inverter	2000	1524728	4994718	1.5	82	60.2	0	0.0	-1.2	0.0	2.8	0.0	0.0	0.0	0.0	20	2000
NS-10	Inverter	4000	1524728	4994718	1.5	82	60.2	0	0.0	-1.2	0.0	9.4	0.0	0.0	0.0	0.0	13	4000
NS-10	Inverter	8000	1524728	4994718	1.5	92	60.2	0	0.0	-1.2	0.0	33.8	0.0	0.0	0.0	0.0	--	8000
NS-11	Inverter	32	1524871	4994790	1.5	--	58.0	0	0.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-11	Inverter	63	1524871	4994790	1.5	61	58.0	0	0.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	6	63
NS-11	Inverter	125	1524871	4994790	1.5	78	58.0	0	0.0	1.9	0.0	0.1	0.0	0.0	0.0	0.0	18	125
NS-11	Inverter	250	1524871	4994790	1.5	85	58.0	0	0.0	4.8	0.0	0.2	0.0	0.0	0.0	0.0	22	250
NS-11	Inverter	500	1524871	4994790	1.5	83	58.0	0	0.0	2.4	0.0	0.4	0.0	0.0	0.0	0.0	23	500
NS-11	Inverter	1000	1524871	4994790	1.5	84	58.0	0	0.0	-0.6	0.0	0.8	0.0	0.0	0.0	0.0	26	1000
NS-11	Inverter	2000	1524871	4994790	1.5	82	58.0	0	0.0	-1.1	0.0	2.2	0.0	0.0	0.0	0.0	23	2000
NS-11	Inverter	4000	1524871	4994790	1.5	82	58.0	0	0.0	-1.1	0.0	7.3	0.0	0.0	0.0	0.0	18	4000
NS-11	Inverter	8000	1524871	4994790	1.5	92	58.0	0	0.0	-1.1	0.0	26.1	0.0	0.0	0.0	0.0	9	8000
NS-12	Transformer 1 MV	32	1524516	4995058	1.0	--	67.4	0	0.0	-5.3	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-12	Transformer 1 MV	63	1524516	4995058	1.0	54	67.4	0	0.0	-5.3	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-12	Transformer 1 MV	125	1524516	4995058	1.0	66	67.4	0	0.0	3.8	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-12	Transformer 1 MV	250	1524516	4995058	1.0	68	67.4	0	0.0	4.9	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-12	Transformer 1 MV	500	1524516	4995058	1.0	74	67.4	0	0.0	4.6	0.0	1.3	0.0	0.0	0.0	0.0	1	500
NS-12	Transformer 1 MV	1000	1524516	4995058	1.0	71	67.4	0	0.0	-0.2	0.0	2.4	0.0	0.0	0.0	0.0	1	1000
NS-12	Transformer 1 MV	2000	1524516	4995058	1.0	67	67.4	0	0.0	-1.6	0.0	6.4	0.0	0.0	0.0	0.0	--	2000
NS-12	Transformer 1 MV	4000	1524516	4995058	1.0	62	67.4	0	0.0	-1.6	0.0	21.6	0.0	0.0	0.0	0.0	--	4000
NS-12	Transformer 1 MV	8000	1524516	4995058	1.0	53	67.4	0	0.0	-1.6	0.0	77.0	0.0	0.0	0.0	0.0	--	8000
NS-13	Transformer 1 MV	32	1524657	4995130	1.0	--	66.9	0	0.0	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-13	Transformer 1 MV	63	1524657	4995130	1.0	54	66.9	0	0.0	-5.2	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-13	Transformer 1 MV	125	1524657	4995130	1.0	66	66.9	0	0.0	3.6	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-13	Transformer 1 MV	250	1524657	4995130	1.0	68	66.9	0	0.0	4.9	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-13	Transformer 1 MV	500	1524657	4995130	1.0	74	66.9	0	0.0	4.6	0.0	1.2	0.0	0.0	0.0	0.0	1	500
NS-13	Transformer 1 MV	1000	1524657	4995130	1.0	71	66.9	0	0.0	-0.1	0.0	2.3	0.0	0.0	0.0	0.0	2	1000
NS-13	Transformer 1 MV	2000	1524657	4995130	1.0	67	66.9	0	0.0	-1.6	0.0	6.0	0.0	0.0	0.0	0.0	--	2000
NS-13	Transformer 1 MV	4000	1524657	4995130	1.0	62	66.9	0	0.0	-1.6	0.0	20.5	0.0	0.0	0.0	0.0	--	4000
NS-13	Transformer 1 MV	8000	1524657	4995130	1.0	53	66.9	0	0.0	-1.6	0.0	73.0	0.0	0.0	0.0	0.0	--	8000
NS-14	Transformer 1 MV	32	1524780	4995195	1.0	--	67.0	0	0.0	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-14	Transformer 1 MV	63	1524780	4995195	1.0	54	67.0	0	0.0	-5.2	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-14	Transformer 1 MV	125	1524780	4995195	1.0	66	67.0	0	0.0	3.7	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-14	Transformer 1 MV	250	1524780	4995195	1.0	68	67.0	0	0.0	4.9	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-14	Transformer 1 MV	500	1524780	4995195	1.0	74	67.0	0	0.0	4.6	0.0	1.2	0.0	0.0	0.0	0.0	1	500
NS-14	Transformer 1 MV	1000	1524780	4995195	1.0	71	67.0	0	0.0	-0.1	0.0	2.3	0.0	0.0	0.0	0.0	2	1000
NS-14	Transformer 1 MV	2000	1524780	4995195	1.0	67	67.0	0	0.0	-1.6	0.0	6.1	0.0	0.0	0.0	0.0	--	2000
NS-14	Transformer 1 MV	4000	1524780	4995195	1.0	62	67.0	0	0.0	-1.6	0.0	20.6	0.0	0.0	0.0	0.0	--	4000
NS-14	Transformer 1 MV	8000	1524780	4995195	1.0	53	67.0	0	0.0	-1.6	0.0	73.4	0.0	0.0	0.0	0.0	--	8000
NS-15	Transformer 1 MV	32	1524570	4994971	1.0	--	66.0	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-15	Transformer 1 MV	63	1524570	4994971	1.0	54	66.0	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-15	Transformer 1 MV	125	1524570	4994971	1.0	66	66.0	0	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-15	Transformer 1 MV	250	1524570	4994971	1.0	68	66.0	0	0.0	4.9	0.0	0.6	0.0	0.0	0.0	0.0	--	250
NS-15	Transformer 1 MV	500	1524570	4994971	1.0	74	66.0	0	0.0	4.7	0.0	1.1	0.0	0.0	0.0	0.0	2	500
NS-15	Transformer 1 MV	1000	1524570	4994971	1.0	71	66.0	0	0.0	-0.1	0.0	2.1	0.0	0.0	0.0	0.0	3	1000
NS-15	Transformer 1 MV	2000	1524570	4994971	1.0	67	66.0	0	0.0	-1.5	0.0	5.4	0.0	0.0	0.0	0.0	--	2000
NS-15	Transformer 1 MV	4000	1524570	4994971	1.0	62	66.0	0	0.0	-1.5	0.0	18.4	0.0	0.0	0.0	0.0	--	4000
NS-15	Transformer 1 MV	8000	1524570	4994971	1.0	53	66.0	0	0.0	-1.5	0.0	65.5	0.0	0.0	0.0	0.0	--	8000
NS-16	Transformer 1 MV	32	1524713	4995043	1.0	--	65.4	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-16	Transformer 1 MV	63	1524713	4995043	1.0	54	65.4	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-16	Transformer 1 MV	125	1524713	4995043	1.0	66	65.4	0	0.0	3.1	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-16	Transformer 1 MV	250	1524713	4995043	1.0	68	65.4	0	0.0	5.0	0.0	0.5	0.0	0.0	0.0	0.0	--	250
NS-16	Transformer 1 MV	500	1524713	4995043	1.0	74	65.4	0	0.0	4.7	0.0	1.0	0.0	0.0	0.0	0.0	3	500
NS-16	Transformer 1 MV	1000	1524713	4995043	1.0	71	65.4	0	0.0	-0.1	0.0	1.9	0.0	0.0	0.0	0.0	4	1000
NS-16	Transformer 1 MV	2000	1524713	4995043	1.0	67	65.4	0	0.0	-1.5	0.0	5.0	0.0	0.0	0.0	0.0	--	2000
NS-16	Transformer 1 MV	4000	1524713	4995043	1.0	62	65.4	0	0.0	-1.5	0.0	17.1	0.0	0.0	0.0	0.0	--	4000
NS-16	Transformer 1 MV	8000	1524713	4995043	1.0	53	65.4	0	0.0	-1.5	0.0	61.0	0.0	0.0	0.0	0.0	--	8000
NS-17	Transformer 1 MV	32	1524870	4995052	1.0	--	64.4	0	0.0	-4.9	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-17	Transformer 1 MV	63	1524870	4995052	1.0	54	64.4	0	0.0	-4.9	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-17	Transformer 1 MV	125	1524870	4995052	1.0	66	64.4	0	0.0	2.8	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-17	Transformer 1 MV	250	1524870	4995052	1.0	68	64.4	0	0.0	5.0	0.0	0.5	0.0	0.0	0.0	0.0	--	250
NS-17	Transformer 1 MV	500	1524870	4995052	1.0	74	64.4	0	0.0	4.7	0.0	0.9	0.0	0.0	0.0	0.0	4	500
NS-17	Transformer 1 MV	1000	1524870	4995052	1.0	71	64.4	0	0.0	-0.1	0.0	1.7	0.0	0.0	0.0	0.0	5	1000
NS-17	Transformer 1 MV	2000	1524870	4995052	1.0	67	64.4	0	0.0	-1.5	0.0	4.5	0.0	0.0	0.0	0.0	--	2000

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

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-17	Transformer 1 MV	4000	1524870	4995052	1.0	62	64.4	0	0.0	-1.5	0.0	15.3	0.0	0.0	0.0	0.0	--	4000
NS-17	Transformer 1 MV	8000	1524870	4995052	1.0	53	64.4	0	0.0	-1.5	0.0	54.4	0.0	0.0	0.0	0.0	--	8000
NS-18	Transformer 1 MV	32	1524651	4994843	1.0	--	63.4	0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-18	Transformer 1 MV	63	1524651	4994843	1.0	54	63.4	0	0.0	-4.8	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-18	Transformer 1 MV	125	1524651	4994843	1.0	66	63.4	0	0.0	2.6	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-18	Transformer 1 MV	250	1524651	4994843	1.0	68	63.4	0	0.0	5.0	0.0	0.4	0.0	0.0	0.0	0.0	--	250
NS-18	Transformer 1 MV	500	1524651	4994843	1.0	74	63.4	0	0.0	4.7	0.0	0.8	0.0	0.0	0.0	0.0	5	500
NS-18	Transformer 1 MV	1000	1524651	4994843	1.0	71	63.4	0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	6	1000
NS-18	Transformer 1 MV	2000	1524651	4994843	1.0	67	63.4	0	0.0	-1.4	0.0	4.0	0.0	0.0	0.0	0.0	1	2000
NS-18	Transformer 1 MV	4000	1524651	4994843	1.0	62	63.4	0	0.0	-1.4	0.0	13.7	0.0	0.0	0.0	0.0	--	4000
NS-18	Transformer 1 MV	8000	1524651	4994843	1.0	53	63.4	0	0.0	-1.4	0.0	48.9	0.0	0.0	0.0	0.0	--	8000
NS-19	Transformer 1 MV	32	1524792	4994916	1.0	--	62.4	0	0.0	-4.7	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-19	Transformer 1 MV	63	1524792	4994916	1.0	54	62.4	0	0.0	-4.7	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-19	Transformer 1 MV	125	1524792	4994916	1.0	66	62.4	0	0.0	2.3	0.0	0.2	0.0	0.0	0.0	0.0	1	125
NS-19	Transformer 1 MV	250	1524792	4994916	1.0	68	62.4	0	0.0	5.1	0.0	0.4	0.0	0.0	0.0	0.0	1	250
NS-19	Transformer 1 MV	500	1524792	4994916	1.0	74	62.4	0	0.0	4.8	0.0	0.7	0.0	0.0	0.0	0.0	6	500
NS-19	Transformer 1 MV	1000	1524792	4994916	1.0	71	62.4	0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	7	1000
NS-19	Transformer 1 MV	2000	1524792	4994916	1.0	67	62.4	0	0.0	-1.4	0.0	3.6	0.0	0.0	0.0	0.0	3	2000
NS-19	Transformer 1 MV	4000	1524792	4994916	1.0	62	62.4	0	0.0	-1.4	0.0	12.2	0.0	0.0	0.0	0.0	--	4000
NS-19	Transformer 1 MV	8000	1524792	4994916	1.0	53	62.4	0	0.0	-1.4	0.0	43.5	0.0	0.0	0.0	0.0	--	8000
NS-20	Transformer 1 MV	32	1524960	4994910	1.0	--	60.8	0	0.0	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-20	Transformer 1 MV	63	1524960	4994910	1.0	54	60.8	0	0.0	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-20	Transformer 1 MV	125	1524960	4994910	1.0	66	60.8	0	0.0	2.0	0.0	0.1	0.0	0.0	0.0	0.0	3	125
NS-20	Transformer 1 MV	250	1524960	4994910	1.0	68	60.8	0	0.0	5.1	0.0	0.3	0.0	0.0	0.0	0.0	2	250
NS-20	Transformer 1 MV	500	1524960	4994910	1.0	74	60.8	0	0.0	4.9	0.0	0.6	0.0	0.0	0.0	0.0	8	500
NS-20	Transformer 1 MV	1000	1524960	4994910	1.0	71	60.8	0	0.0	0.1	0.0	1.1	0.0	0.0	0.0	0.0	9	1000
NS-20	Transformer 1 MV	2000	1524960	4994910	1.0	67	60.8	0	0.0	-1.3	0.0	3.0	0.0	0.0	0.0	0.0	5	2000
NS-20	Transformer 1 MV	4000	1524960	4994910	1.0	62	60.8	0	0.0	-1.3	0.0	10.1	0.0	0.0	0.0	0.0	--	4000
NS-20	Transformer 1 MV	8000	1524960	4994910	1.0	53	60.8	0	0.0	-1.3	0.0	36.1	0.0	0.0	0.0	0.0	--	8000
NS-21	Transformer 1 MV	32	1524730	4994718	1.0	--	60.2	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-21	Transformer 1 MV	63	1524730	4994718	1.0	54	60.2	0	0.0	-4.3	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-21	Transformer 1 MV	125	1524730	4994718	1.0	66	60.2	0	0.0	1.9	0.0	0.1	0.0	0.0	0.0	0.0	4	125
NS-21	Transformer 1 MV	250	1524730	4994718	1.0	68	60.2	0	0.0	5.2	0.0	0.3	0.0	0.0	0.0	0.0	3	250
NS-21	Transformer 1 MV	500	1524730	4994718	1.0	74	60.2	0	0.0	4.9	0.0	0.6	0.0	0.0	0.0	0.0	8	500
NS-21	Transformer 1 MV	1000	1524730	4994718	1.0	71	60.2	0	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0	10	1000
NS-21	Transformer 1 MV	2000	1524730	4994718	1.0	67	60.2	0	0.0	-1.3	0.0	2.8	0.0	0.0	0.0	0.0	6	2000
NS-21	Transformer 1 MV	4000	1524730	4994718	1.0	62	60.2	0	0.0	-1.3	0.0	9.4	0.0	0.0	0.0	0.0	--	4000
NS-21	Transformer 1 MV	8000	1524730	4994718	1.0	53	60.2	0	0.0	-1.3	0.0	33.5	0.0	0.0	0.0	0.0	--	8000
NS-22	Transformer 1 MV	32	1524873	4994790	1.0	--	57.9	0	0.0	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-22	Transformer 1 MV	63	1524873	4994790	1.0	54	57.9	0	0.0	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-22	Transformer 1 MV	125	1524873	4994790	1.0	66	57.9	0	0.0	1.8	0.0	0.1	0.0	0.0	0.0	0.0	6	125
NS-22	Transformer 1 MV	250	1524873	4994790	1.0	68	57.9	0	0.0	5.3	0.0	0.2	0.0	0.0	0.0	0.0	5	250
NS-22	Transformer 1 MV	500	1524873	4994790	1.0	74	57.9	0	0.0	5.0	0.0	0.4	0.0	0.0	0.0	0.0	10	500
NS-22	Transformer 1 MV	1000	1524873	4994790	1.0	71	57.9	0	0.0	0.3	0.0	0.8	0.0	0.0	0.0	0.0	12	1000
NS-22	Transformer 1 MV	2000	1524873	4994790	1.0	67	57.9	0	0.0	-1.1	0.0	2.2	0.0	0.0	0.0	0.0	8	2000
NS-22	Transformer 1 MV	4000	1524873	4994790	1.0	62	57.9	0	0.0	-1.1	0.0	7.3	0.0	0.0	0.0	0.0	--	4000
NS-22	Transformer 1 MV	8000	1524873	4994790	1.0	53	57.9	0	0.0	-1.1	0.0	26.0	0.0	0.0	0.0	0.0	--	8000
NS-23	Transformer 10 MV	32	1524994	4994784	2.0	--	56.1	0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-23	Transformer 10 MV	63	1524994	4994784	2.0	65	56.1	0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	12	63
NS-23	Transformer 10 MV	125	1524994	4994784	2.0	77	56.1	0	0.0	2.1	0.0	0.1	0.0	0.0	0.0	0.0	19	125
NS-23	Transformer 10 MV	250	1524994	4994784	2.0	80	56.1	0	0.0	4.1	0.0	0.2	0.0	0.0	0.0	0.0	19	250
NS-23	Transformer 10 MV	500	1524994	4994784	2.0	85	56.1	0	0.0	0.6	0.0	0.4	0.0	0.0	0.0	0.0	28	500
NS-23	Transformer 10 MV	1000	1524994	4994784	2.0	83	56.1	0	0.0	-0.8	0.0	0.7	0.0	0.0	0.0	0.0	27	1000
NS-23	Transformer 10 MV	2000	1524994	4994784	2.0	79	56.1	0	0.0	-0.9	0.0	1.8	0.0	0.0	0.0	0.0	22	2000
NS-23	Transformer 10 MV	4000	1524994	4994784	2.0	74	56.1	0	0.0	-0.9	0.0	5.9	0.0	0.0	0.0	0.0	12	4000
NS-23	Transformer 10 MV	8000	1524994	4994784	2.0	64	56.1	0	0.0	-0.9	0.0	21.1	0.0	0.0	0.0	0.0	--	8000
NS-24	Fan	32	1524515	4995059	2.0	--	67.4	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-24	Fan	63	1524515	4995059	2.0	47	67.4	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-24	Fan	125	1524515	4995059	2.0	56	67.4	0	0.0	3.6	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-24	Fan	250	1524515	4995059	2.0	69	67.4	0	0.0	3.6	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-24	Fan	500	1524515	4995059	2.0	66	67.4	0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	--	500
NS-24	Fan	1000	1524515	4995059	2.0	63	67.4	0	0.0	-1.4	0.0	2.4	0.0	0.0	0.0	0.0	--	1000
NS-24	Fan	2000	1524515	4995059	2.0	67	67.4	0	0.0	-1.5	0.0	6.4	0.0	0.0	0.0	0.0	--	2000
NS-24	Fan	4000	1524515	4995059	2.0	59	67.4	0	0.0	-1.5	0.0	21.6	0.0	0.0	0.0	0.0	--	4000
NS-24	Fan	8000	1524515	4995059	2.0	51	67.4	0	0.0	-1.5	0.0	77.2	0.0	0.0	0.0	0.0	--	8000
NS-25	Fan	32	1524656	4995131	2.0	--	66.9	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-25	Fan	63	1524656	4995131	2.0	47	66.9	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-25	Fan	125	1524656	4995131	2.0	56	66.9	0	0.0	3.5	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-25	Fan	250	1524656	4995131	2.0	69	66.9	0	0.0	3.7	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-25	Fan	500	1524656	4995131	2.0	66	66.9	0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	--	500
NS-25	Fan	1000	1524656	4995131	2.0	63	66.9	0	0.0	-1.4	0.0	2.3	0.0	0.0	0.0	0.0	--	1000
NS-25	Fan	2000	1524656	4995131	2.0	67	66.9	0	0.0	-1.5	0.0	6.1	0.0	0.0	0.0	0.0	--	2000
NS-25	Fan	4000	1524656	4995131	2.0	59	66.9	0	0.0	-1.5	0.0	20.5	0.0	0.0	0.0	0.0	--	4000
NS-25	Fan	8000	1524656	4995131	2.0	51	66.9	0	0.0	-1.5	0.0	73.2	0.0	0.0	0.0	0.0	--	8000
NS-26	Fan	32	1524569	4994972	2.0	--	66.0	0	0.0	-5.0	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-26	Fan	63	1524569	4994972	2.0	47	66.0	0	0.0	-5.0	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-26	Fan	125	1524569	4994972	2.0	56	66.0	0	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.0	--	125

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

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-26	Fan	250	1524569	4994972	2.0	69	66.0	0	0.0	3.7	0.0	0.6	0.0	0.0	0.0	0.0	--	250
NS-26	Fan	500	1524569	4994972	2.0	66	66.0	0	0.0	0.1	0.0	1.1	0.0	0.0	0.0	0.0	--	500
NS-26	Fan	1000	1524569	4994972	2.0	63	66.0	0	0.0	-1.4	0.0	2.1	0.0	0.0	0.0	0.0	--	1000
NS-26	Fan	2000	1524569	4994972	2.0	67	66.0	0	0.0	-1.5	0.0	5.4	0.0	0.0	0.0	0.0	--	2000
NS-26	Fan	4000	1524569	4994972	2.0	59	66.0	0	0.0	-1.5	0.0	18.4	0.0	0.0	0.0	0.0	--	4000
NS-26	Fan	8000	1524569	4994972	2.0	51	66.0	0	0.0	-1.5	0.0	65.7	0.0	0.0	0.0	0.0	--	8000
NS-27	Fan	32	1524712	4995044	2.0	--	65.4	0	0.0	-4.9	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-27	Fan	63	1524712	4995044	2.0	47	65.4	0	0.0	-4.9	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-27	Fan	125	1524712	4995044	2.0	56	65.4	0	0.0	3.1	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-27	Fan	250	1524712	4995044	2.0	69	65.4	0	0.0	3.7	0.0	0.6	0.0	0.0	0.0	0.0	--	250
NS-27	Fan	500	1524712	4995044	2.0	66	65.4	0	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0	--	500
NS-27	Fan	1000	1524712	4995044	2.0	63	65.4	0	0.0	-1.4	0.0	1.9	0.0	0.0	0.0	0.0	--	1000
NS-27	Fan	2000	1524712	4995044	2.0	67	65.4	0	0.0	-1.5	0.0	5.1	0.0	0.0	0.0	0.0	--	2000
NS-27	Fan	4000	1524712	4995044	2.0	59	65.4	0	0.0	-1.5	0.0	17.1	0.0	0.0	0.0	0.0	--	4000
NS-27	Fan	8000	1524712	4995044	2.0	51	65.4	0	0.0	-1.5	0.0	61.1	0.0	0.0	0.0	0.0	--	8000
NS-28	Fan	32	1524779	4995196	2.0	--	67.0	0	0.0	-5.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-28	Fan	63	1524779	4995196	2.0	47	67.0	0	0.0	-5.1	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-28	Fan	125	1524779	4995196	2.0	56	67.0	0	0.0	3.5	0.0	0.3	0.0	0.0	0.0	0.0	--	125
NS-28	Fan	250	1524779	4995196	2.0	69	67.0	0	0.0	3.6	0.0	0.7	0.0	0.0	0.0	0.0	--	250
NS-28	Fan	500	1524779	4995196	2.0	66	67.0	0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	--	500
NS-28	Fan	1000	1524779	4995196	2.0	63	67.0	0	0.0	-1.4	0.0	2.3	0.0	0.0	0.0	0.0	--	1000
NS-28	Fan	2000	1524779	4995196	2.0	67	67.0	0	0.0	-1.5	0.0	6.1	0.0	0.0	0.0	0.0	--	2000
NS-28	Fan	4000	1524779	4995196	2.0	59	67.0	0	0.0	-1.5	0.0	20.6	0.0	0.0	0.0	0.0	--	4000
NS-28	Fan	8000	1524779	4995196	2.0	51	67.0	0	0.0	-1.5	0.0	73.6	0.0	0.0	0.0	0.0	--	8000
NS-29	Fan	32	1524869	4995054	2.0	--	64.4	0	0.0	-4.8	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-29	Fan	63	1524869	4995054	2.0	47	64.4	0	0.0	-4.8	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-29	Fan	125	1524869	4995054	2.0	56	64.4	0	0.0	2.9	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-29	Fan	250	1524869	4995054	2.0	69	64.4	0	0.0	3.7	0.0	0.5	0.0	0.0	0.0	0.0	1	250
NS-29	Fan	500	1524869	4995054	2.0	66	64.4	0	0.0	0.1	0.0	0.9	0.0	0.0	0.0	0.0	0	500
NS-29	Fan	1000	1524869	4995054	2.0	63	64.4	0	0.0	-1.3	0.0	1.7	0.0	0.0	0.0	0.0	--	1000
NS-29	Fan	2000	1524869	4995054	2.0	67	64.4	0	0.0	-1.4	0.0	4.5	0.0	0.0	0.0	0.0	--	2000
NS-29	Fan	4000	1524869	4995054	2.0	59	64.4	0	0.0	-1.4	0.0	15.3	0.0	0.0	0.0	0.0	--	4000
NS-29	Fan	8000	1524869	4995054	2.0	51	64.4	0	0.0	-1.4	0.0	54.6	0.0	0.0	0.0	0.0	--	8000
NS-30	Fan	32	1524650	4994845	2.0	--	63.5	0	0.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-30	Fan	63	1524650	4994845	2.0	47	63.5	0	0.0	-4.6	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-30	Fan	125	1524650	4994845	2.0	56	63.5	0	0.0	2.7	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-30	Fan	250	1524650	4994845	2.0	69	63.5	0	0.0	3.8	0.0	0.4	0.0	0.0	0.0	0.0	2	250
NS-30	Fan	500	1524650	4994845	2.0	66	63.5	0	0.0	0.2	0.0	0.8	0.0	0.0	0.0	0.0	1	500
NS-30	Fan	1000	1524650	4994845	2.0	63	63.5	0	0.0	-1.3	0.0	1.5	0.0	0.0	0.0	0.0	--	1000
NS-30	Fan	2000	1524650	4994845	2.0	67	63.5	0	0.0	-1.4	0.0	4.1	0.0	0.0	0.0	0.0	1	2000
NS-30	Fan	4000	1524650	4994845	2.0	59	63.5	0	0.0	-1.4	0.0	13.7	0.0	0.0	0.0	0.0	--	4000
NS-30	Fan	8000	1524650	4994845	2.0	51	63.5	0	0.0	-1.4	0.0	49.0	0.0	0.0	0.0	0.0	--	8000
NS-31	Fan	32	1524791	4994917	2.0	--	62.4	0	0.0	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-31	Fan	63	1524791	4994917	2.0	47	62.4	0	0.0	-4.4	0.0	0.1	0.0	0.0	0.0	0.0	--	63
NS-31	Fan	125	1524791	4994917	2.0	56	62.4	0	0.0	2.5	0.0	0.2	0.0	0.0	0.0	0.0	--	125
NS-31	Fan	250	1524791	4994917	2.0	69	62.4	0	0.0	3.8	0.0	0.4	0.0	0.0	0.0	0.0	3	250
NS-31	Fan	500	1524791	4994917	2.0	66	62.4	0	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.0	2	500
NS-31	Fan	1000	1524791	4994917	2.0	63	62.4	0	0.0	-1.2	0.0	1.4	0.0	0.0	0.0	0.0	0	1000
NS-31	Fan	2000	1524791	4994917	2.0	67	62.4	0	0.0	-1.3	0.0	3.6	0.0	0.0	0.0	0.0	2	2000
NS-31	Fan	4000	1524791	4994917	2.0	59	62.4	0	0.0	-1.3	0.0	12.2	0.0	0.0	0.0	0.0	--	4000
NS-31	Fan	8000	1524791	4994917	2.0	51	62.4	0	0.0	-1.3	0.0	43.7	0.0	0.0	0.0	0.0	--	8000
NS-32	Fan	32	1524959	4994912	2.0	--	60.8	0	0.0	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-32	Fan	63	1524959	4994912	2.0	47	60.8	0	0.0	-4.1	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-32	Fan	125	1524959	4994912	2.0	56	60.8	0	0.0	2.3	0.0	0.1	0.0	0.0	0.0	0.0	--	125
NS-32	Fan	250	1524959	4994912	2.0	69	60.8	0	0.0	3.9	0.0	0.3	0.0	0.0	0.0	0.0	4	250
NS-32	Fan	500	1524959	4994912	2.0	66	60.8	0	0.0	0.3	0.0	0.6	0.0	0.0	0.0	0.0	4	500
NS-32	Fan	1000	1524959	4994912	2.0	63	60.8	0	0.0	-1.1	0.0	1.1	0.0	0.0	0.0	0.0	2	1000
NS-32	Fan	2000	1524959	4994912	2.0	67	60.8	0	0.0	-1.2	0.0	3.0	0.0	0.0	0.0	0.0	5	2000
NS-32	Fan	4000	1524959	4994912	2.0	59	60.8	0	0.0	-1.2	0.0	10.2	0.0	0.0	0.0	0.0	--	4000
NS-32	Fan	8000	1524959	4994912	2.0	51	60.8	0	0.0	-1.2	0.0	36.2	0.0	0.0	0.0	0.0	--	8000
NS-33	Fan	32	1524729	4994719	2.0	--	60.2	0	0.0	-4.0	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-33	Fan	63	1524729	4994719	2.0	47	60.2	0	0.0	-4.0	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-33	Fan	125	1524729	4994719	2.0	56	60.2	0	0.0	2.3	0.0	0.1	0.0	0.0	0.0	0.0	--	125
NS-33	Fan	250	1524729	4994719	2.0	69	60.2	0	0.0	4.0	0.0	0.3	0.0	0.0	0.0	0.0	5	250
NS-33	Fan	500	1524729	4994719	2.0	66	60.2	0	0.0	0.4	0.0	0.6	0.0	0.0	0.0	0.0	5	500
NS-33	Fan	1000	1524729	4994719	2.0	63	60.2	0	0.0	-1.1	0.0	1.1	0.0	0.0	0.0	0.0	3	1000
NS-33	Fan	2000	1524729	4994719	2.0	67	60.2	0	0.0	-1.2	0.0	2.8	0.0	0.0	0.0	0.0	5	2000
NS-33	Fan	4000	1524729	4994719	2.0	59	60.2	0	0.0	-1.2	0.0	9.4	0.0	0.0	0.0	0.0	--	4000
NS-33	Fan	8000	1524729	4994719	2.0	51	60.2	0	0.0	-1.2	0.0	33.7	0.0	0.0	0.0	0.0	--	8000
NS-34	Fan	32	1524872	4994791	2.0	--	58.0	0	0.0	-3.4	0.0	0.0	0.0	0.0	0.0	0.0	--	32
NS-34	Fan	63	1524872	4994791	2.0	47	58.0	0	0.0	-3.4	0.0	0.0	0.0	0.0	0.0	0.0	--	63
NS-34	Fan	125	1524872	4994791	2.0	56	58.0	0	0.0	2.2	0.0	0.1	0.0	0.0	0.0	0.0	--	125
NS-34	Fan	250	1524872	4994791	2.0	69	58.0	0	0.0	4.1	0.0	0.2	0.0	0.0	0.0	0.0	7	250
NS-34	Fan	500	1524872	4994791	2.0	66	58.0	0	0.0	0.5	0.0	0.4	0.0	0.0	0.0	0.0	7	500
NS-34	Fan	1000	1524872	4994791	2.0	63	58.0	0	0.0	-0.9	0.0	0.8	0.0	0.0	0.0	0.0	5	1000
NS-34	Fan	2000	1524872	4994791	2.0	67	58.0	0	0.0	-1.0	0.0	2.2	0.0	0.0	0.0	0.0	8	2000
NS-34	Fan	4000	1524872	4994791	2.0	59	58.0	0	0.0	-1.0	0.0	7.3	0.0	0.0	0.0	0.0	--	4000

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

Src ID	Src Name	Band	X	Y	Z	Lx	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	Cmet	Refl	Lr	Band
NS-34	Fan	8000	1524872	4994791	2.0	51	58.0	0	0.0	-1.0	0.0	26.1	0.0	0.0	0.0	0.0	--	8000

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