NORTHLAND POWER

Crosby Solar Project

Noise Assessment Report

December 8, 2011

Northland Power Inc.
on behalf of
Northland Power Solar
Crosby L.P.
Toronto, Ontario

Noise Assessment Report

Crosby Solar Project

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Executive Summary

This report presents the results of the Noise Assessment Study required for Solar Facilities under Ontario Regulation 359/09 and 521/10, as part of the Renewable Energy Approval (REA) Process. Northland Power Inc. ("Northland") is proposing to develop a 10-Megawatt (MW) solar photovoltaic (PV) project titled Crosby Solar Project (the "Project"). The Project will be located on approximately 52 hectares of land, at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville, Ontario.

This Noise Assessment Study Report has been prepared based on the document entitled "Basic Comprehensive Certificates of Approval (Air) – User Guide" by the Ontario Ministry of the Environment (MOE, 2004). The sound pressure levels at the points of reception (POR) have been estimated using ISO 9613-2, implemented in the CADNA-A computer code. The performance limits used for verification of compliance correspond to the values for rural areas of 40-dBA. The results presented in this report are based on the best available information at this time. It is the intention that, in the detailed engineering phase of the project, certified noise data based on final plans and designs will confirm the conclusions of this noise impact assessment study.

The results obtained in this study show that the sound pressure levels at POR will not exceed MOE requirements for rural areas of 40 dBA.

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Project Report

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Crosby Solar Project

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Table of Contents

Report Disclaimer
Executive Summary

1. Introduction 1

1.1 Project Description 1
1.2 Renewable Energy Approval Legislative Requirements 1

2. Facility Description 1

2.1 Project Location 2
2.2 Acoustical Environment 2
2.3 Life of Project 2
2.4 Operating Hours 2
2.5 Approach to the Study 2

3. Noise Source Summary 4

3.1 Substation Transformer 4
3.2 Inverter Clusters 4
3.3 Noise Summary Table 6

4. Point of Reception Summary 7

5. Cumulative Impact of Adjacent Solar Facilities 9

6. Mitigation Measures 9

7. Impact Assessment 9

7.1 Compliance With Performance Limits 10

8. Conclusions and Recommendations 13

9. Signatures 14

10. References 15

Appendix A Land Use Zoning Designation Plan and Area Location Plan
Appendix B Noise Sources
Appendix C Points of Reception Coordinates and Noise Maps from CADNA-A
Appendix D CADNA-A Sample Calculations

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List of Tables

Table 2.1 General Project Description 2
Table 3.1 Noise Source Summary 7
Table 4.1 Point of Reception Noise Impact (Day Time) 9
Table 6.1 Performance Limits (One-Hour L_{eq}) by Time of Day for Class 3 Areas. 9
Table 6.2 Acoustic Assessment Summary (Day and Night Time). 10

List of Figures

Figure 2.1 CADNA-A Configurations 3
Figure 3.1 Schematic Inverter Cluster Layout (all dimensions in metres) 5
Figure 3.2 Inverter Cluster CADNA-A Acoustical Model 6

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1. Introduction

1.1 Project Description

Northland Power Inc. ("Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic (PV) project titled Crosby Solar Project (the "Project"). The Project will be located on approximately 52 hectares of land, located at 249 Little Rideau Lake Road in the Township of Rideau Lakes, within the United Counties of Leeds and Grenville, Ontario.

The proposed Project is a renewable energy generation facility which will use solar photovoltaic technology to generate electricity. Electricity generated by solar photovoltaic panels will be converted from Direct Current (DC) to Alternating Current (AC) by inverter clusters which will also step-up the voltage to 27.6-kV. A main transformer, located in the substation, will step up the voltage from the clusters to 44-kV prior to being transmitted to the existing local distribution line. In order to meet the Ontario Power Authority (OPA)'s Feed-In-Tariff (FIT) Program requirements, a specific percentage of equipment will be manufactured in Ontario.

The construction of the Project will begin once the Renewable Energy Approval (REA) has been obtained and a power purchase agreement is finalized with the OPA. The anticipated operational lifespan of the Project is 30 years.

1.2 Renewable Energy Approval Legislative Requirements

Ontario Regulation 359/09 and 521/10, made under the Environmental Protection Act identify the Renewable Energy Approval (REA) requirements for green energy projects in Ontario. As per Section 4 of these regulations, ground mounted solar facilities with a name plate capacity greater than 12 kilowatts (kW) are classified as a Class 3 solar facility, and therefore, require an REA.

Section 13 of the Ontario Regulation 359/09 requires proponents of Class 3 solar facilities to complete a Noise Study Report in accordance with Appendix A of the publication; "Basic Comprehensive Certificates of Approval (Air) – User Guide, 2004" by the Ministry of the Environment (MOE, 2004).

The Noise Study Report is to include a general description of the facility, sources and points of reception (POR), Assessment of compliance, as well as all the supporting information relevant to the Project. A draft of the Noise Study Report must be made available to the public, the local municipality and identified Aboriginal communities, at least 60 days prior to the final public consultation meeting in accordance with Ontario Regulation 359/09 and 521/10.

2. Facility Description

The Project will utilize photovoltaic (PV) panels installed on fixed racking structures mounted on the ground. The PV panels generate DC electricity which will be converted to AC electricity by inverters. The Project layout is based on 7 inverter clusters each one containing two inverters and one medium-voltage (27.6-kV/1.6-MVA) transformer, and one 44-kV/10-MVA substation transformer. The 27.6-kV power, collected from the inverter clusters, will be stepped up to 44-kV by the substation transformer prior to being transmitted to the existing local distribution line.

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Since the panels will be ground-mounted and the total nameplate capacity is over 12 kW, the Project is considered to be a Class 3 Solar Facility according to the classification presented in Ontario Regulation 521/10.

Table 2.1 General Project Description

Project Description	Ground-mounted Solar PV, Class 3
System Nameplate Capacity	10-MW AC
Local Distribution Company	Hydro One Networks Inc.

2.1 Project Location

The Project Location[1] will be on privately owned land totalling approximately 52-ha. The Project Location is zoned as rural land in accordance to the zoning by-law for the Township of Rideau Lakes. Figure A.1 in Appendix A shows the zoning designation plan. Figure A.3 and Figure A.2 present the Project Area Location Plan, as well as the adjacent solar facilities proposed in the vicinity of the Project.

For modeling purposes, the vegetation that blocks some of the POR from the sources has not been incorporated.

2.2 Acoustical Environment

The Project will be mostly surrounded by farmland, with some forested areas to the southwest. The background noise levels are expected to be typical of rural areas, classified as a Class 3 based on Publication NPC-232 by the MOE. However, some traffic noise is expected from County Road 42 (1 km to the south), mainly during day hours. The closest airport is located at 6 km to the west of the Project site (Westport/Rideau Lakes Airport). The Town of Newboro is located 2 km southwest of the proposed location.

There are no large industrial facilities within 5 km of the Project area, except for a substation located about 1 km to the south.

2.3 Life of Project

The expected life of the Project is 30 years. The manufacturer's warranty on the PV modules is 25 years and the expected life of solar power plants of this type is typically 35 to 40 years. At that time (or earlier if the 20-yr power purchase agreement is not extended), the Project will be decommissioned or refurbished depending on market conditions and/or technological changes.

2.4 Operating Hours

Solar PV facilities produce electricity during the day hours, when the sun's rays are collected by the panels. After sunset the facility will not receive solar radiation to generate any electricity. Under these conditions the inverters will not produce any noise and the transformers will be energized, but not in operation (no fans in operation).

2.5 Approach to the Study

The sound pressure levels at the POR were predicted using procedures from ISO 9613-2, which is a widely used and generally accepted standard for the evaluation of noise impact in environmental

[1] "Project Location" in the context of this study is an area occupied by the Project infrastructure.

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assessments. The sound power level for the inverters was provided by the manufacturer while the sound power level for the transformers was estimated. The software package CADNA-A, which implements ISO-9613-2, was used to predict the noise levels at the POR. This numerical modeling software is able to simulate sound sources as well as sound mitigation measures taking into account atmospheric and ground attenuation. Some of the CADNA-A configurations used in the modeling are shown in Figure 2.1. The height contours for the site were taken from the Ontario Base Maps (OBM).

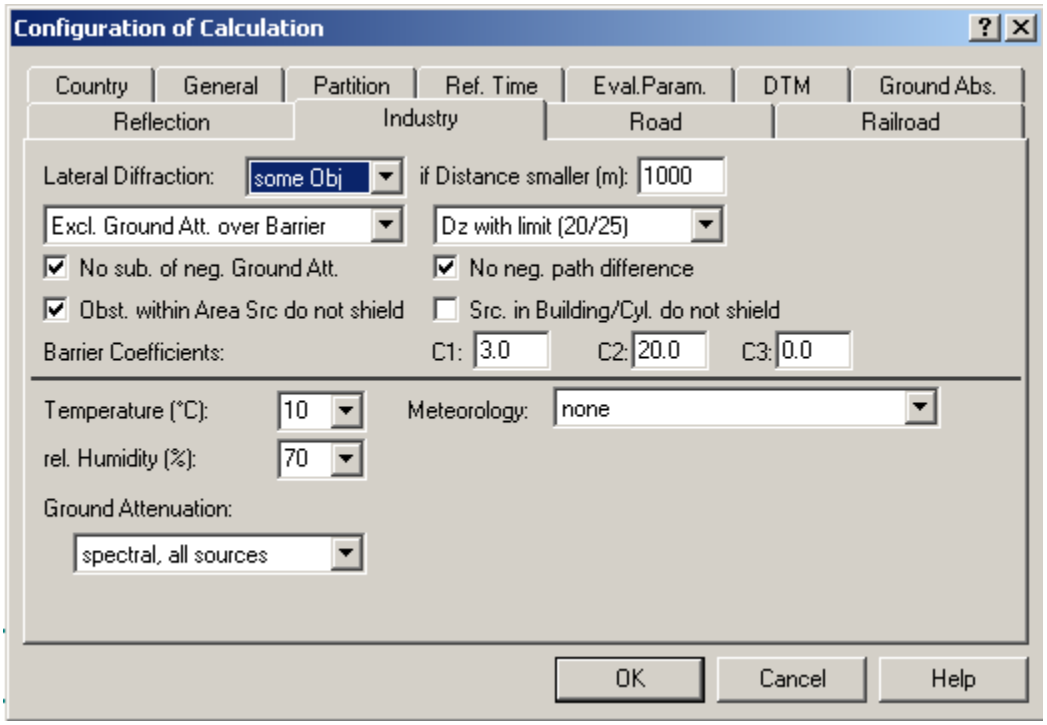

Figure 2.1 CADNA-A Configurations

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3. Noise Sources

The main sources of noise from the Project will be seven inverter clusters, each one containing two inverters and one medium-voltage transformer, and a substation containing the main step-up transformer. The Project layout is provided in Figure A.3. The coordinates of each noise source are presented in Table B.1 of Appendix B.

All noise sources were modeled as non-directional point sources.

Switchgear and a small step-down transformer used for lighting, located at the substation, do not emit any significant noise and consequently have not been considered as sources of noise.

For the purpose of this study it is assumed that all inverters and transformers will be operating 24 hours at full capacity.

In addition to Crosby Solar Project, the contribution from two adjacent solar projects was taken into account in the study.

3.1 Substation Transformer

A 10-MVA step-up transformer that will step up the 27.6-kV power to 44 kV, required by the local distribution company, will be located in the substation. Since the transformer make and model has not been selected at this point (although it is known that the transformer will be of ONAF (oil natural air forced) type), a conservative estimate of sound power level was based on the data from NEMA TRI – 1993 (2000) and 35-m^2 transformer surface area. This standard provides maximum sound level values for transformers, and manufacturers routinely meet this specification. Hence, the results based on NEMA may slightly overestimate the impact on POR since the actual transformer is expected to be quieter. The NEMA levels were then converted into frequency spectra using empirical correlations for transformer noise (Crocker, 2007). This calculation is available in Figure B.3 of Appendix B. The transformer configurations are expected to be similar to those shown in Figure B.2. Noise source height representing the transformer was assumed 3.5-m.

Power transformers are considered by the MOE to be tonal noise sources. A 5-dB penalty was added to the sound power spectrum, as recommended by Publication NPC-104, "Sound Level Adjustments" for tonality. Table B.3 in Appendix B shows the frequency spectrum used to model the substation transformer.

3.2 Inverter Clusters

Northland is planning to use inverters manufactured by SMA. Seven inverter clusters will be installed as part of the Project. Each cluster comprises of two SMA Sunny Central 800CP inverters and one medium voltage transformer. A schematic layout with approximate dimensions of such cluster is available in Figure 3.1, additional information regarding details of the inverter cluster can be found in Appendix B). The cluster components listed above were modeled as point sources shown in Figure 3.2. *Note that the planned enclosure over the inverters was not taken into account as a mitigation measure in the noise model.*

The installed capacity of each Sunny Central 800CP inverter is 800-kVA. SMA provided third-octave noise data for the Sunny Central 800CP inverter (Figure B.1 of Appendix B). The provided third octave spectrum was converted to a full octave spectrum and the contribution from two inverters was combined into a single sound power spectrum for use with CADNA-A model (calculations are

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available in Figure B.4 of Appendix B). A 5-dBA penalty was added to the frequency spectrum, as stipulated in Publication NPC-104, "Sound Level Adjustments," to allow for tonality. The frequency spectrum used to model combined noise emission from the two inverters located next to each other within the same cluster is shown in Table B.3 of Appendix B.

A 1.6-MVA transformer used to step-up the 360-V power from the inverters to 27.6-kV will be located in close proximity to the inverters. Since the transformer make and model have not been selected at this point (although it is known that the transformer will be of ONAN (oil natural air natural) type), the sound power levels resulting from the operation of the transformer were evaluated using data from NEMA TR 1-1993 (R2000) and 14.88-m^2 transformer surface area. The NEMA levels were then converted into frequency spectrum using empirical correlations for transformer noise (Crocker, 2007). This calculation is available in Figure B.5 of Appendix B. Power transformers are considered by the MOE to be tonal noise sources. A 5-dB penalty was added to the sound power spectrum, as recommended by Publication NPC-104, "Sound Level Adjustments" for tonality. Table B.3 in Appendix B shows the frequency spectrum used to model the transformers located in the clusters.

Although for the modeling purposes it was assumed that the facility will operate 24 h at full capacity, in reality at night the facility will be idle. Under these conditions the inverters do not produce noise. The transformers (at the substation and clusters) are energized and make some magnetostrictive noise at a reduced level, but no cooling fans are in operation.

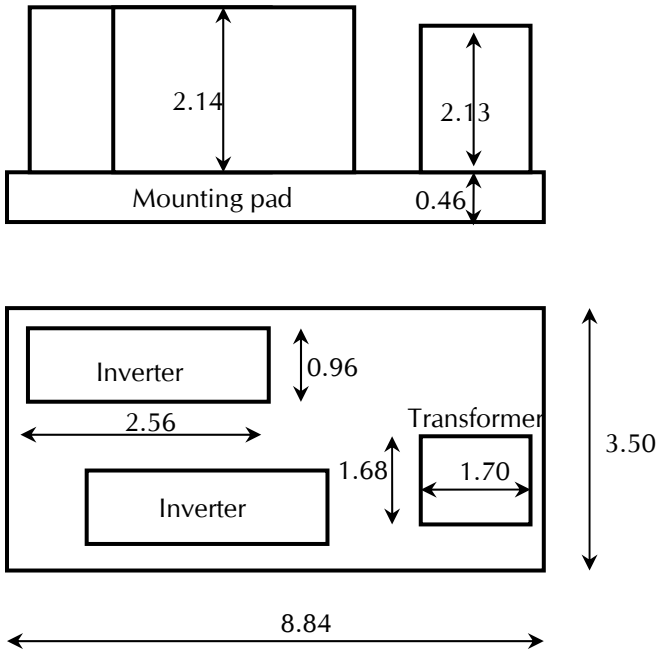

Figure 3.1 Schematic Inverter Cluster Layout
(all dimensions in metres)

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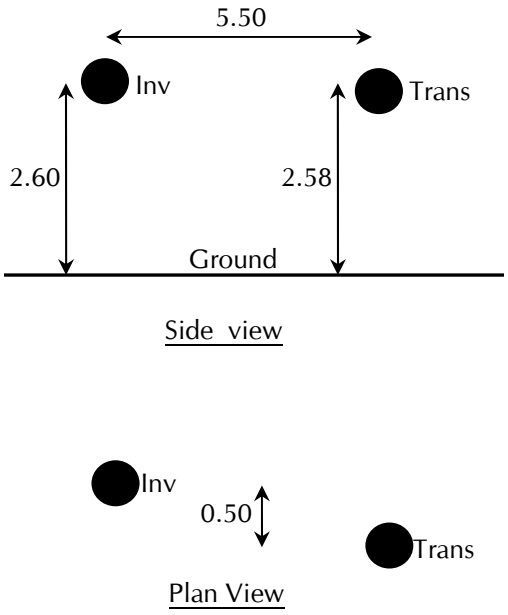

Figure 3.2 Inverter Cluster CADNA-A Acoustical Model

where: Inv = Noise Source Representing Two Sunny Central 800CP Inverters; and Trans = Noise Source Representing 27.6-kV/1.6-MVA Cluster Transformer (all dimensions in metres).

3.3 Noise Summary Table

A summary of the sound sources described above, including sound power level, characteristics and proposed noise control measures, is presented in Table 3.1.

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Table 3.1 Noise Source Summary for Crosby Solar Project

Source ID	Description	Total Sound Power Level (dBA)	Source Location	Sound Characteristics	Noise Control Measures
Cr_Sub	44-kV/10-MVA substation transformer	90.8	O	S-T	U
Cr_Inv1	Two Sunny Central 800CP inverters at Cluster 1	91.3	O	S-T	U
Cr_Inv2	Two Sunny Central 800CP inverters at Cluster 2	91.3	O	S-T	U
Cr_Inv3	Two Sunny Central 800CP inverters at Cluster 3	91.3	O	S-T	U
Cr_Inv4	Two Sunny Central 800CP inverters at Cluster 4	91.3	O	S-T	U
Cr_Inv5	Two Sunny Central 800CP inverters at Cluster 5	91.3	O	S-T	U
Cr_Inv6	Two Sunny Central 800CP inverters at Cluster 6	91.3	O	S-T	U
Cr_Inv7	Two Sunny Central 800CP inverters at Cluster 7	91.3	O	S-T	U
Cr_Trans1	27.6-kV/1.6-MVA cluster transformer at Cluster 1	80.1	O	S-T	U
Cr_Trans2	27.6-kV/1.6-MVA cluster transformer at Cluster 2	80.1	O	S-T	U
Cr_Trans3	27.6-kV/1.6-MVA cluster transformer at Cluster 3	80.1	O	S-T	U
Cr_Trans4	27.6-kV/1.6-MVA cluster transformer at Cluster 4	80.1	O	S-T	U
Cr_Trans5	27.6-kV/1.6-MVA cluster transformer at Cluster 5	80.1	O	S-T	U
Cr_Trans6	27.6-kV/1.6-MVA cluster transformer at Cluster 6	80.1	O	S-T	U
Cr_Trans7	27.6-kV/1.6-MVA cluster transformer at Cluster 7	80.1	O	S-T	U

Notes:
1. A 5-dBA penalty is included in this table.
2. Location: Inside building (I), Outside building (O).
3. Sound Characteristics: Steady (S), Tonal (T), Impulsive (I), Quasi-Steady Impulsive (QSI).
4. Noise Control: Silencer (S), Acoustic lining (A), Barrier (B), Lagging (L), Enclosure (E), Other (O), Uncontrolled (U).

3.4 Adjacent Solar Projects

To identify the adjacent solar projects Hatch's internal database of solar projects and MOE records available in http://www.ene.gov.on.ca/environment/en/subject/renewable_energy/projects/index.htm were searched (November 22, 2011).

There are two solar projects, McCann and Rideau Lakes, located in the proximity of the Crosby Solar Project. Noise sources from these two projects were taken into account in the study. Both projects,

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owned by Northland with 10-MW capacity each, are identical to Crosby Solar Project. Coordinates for the inverter clusters and substation transformers were provided by Northland. All noise sources from these two project were assumed unmitigated and their coordinates as well as sound power levels used for modeling are included in Appendix B.

In addition, SunEdison Canada solar project named Newboro 1 was identified (Figure A.2) within 1 km distance from the Crosby Solar Project noise receptors. However, this project is in the design stage when noise source information is not available, thus noise emissions from this project were not considered in the study.

4. Points of Reception

The POR used in this study were identified from the OBM and Google Earth Pro aerial imagery (Sept 2005) as well as Google Earth Pro street view photographs (Sept 2005) within 1 km distance from the Project Site[2] boundary, and also from visual observations of the Project Site surroundings conducted in August, September 2010.

The POR corresponding to the vacant lots were added based on parcel information provided by First Base Solutions (Teranet Data) and located according to the requirements outlined in Ontario Regulation 359/09, and its amendment (Ontario Regulation 521/10).

The total number of POR within a 1-km distance from the Project Site of Crosby Solar Project boundary is 102, including the vacant lots. Three of these noise receptors, identified in Table 4.1, were chosen as representative receptors for evaluating the noise contribution from each individual source. These three receptors were chosen in order to represent sound pressure level contributions on different areas around the Project Location. The complete set of results for all 102 noise receptors is provided in Table 6.2 including contribution from each individual project.

For this study, the elevation above ground used for the POR is 4.5-m. Also, noise compliance was verified within 30 m distance from any given POR located at 1.5-m above the ground level.

A complete list of 255 POR located within 1 km from any of the three solar projects under consideration is provided in Table C.1 of Appendix C.

[2] "Project Site" in the context of this study is the complete area designated for the Project but not necessarily occupied with the project infrastructure. Project Location is always contained within Project Site.

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Table 4.1 Point of Reception Noise Impact from Individual Noise Sources of Crosby Solar Project

Source ID	POR 90		POR 92		POR 96	
	Distance (m)	L_{eq} Sound Level (dBA)	Distance (m)	L_{eq} Sound Level (dBA)	Distance (m)	L_{eq} Sound Level (dBA)
Cr_Sub	262	31.0	202	33.3	411	26.9
Cr_Inv1	565	23.9	679	22.1	825	20.1
Cr_Inv2	677	22.1	747	21.1	841	19.9
Cr_Inv3	762	20.9	790	20.5	837	19.9
Cr_Inv4	849	19.8	845	19.8	849	15.8
Cr_Inv5	610	23.1	532	24.5	521	24.7
Cr_Inv6	468	25.7	424	26.6	494	25.2
Cr_Inv7	378	27.7	419	26.7	569	23.8
Cr_Trans1	561	13.0	674	11.1	820	9.1
Cr_Trans2	674	11.1	742	10.1	836	8.9
Cr_Trans3	759	9.9	786	9.6	832	9.0
Cr_Trans4	846	8.8	841	8.8	845	4.6
Cr_Trans5	611	12.1	535	13.4	526	13.6
Cr_Trans6	467	14.8	420	15.8	489	14.3
Cr_Trans7	376	16.8	414	15.9	564	12.9

5. Mitigation Measures

The analysis indicates that no mitigation measures are necessary to meet the MOE requirement of 40 dBA for all POR .

6. Impact Assessment

The purpose of the acoustic Assessment report is to demonstrate that the facility is in compliance with the noise performance limits. The Project will be located in a Class 3 Area, based on the classification defined in Publication NPC-232 by the MOE. Class 3 area means a rural area with an acoustical environment that is dominated by natural sounds, with little or no traffic noise, such as an agricultural area.

Table 6.1 shows the performance limits set by the MOE for Class 3 Areas, according to Publication NPC-232.

Table 6.1 Performance Limits (One-Hour L_{eq}) by Time of Day for Class 3 Areas

Time of Day	One Hour L_{eq} (dBA) Class 3 Area
07:00 to 19:00	45.0
19:00 to 23:00	40.0
23:00 to 07:00	40.0

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The solar facility will be operating during daylight hours; assumed to be until 19:00 during most days of the year. It is noted that in the summer months the sun may shine until past 21:00, however the inverters will be well below 100% loading conditions. As such, during the summer the facility will be operating at the time the applicable performance limit changes from 45-dBA to 40-dBA. Also, the transformers remain energized at night. In order to account for this the noise model assumes that the cluster transformers and substation transformer will be operating 24 hours and compares the impact from the facility with the 40-dBA limit. In reality, the cooling fans will not be in operation at night.

For this study, the overall ground attenuation coefficient was estimated to be 0.7. Appendix D includes a list of all the parameters used in the CADNA-A model to predict the sound pressure levels at the POR.

The modelling does not consider the effect of the solar panels on the predicted sound pressure levels at the points of reception. The solar panels may act as barriers to further reduce noise at the POR.

6.1 Compliance With Performance Limits

Table 6.2 presents the predicted sound pressure levels for the POR located within 1 km from the Project Site. Sound pressure contours at 4.5 m and 1.5 m are available in Figure C.1 and Figure C.2. Appendix D includes a detailed calculation log of the representative POR with the highest Sound Pressure Level.

Effect of the noise emissions at the POR was also accessed by intersecting the 40-dBA sound pressure contours calculated at 1.5-m above ground with 30-m radius circles placed around the POR (Figure C.2). The results show that none of the 30-m radius zones are affected by the noise emissions.

Table 6.2 Calculated Sound Pressure Levels at POR within 1-km of Crosby Solar Project
(Shaded rows correspond to representative POR)
Existing = Existing dwelling, Vacant = Vacant Lot.
The performance limit is 40.0-dBA**.** Empty cells represent projects where all sources are further than 3000-m from the POR.

POR ID	Description	Sound Pressure Contribution (dBA) from Projects				Performance Limit (dBA)	POR Height (m)	Min distance to Source (m)	UTM Coordinates NAD 83 (m)		
		Rideau Lake	Crosby	McCann	Total				X	Y	Z
1	Existing		19.9		19.9	40	4.5	1191	394911	4946582	129.5
2	Existing		20.7		20.7	40	4.5	1125	394960	4946823	129.5
3	Existing		20.7		20.7	40	4.5	1123	394962	4946797	129.5
4	Existing		20.5		20.5	40	4.5	1128	394965	4946647	130.3
5	Existing		20.7		20.7	40	4.5	1120	394965	4946753	129.7
6	Existing		20.7		20.7	40	4.5	1119	394966	4946773	129.7
7	Existing		20.8		20.8	40	4.5	1118	394968	4946838	129.5
8	Existing		21.7		21.7	40	4.5	1110	394975	4946859	129.5
9	Existing		20.8		20.8	40	4.5	1104	394982	4946742	130.5
10	Vacant		20.9		20.9	40	4.5	1100	394985	4946774	130.7

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POR ID	Description	Sound Pressure Contribution (dBA) from Projects				Performance Limit (dBA)	POR Height (m)	Min distance to Source (m)	UTM Coordinates NAD 83 (m)		
		Rideau Lake	Crosby	McCann	Total				X	Y	Z
11	Existing		21.9		21.9	40	4.5	1094	394991	4946886	129.5
12	Existing		22.4		22.4	40	4.5	1079	395006	4946914	129.5
13	Existing		22.4		22.4	40	4.5	1072	395013	4946940	129.5
14	Existing		22.4		22.4	40	4.5	1070	395015	4946869	131.1
15	Vacant		22.3		22.3	40	4.5	1065	395020	4946778	132.4
16	Existing		23.0		23.0	40	4.5	1059	395026	4946984	129.7
17	Existing		23.1		23.1	40	4.5	1050	395035	4947026	129.5
18	Vacant		23.4		23.4	40	4.5	1160	395045	4946272	134.5
19	Existing		23.6		23.6	40	4.5	1034	395052	4947080	129.5
20	Vacant		23.1		23.1	40	4.5	1128	395055	4946326	134.5
21	Existing		24.3		24.3	40	4.5	1030	395057	4947093	129.5
22	Vacant		23.9		23.9	40	4.5	1018	395067	4946781	134.5
23	Vacant		22.7		22.7	40	4.5	1096	395073	4946367	134.5
24	Existing		24.6		24.6	40	4.5	1002	395088	4947125	129.5
25	Existing		24.8		24.8	40	4.5	983	395108	4947134	129.5
26	Existing		25.5		25.5	40	4.5	911	395181	4947140	129.5
27	Existing		26.1		26.1	40	4.5	757	395328	4947059	130.5
28	Existing		24.3		24.3	40	4.5	751	395415	4947396	129.5
29	Vacant		27.7		27.7	40	4.5	650	395436	4947070	130.8
30	Existing		27.9		27.9	40	4.5	661	395440	4947171	130.8
31	Existing		24.8		24.8	40	4.5	716	395443	4947368	130.3
32	Existing		24.6		24.6	40	4.5	746	395474	4947518	134.5
33	Existing		25.7		25.7	40	4.5	751	395479	4947537	134.7
34	Existing		23.5		23.5	40	4.5	799	395479	4947624	130.9
35	Existing		29.7		29.7	40	4.5	650	395492	4947297	135.3
36	Existing		30.1		30.1	40	4.5	621	395503	4947243	136.8
37	Existing		23.5		23.5	40	4.5	796	395505	4947654	131.6
38	Existing		23.7		23.7	40	4.5	783	395524	4947656	132.3
39	Existing		31.2		31.2	40	4.5	549	395553	4947160	136.1
40	Existing		25.1		25.1	40	4.5	765	395800	4947848	129.5
41	Existing		21.1	2.0	21.1	40	4.5	1067	395873	4948193	130.5
42	Existing		22.0	2.0	22.1	40	4.5	1079	395879	4948207	133.0
43	Existing		21.2	2.0	21.2	40	4.5	1054	395880	4948181	130.4
44	Existing		21.3	2.0	21.3	40	4.5	1042	395887	4948171	130.4
45	Existing		21.9	2.0	22.0	40	4.5	1094	395891	4948225	134.5
46	Existing		22.6	1.9	22.7	40	4.5	895	395893	4948021	129.5
47	Existing		22.4	1.9	22.4	40	4.5	921	395896	4948048	129.6
48	Existing		21.4	2.0	21.5	40	4.5	1028	395896	4948158	129.5
49	Existing		21.5	2.1	21.6	40	4.5	1015	395904	4948147	129.5
50	Existing		21.9	2.1	21.9	40	4.5	1104	395908	4948239	134.5
51	Existing		22.1	2.1	22.2	40	4.5	1076	395914	4948211	134.5

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POR ID	Description	Sound Pressure Contribution (dBA) from Projects				Performance Limit (dBA)	POR Height (m)	Min distance to Source (m)	UTM Coordinates NAD 83 (m)		
		Rideau Lake	Crosby	McCann	Total				X	Y	Z
52	Vacant		20.9	2.2	20.9	40	4.5	1095	395931	4948234	134.5
53	Existing		21.5	2.2	21.6	40	4.5	1019	395935	4948157	131.9
54	Existing		21.8	2.2	21.8	40	4.5	991	395939	4948130	132.9
55	Existing		21.3	4.9	21.4	40	4.5	1047	395940	4948187	133.8
56	Existing		21.4	5.1	21.5	40	4.5	1131	395957	4948274	137.9
57	Existing	6.8	25.9	5.1	25.9	40	4.5	836	395995	4947982	139.8
58	Existing		20.0	6.9	20.2	40	4.5	1213	396002	4948363	136.4
59	Existing	6.8	24.6	6.8	24.7	40	4.5	886	396023	4948037	140.3
60	Existing		19.7	8.2	20.0	40	4.5	1246	396026	4948399	135.8
61	Vacant		19.6	8.3	19.9	40	4.5	1264	396056	4948419	135.4
62	Existing		19.2	8.4	19.6	40	4.5	1315	396061	4948470	134.5
63	Existing		19.0	8.5	19.4	40	4.5	1349	396086	4948505	130.8
64	Existing	13.0	28.7	7.1	28.8	40	4.5	731	396110	4947887	146.7
65	Existing		19.2	8.6	19.6	40	4.5	1319	396110	4948475	132.2
66	Vacant	15.1	22.9		23.5	40	4.5	1020	396114	4945766	139.1
67	Vacant	1.5	20.1	8.6	20.4	40	4.5	1210	396115	4948367	139.5
68	Existing	15.2	23.3		23.9	40	4.5	980	396125	4945807	138.7
69	Existing	15.7	25.5		25.9	40	4.5	764	396174	4946027	137.2
70	Vacant	1.8	19.3	9.5	19.8	40	4.5	1295	396178	4948450	134.5
71	Existing	12.3	26.6	9.5	26.8	40	4.5	901	396220	4948053	149.5
72	Vacant	5.0	19.6	10.4	20.2	40	4.5	1279	396233	4948431	139.2
73	Existing		17.4	11.0	18.3	40	4.5	1593	396242	4948747	130.0
74	Existing	16.3	25.0		25.6	40	4.5	858	396245	4945943	136.8
75	Existing	16.3	24.7		25.3	40	4.5	894	396251	4945907	136.4
76	Existing	10.9	26.3	9.7	26.5	40	4.5	935	396255	4948083	150.3
77	Existing	10.0	24.1	11.1	24.5	40	4.5	1030	396301	4948180	150.6
78	Existing	14.6	26.8	11.3	27.2	40	4.5	928	396307	4948076	152.9
79	Existing		17.9	11.8	18.9	40	4.5	1498	396313	4948666	135.8
80	Existing	14.7	27.3	11.3	27.6	40	4.5	882	396315	4948030	152.7
81	Existing	5.0	18.6	11.9	19.6	40	4.5	1401	396340	4948572	133.8
82	Existing	16.7	24.0		24.7	40	4.5	991	396365	4945835	136.5
83	Existing	16.7	23.1		24.0	40	4.5	1097	396392	4945732	135.2
84	Existing	14.1	20.7	12.2	22.1	40	4.5	1118	396414	4948298	145.1
85	Existing	17.0	24.0		24.8	40	4.5	1007	396426	4945837	136.9
86	Existing	17.1	23.9		24.7	40	4.5	1023	396438	4945825	137.0
87	Vacant	17.9	26.1		26.8	40	4.5	848	396541	4946046	139.5
88	Vacant	17.6	23.1		24.1	40	4.5	1140	396570	4945753	136.3
89	Existing	17.4	31.8	12.2	32.0	40	4.5	440	396594	4947635	144.5
90	Existing	17.8	35.0	11.9	35.1	40	4.5	262	396605	4947458	143.1
91	Existing	17.8	34.4	12.0	34.5	40	4.5	290	396616	4947485	143.5
92	Existing	19.3	36.0	12.9	36.1	40	4.5	202	396802	4947234	144.5

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POR ID	Description	Sound Pressure Contribution (dBA) from Projects				Performance Limit (dBA)	POR Height (m)	Min distance to Source (m)	UTM Coordinates NAD 83 (m)		
		Rideau Lake	Crosby	McCann	Total				X	Y	Z
93	Existing	19.5	34.6	13.1	34.8	40	4.5	248	396843	4947256	144.5
94	Existing	19.6	34.8	13.0	34.9	40	4.5	243	396845	4947224	144.5
95	Existing	19.8	32.9	13.5	33.2	40	4.5	320	396908	4947292	144.5
96	Existing	20.5	32.5	13.2	32.8	40	4.5	411	396921	4946935	142.9
97	Existing	20.7	31.9	12.6	32.3	40	4.5	458	396946	4946892	142.7
98	Existing	20.9	31.5	15.9	32.0	40	4.5	440	397006	4947019	144.5
99	Existing	21.0	31.2	15.8	31.7	40	4.5	465	397014	4946979	144.5
100	Existing	21.3	30.7	16.1	31.3	40	4.5	484	397057	4947029	144.5
101	Existing	21.9	28.3	11.1	29.2	40	4.5	734	397096	4946640	139.5
112	Existing	25.6	21.2	19.5	27.7	40	4.5	1084	397687	4947160	141.8

The results of this study show that all POR are compliant with MOE guidelines based on the performance limit of 40 dBA.

7. Conclusions and Recommendations

For the Crosby Solar Project, the sound pressure levels at the POR have been estimated using the CADNA-A model, based on ISO 9613-2. It has been determined that no mitigation measures are needed for the Project operation in accordance with Ontario Regulation 359/09 and 521/10.

Based on the results obtained in this study, it is concluded that the sound pressure levels at the POR will be below MOE requirements for Class 3 areas of 40 dBA at all time.

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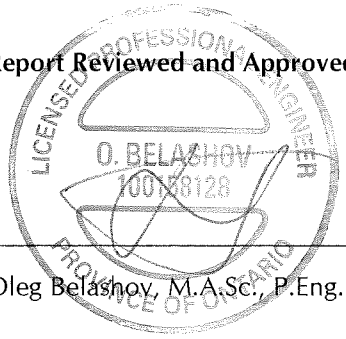
8. Signatures

Report Prepared By

Auret Basson, Mechanical Engineering Intern

Report Reviewed and Approved By



November 25, 2011

Oleg Belashov, M.A.Sc., P.Eng.

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Appendix A

Land Use Zoning Designation Plan and Area Location Plan

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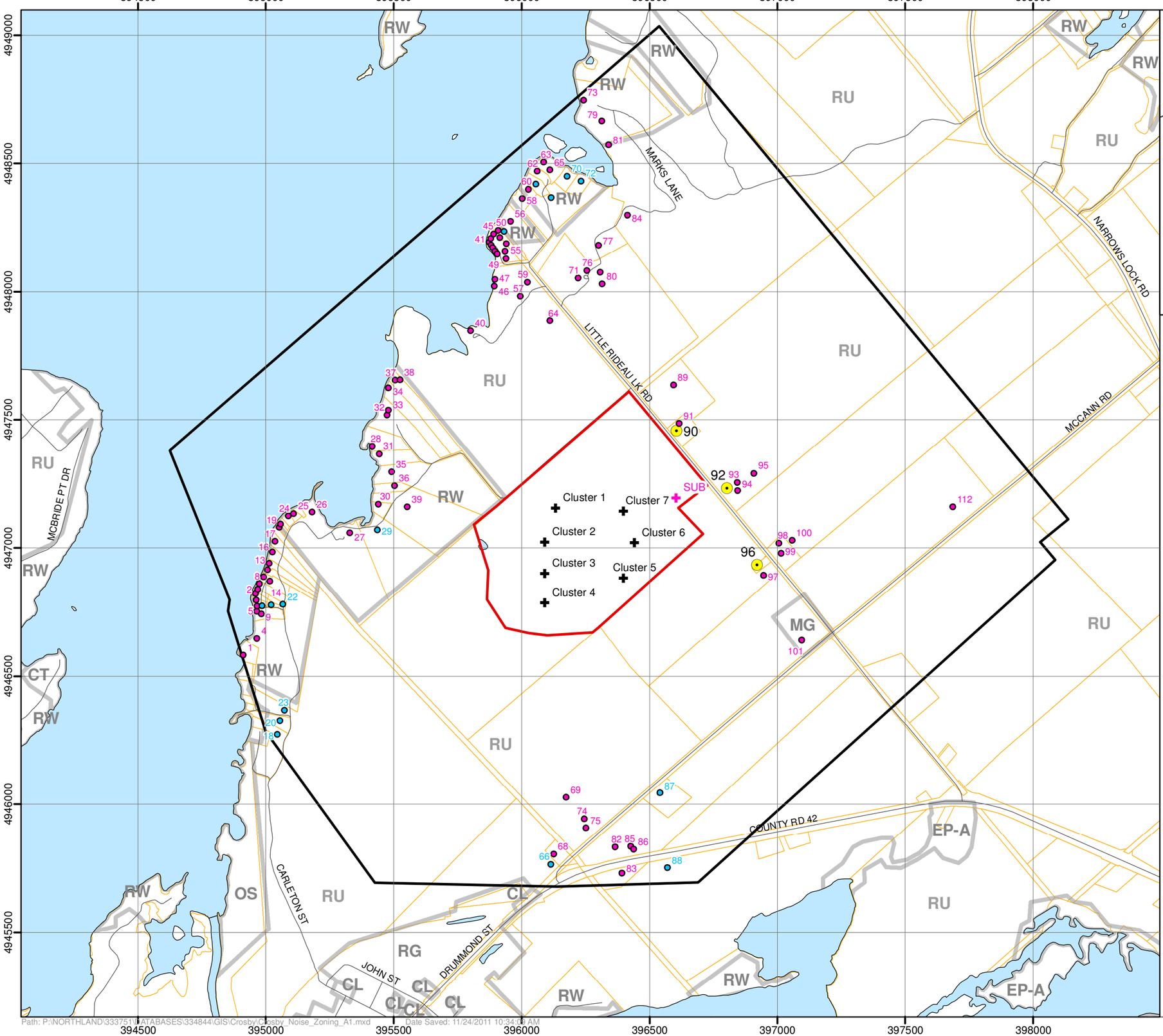

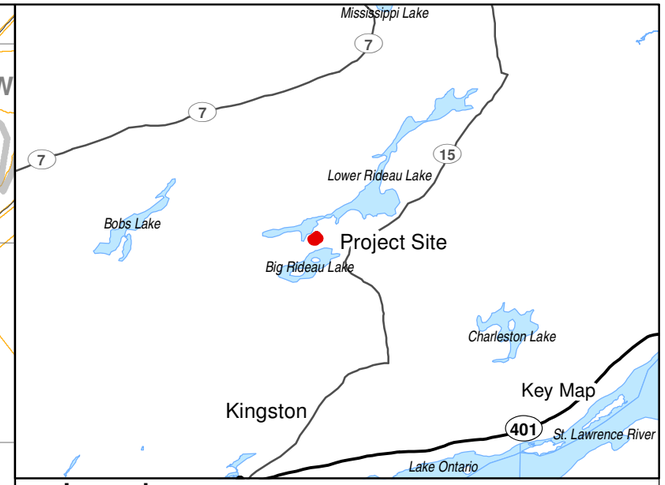

Legend

- Cluster # — Inverter Cluster
- SUB — Substation Transformer
- # — Noise Receptor - Existing
- # — Noise Receptor - Vacant
- # — Representative Noise Receptor
- Road
- Parcel
- Project Site
- 1000 m from Project Site
- Waterbody

	Zones
RG	General Residential
RW	Waterfront Residential
RMH	Mobile Home Park Residential
CG	General Commercial
CL	Local Commercial
CT	Tourist Commercial
MG	General Industrial
MS	Salvage Yard Industrial
MD	Disposal Industrial
I	Institutional
OS	Open Space
PL	Parking Lot
RU	Rural
A	Agriculture
EX	Mineral Aggregate Extraction
EP-A	Environmental Protection - A
EP-B	Environmental Protection - B
FP	Flood Plain

0 150 300 600 Metres

1:15,000

NORTH

Notes:
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2. Spatial referencing UTM NAD 83.

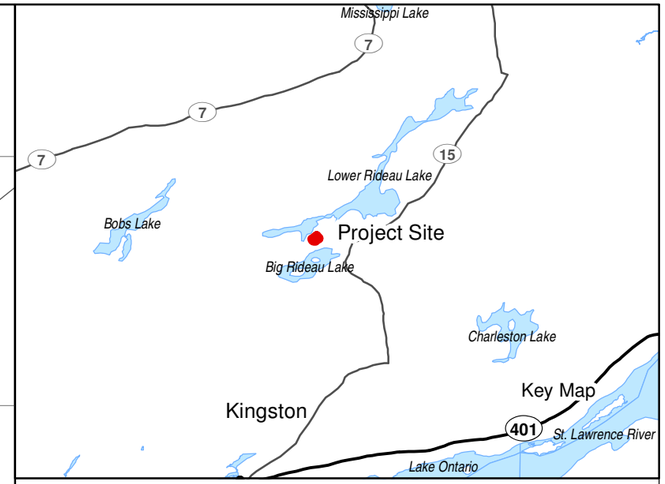
Figure A.1
Northland Power Inc.
Crosby Solar Project
Zoning Designation Plan

HATCH

395000 396000 397000 398000 399000 400000 401000

4950000 4949000 4948000 4947000 4946000 4945000

N SHORE RD
R48
CHEETHAM RD
BIG RIDEAU LK RD
R48 RD
R48A RD
R49 RD
MCCANN RD
LITTLE RIDEAU LK RD
NARROWS LOCK RD
COUNTY RD 42
HWY 15
CARLETON ST
JOHN ST
DRUMMOND ST
BAY ST
BY ST
WATER ST
COUNTY RD 42
CROSBY RD



Legend

- Railway
- Road
- Crosby Project Site
- McCann Project Site
- Newboro 1 Project Site (SunEdison Canada)
- Rideau Lakes Project Site
- 1000 m from Project Site
- Waterbody

Notes:
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2. Spatial referencing UTM NAD 83.

0 250 500 1,000 Metres

NORTH

1:24,000

Figure A.2
Northland Power Inc.
Crosby Solar Project
Scaled Area Location Plan - Adjacent Projects

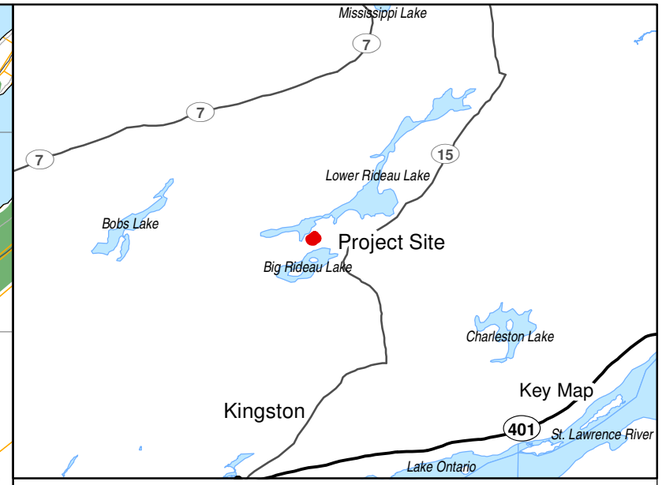
HATCH™

394500 395000 395500 396000 396500 397000 397500 398000 398500

4949000 4948500 4948000 4947500 4947000 4946500 4946000 4945500

MARKS LANE
LITTLE RIDEAU LK RD
NARROWS LOCK RD
MCBRIDE PT DR
MCCANN RD
COUNTY RD 42
CARLETON ST
DRUMMOND ST

Cluster 1
Cluster 2
Cluster 3
Cluster 4
Cluster 5
Cluster 6
Cluster 7
SUB



Legend

- Cluster # — Inverter Cluster
- SUB — Substation Transformer
- # — Noise Receptor - Existing
- # — Noise Receptor - Vacant
- # — Representative Noise Receptor
- Road
- Topographic Contour (5m interval)
- Watercourse
- Parcel
- Waterbody
- Wooded Area

Notes:
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2. Spatial referencing UTM NAD 83.
3. Due to scale limitations, the three-part inverter unit is represented as a single point.

0 150 300 600 Metres

1:15,000

NORTH

Figure A.3
Northland Power Inc.
Crosby Solar Project
Scaled Area Location Plan

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Appendix B

Noise Sources

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Table B.1 Point Sources from Crosby Solar Project Used in CADNA-A, Includes Tonality Penalty of 5.0-dBA.

Source ID	Description	Spectra ID	Total sound power level (dBA)	Correction (dB)	Height (m)	Coordinates, UTM NAD 83 (m)		
						X	Y	Z
Cr_Sub	44-kV/10-MVA substation transformer	T44kV_10MVA	90.8	5.0	3.50	396603	4947196	141.5
Cr_Inv1	Two Sunny Central 800CP inverters at Cluster 1	SMA_SC800CPX2	91.3	5.0	2.60	396127	4947157	137.6
Cr_Inv2	Two Sunny Central 800CP inverters at Cluster 2	SMA_SC800CPX2	91.3	5.0	2.60	396085	4947025	135.1
Cr_Inv3	Two Sunny Central 800CP inverters at Cluster 3	SMA_SC800CPX2	91.3	5.0	2.60	396085	4946901	134.0
Cr_Inv4	Two Sunny Central 800CP inverters at Cluster 4	SMA_SC800CPX2	91.3	5.0	2.60	396085	4946787	133.3
Cr_Inv5	Two Sunny Central 800CP inverters at Cluster 5	SMA_SC800CPX2	91.3	5.0	2.60	396403	4946883	137.6
Cr_Inv6	Two Sunny Central 800CP inverters at Cluster 6	SMA_SC800CPX2	91.3	5.0	2.60	396435	4947022	137.9
Cr_Inv7	Two Sunny Central 800CP inverters at Cluster 7	SMA_SC800CPX2	91.3	5.0	2.60	396393	4947145	137.6
Cr_Trans1	27.6-kV/1.6-MVA cluster transformer at Cluster 1	T27.6kV_1.6MVA	80.1	5.0	2.58	396132	4947156	137.6
Cr_Trans2	27.6-kV/1.6-MVA cluster transformer at Cluster 2	T27.6kV_1.6MVA	80.1	5.0	2.58	396090	4947024	135.1
Cr_Trans3	27.6-kV/1.6-MVA cluster transformer at Cluster 3	T27.6kV_1.6MVA	80.1	5.0	2.58	396090	4946901	134.2
Cr_Trans4	27.6-kV/1.6-MVA cluster transformer at Cluster 4	T27.6kV_1.6MVA	80.1	5.0	2.58	396090	4946787	133.5
Cr_Trans5	27.6-kV/1.6-MVA cluster transformer at Cluster 5	T27.6kV_1.6MVA	80.1	5.0	2.58	396398	4946883	137.6
Cr_Trans6	27.6-kV/1.6-MVA cluster transformer at Cluster 6	T27.6kV_1.6MVA	80.1	5.0	2.58	396440	4947022	137.9
Cr_Trans7	27.6-kV/1.6-MVA cluster transformer at Cluster 7	T27.6kV_1.6MVA	80.1	5.0	2.58	396398	4947145	137.6

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Table B.2 Point Sources from McCann and Rideau Lakes Solar Projects Used in CADNA-A, Includes Tonality Penalty of 5.0-dBA.

Source ID	Spectra ID	Total sound power level (dBA)	Correction (dB)	Height (m)	Coordinates, UTM NAD 83		
					X	Y	Z
RL_Sub	T44kV_10MVA	90.8	5.0	3.50	399020	4947013	138.5
RL_Inv1	SMA_SC800CPX2	91.3	5.0	2.60	398641	4946755	137.6
RL_Inv2	SMA_SC800CPX2	91.3	5.0	2.60	398568	4946627	137.6
RL_Inv3	SMA_SC800CPX2	91.3	5.0	2.60	398568	4946515	137.6
RL_Inv4	SMA_SC800CPX2	91.3	5.0	2.60	398640	4946352	137.6
RL_Inv5	SMA_SC800CPX2	91.3	5.0	2.60	398843	4946798	139.4
RL_Inv6	SMA_SC800CPX2	91.3	5.0	2.60	398879	4946626	141.5
RL_Inv7	SMA_SC800CPX2	91.3	5.0	2.60	398879	4946462	139.1
RL_Trans1	T27.6kV_1.6MVA	80.1	5.0	2.58	398646	4946755	137.7
RL_Trans2	T27.6kV_1.6MVA	80.1	5.0	2.58	398573	4946626	137.6
RL_Trans3	T27.6kV_1.6MVA	80.1	5.0	2.58	398573	4946514	137.6
RL_Trans4	T27.6kV_1.6MVA	80.1	5.0	2.58	398645	4946351	137.6
RL_Trans5	T27.6kV_1.6MVA	80.1	5.0	2.58	398838	4946798	139.4
RL_Trans6	T27.6kV_1.6MVA	80.1	5.0	2.58	398874	4946626	141.4
RL_Trans7	T27.6kV_1.6MVA	80.1	5.0	2.58	398874	4946463	139.0
Mc_Sub	T44kV_10MVA	90.8	5.0	3.50	399149	4948483	136.2
Mc_Inv1	SMA_SC800CPX2	91.3	5.0	2.60	398809	4948423	131.1
Mc_Inv2	SMA_SC800CPX2	91.3	5.0	2.60	398918	4948534	132.6
Mc_Inv3	SMA_SC800CPX2	91.3	5.0	2.60	398955	4948665	132.4
Mc_Inv4	SMA_SC800CPX2	91.3	5.0	2.60	398991	4948812	132.2
Mc_Inv5	SMA_SC800CPX2	91.3	5.0	2.60	399195	4948918	132.6
Mc_Inv6	SMA_SC800CPX2	91.3	5.0	2.60	399195	4948721	132.6
Mc_Inv7	SMA_SC800CPX2	91.3	5.0	2.60	399296	4948602	132.8
Mc_Trans1	T27.6kV_1.6MVA	80.1	5.0	2.58	398813	4948427	131.1
Mc_Trans2	T27.6kV_1.6MVA	80.1	5.0	2.58	398923	4948533	132.6
Mc_Trans3	T27.6kV_1.6MVA	80.1	5.0	2.58	398960	4948664	132.5
Mc_Trans4	T27.6kV_1.6MVA	80.1	5.0	2.58	398996	4948812	132.4
Mc_Trans5	T27.6kV_1.6MVA	80.1	5.0	2.58	399190	4948919	132.6
Mc_Trans6	T27.6kV_1.6MVA	80.1	5.0	2.58	399190	4948722	132.6
Mc_Trans7	T27.6kV_1.6MVA	80.1	5.0	2.58	399297	4948607	132.7

Table B.3 Frequency Spectra Used for Modelling the Noise Sources, Not Including Tonality Penalty.

Spectra ID	Octave Spectrum (dBA)										
	31.5	63	125	250	500	1000	2000	4000	8000	A	lin
SMA_SC800CPX2		63.1	73.9	80.5	82.3	78.7	74.1	65.0	72.7	86.3	95.0
T27.6kV_1.6MVA	32.3	51.5	63.6	66.1	71.5	68.7	64.9	59.7	50.6	75.1	83.7
T44kV_10MVA	43.0	62.2	74.3	76.8	82.2	79.4	75.6	70.4	61.3	85.8	94.4

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SC 720CP-10 / SC 760CP-10 / SC 800CP-10

Economic

- Direct deployment in the field due to outdoor enclosure
- Simplified shipping without concrete substation

Efficient

- Full nominal power at ambient temperatures up to 50 °C
- 10 % additional power for constant operation at ambient temperatures up to 25 °C

Flexible

- Powerful grid management functions (including LVRT)
- DC voltage range configurable

Reliable

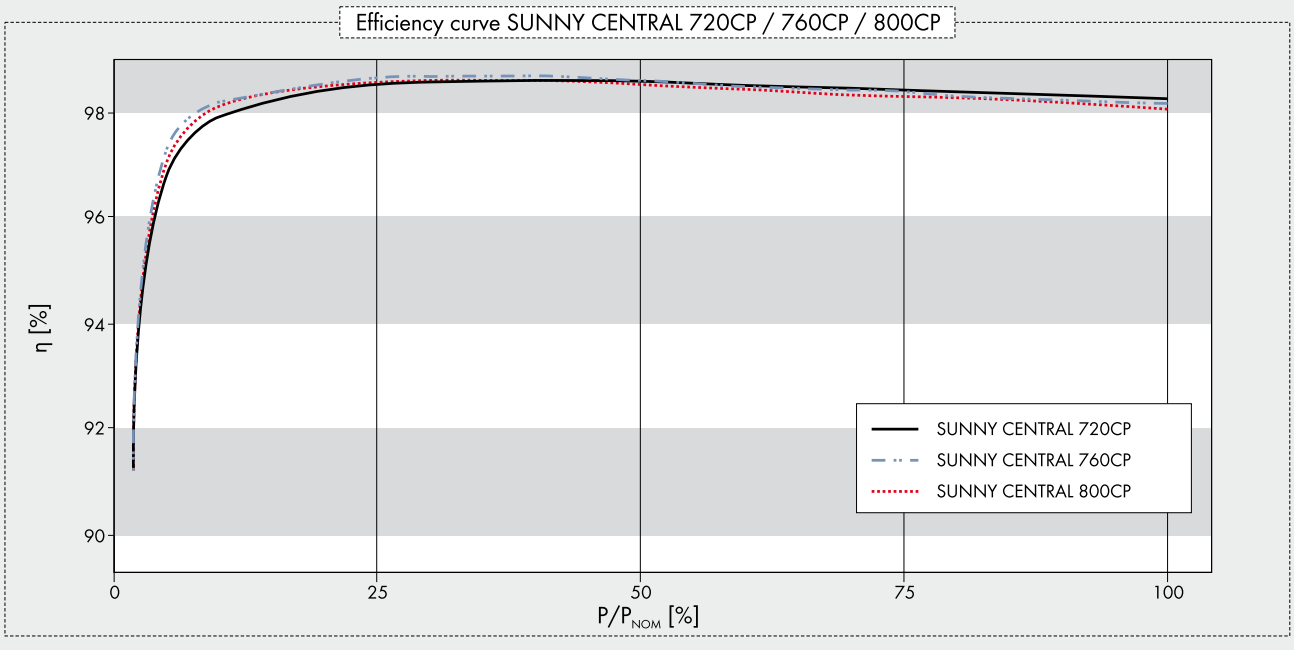
- Easy and safe installation due to a separate connection area
- Optional: extended input voltage range up to 1,100 V

SUNNY CENTRAL 720CP / 760CP / 800CP

High performance as standard

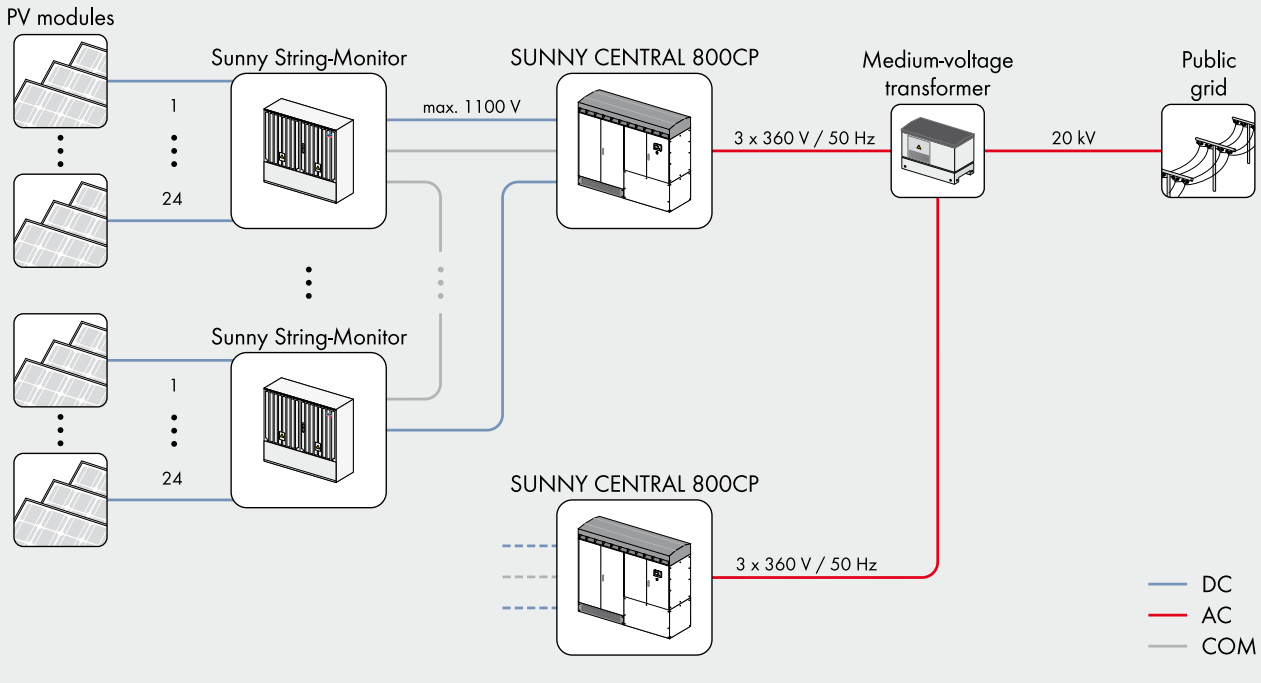
The completely new design of the Sunny Central CP series saves you real money. The compact and weatherproof enclosure is easy to load and transport and can be installed almost anywhere – there is no need for heavy protective concrete substations any longer. The innovative cooling concept OptiCool allows it to operate at full nominal power with ambient temperatures up to 50 °C. With the powerful grid management functions you are perfectly prepared for today's utility requirements as well as those still to come. The intelligent power management is the most important feature: in continuous operation, the Sunny Central 800CP can feed 880 kVA to the grid at ambient temperatures of up to 25 °C – that's 10 % more than the rated nominal power.

Technical data	Sunny Central 720CP	Sunny Central 760CP	Sunny Central 800CP
Input Data			
MPP voltage range	515 V – 820 V [3] [5]	545 V – 820 V [3] [5]	570 V – 820 V [3] [5]
Max. DC voltage		1000 V / 1100 V [1] Optional	
Max. DC current	1400 A	1400 A	1400 A
Number of DC inputs		9 fused inputs	
Output Values			
Nominal AC output @ 50 °C	720 kVA	760 kVA	800 kVA
Continuous AC power @ 25 °C	792 kVA	836 kVA	880 kVA
Max. AC current	1411 A	1411 A	1411 A
Nominal AC-current	1283 A	1283 A	1283 A
Nominal AC-voltage ±10 %	324 V	342 V	360 V
AC grid frequency 50 Hz	●	●	●
AC grid frequency 60 Hz	●	●	●
Power factor (cos φ)		0.9 leading ... 0.9 lagging	
Max. THD	< 3 %	< 3 %	< 3 %
Power consumption			
Internal consumption in operation	< 1500 W [4]	< 1500 W [4]	< 1500 W [4]
Standby consumption	< 100 W	< 100 W	< 100 W
External auxiliary voltage	3 x 230 V, 50 / 60 Hz	3 x 230 V, 50 / 60 Hz	3 x 230 V, 50 / 60 Hz
Dimensions and Weight			
Dimensions (W / H / D) in mm	2562 / 2279 / 956	2562 / 2279 / 956	2562 / 2279 / 956
Weight	1800 kg	1800 kg	1800 kg
Efficiency [2]			
Max. efficiency	98.6 %	98.6 %	98.6 %
Euro ETA	98.4 %	98.4 %	98.4 %
CEC-eta	98.4 %	98.4 %	98.4 %
Protection Rating and Ambient Conditions			
Protection rating (as per IEC 60529)	IP54	IP54	IP54
Protection rating (as per IEC 60721-3-3) Ambient conditions: fixed location, with protection against wind and weather	• Classification of chemically active substances: 3C2 • Classification of mechanically active substances: 3S2		
Operation temperature range	–20 °C ... +50 °C	–20 °C ... +50 °C	–20 °C ... +50 °C
Rel. humidity	15 % ... 95 %	15 % ... 95 %	15 % ... 95 %
Fresh air consumption	3000 m³/h	3000 m³/h	3000 m³/h
Max. altitude above sea level	2000 m	2000 m	2000 m

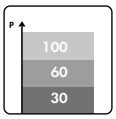


	Sunny Central 720CP	Sunny Central 760CP	Sunny Central 800CP
Features			
Sunny WebBox	●	●	●
Communication	Ethernet (optical fiber optional)	Ethernet (optical fiber optional)	Ethernet (optical fiber optional)
Communication with Sunny String-Monitor	RS485	RS485	RS485
LCD graphic display	●	●	●
Enclosure color	RAL 9016	RAL 9016	RAL 9016
Color of base	RAL 7005	RAL 7005	RAL 7005
Color of roof	RAL 7004	RAL 7004	RAL 7004
Ground fault monitoring / insulation monitoring	●	●	●
Circuit breaker AC side	●	●	●
Motor driven load disconnection switch on DC side	●	●	●
AC overvoltage protector	●	●	●
DC overvoltage protector	●	●	●
Overvoltage protectors for auxiliary supply	●	●	●
Certificates / Listings			
EMC	EN 61000-6-2 EN 61000-6-4		
CE conformity	●	●	●
BDEW-MSRL / FGW / TR8 [6]	●	●	●
RD 1633 / 2000	●	●	●
Arrêté du 23 / 04 / 08	●	●	●
● Standard features ❍ Optional features – Not available			
Type name	SC 720CP-10	SC 760CP-10	SC 800CP-10

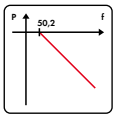
1) Startup at DC voltage < 1000 V
2) Efficiency measured without internal power supply
3) Further AC voltages, DC voltages and power classes can be configured (For detailed information see Technical Information „Innovations_CP“ at www.SMA.de)
4) Internal consumption at nominal power
5) At 1.05 $U_{AC,nom}$ and cos φ= 1
6) With complete dynamic grid support



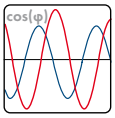
POWERFUL GRID MANAGEMENT FUNCTIONS



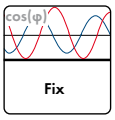
Remote controlled power reduction in case of grid overload
In order to avoid short-term grid overload, the grid operator presets a nominal active power value which the inverter will implement within 60 seconds. The nominal value is transmitted to the inverters via a ripple control receiver in combination with the SMA Power Reducer Box. Typical limit values are 100, 60, 30 or 0 per cent of the nominal power.



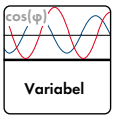
Frequency-dependent control of active power
As of a grid frequency of 50.2 Hz, the inverter automatically reduces the fed-in of active power according to a definable characteristic curve which thereby contributes to the stabilization of the grid frequency.



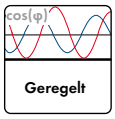
Static voltage support based on reactive power
To stabilize the grid voltage, SMA inverters feed reactive power (leading or lagging) into the grid. Three different modes are available:



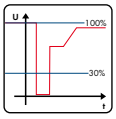
a) Fixed definition of the reactive power by the grid operator
The grid operator defines a fixed reactive power value or a fixed displacement factor between $\cos(\varphi)_{leading}$= 0.90 and $\cos(\varphi)_{lagging}$= 0.90.



b) Definition of a dynamic setpoint of the reactive power by the utility operator
The grid operator defines a dynamic displacement factor - any value between $\cos(\varphi)_{leading}$= 0.90 und $\cos(\varphi)_{lagging}$= 0.90. It is transmitted either through a communication unit the evaluation can e.g. be evaluated and processed by the SMA Power Reducer Box.



c) Control of the reactive power over a characteristic curve
The reactive power or the phase shift is controlled by a pre-defined characteristic curve – depending on the active power fed into the grid or the grid voltage.



Limited Dynamic Grid Support
The inverter continues to feed to the grid after short term voltage drops – as long as the grid voltage is within a defined voltage window.

Dynamic Grid Support
LVRT (Low-Voltage Ride Through): The inverter stays connected to the grid during voltage drops and supports the grid by feeding reactive power.

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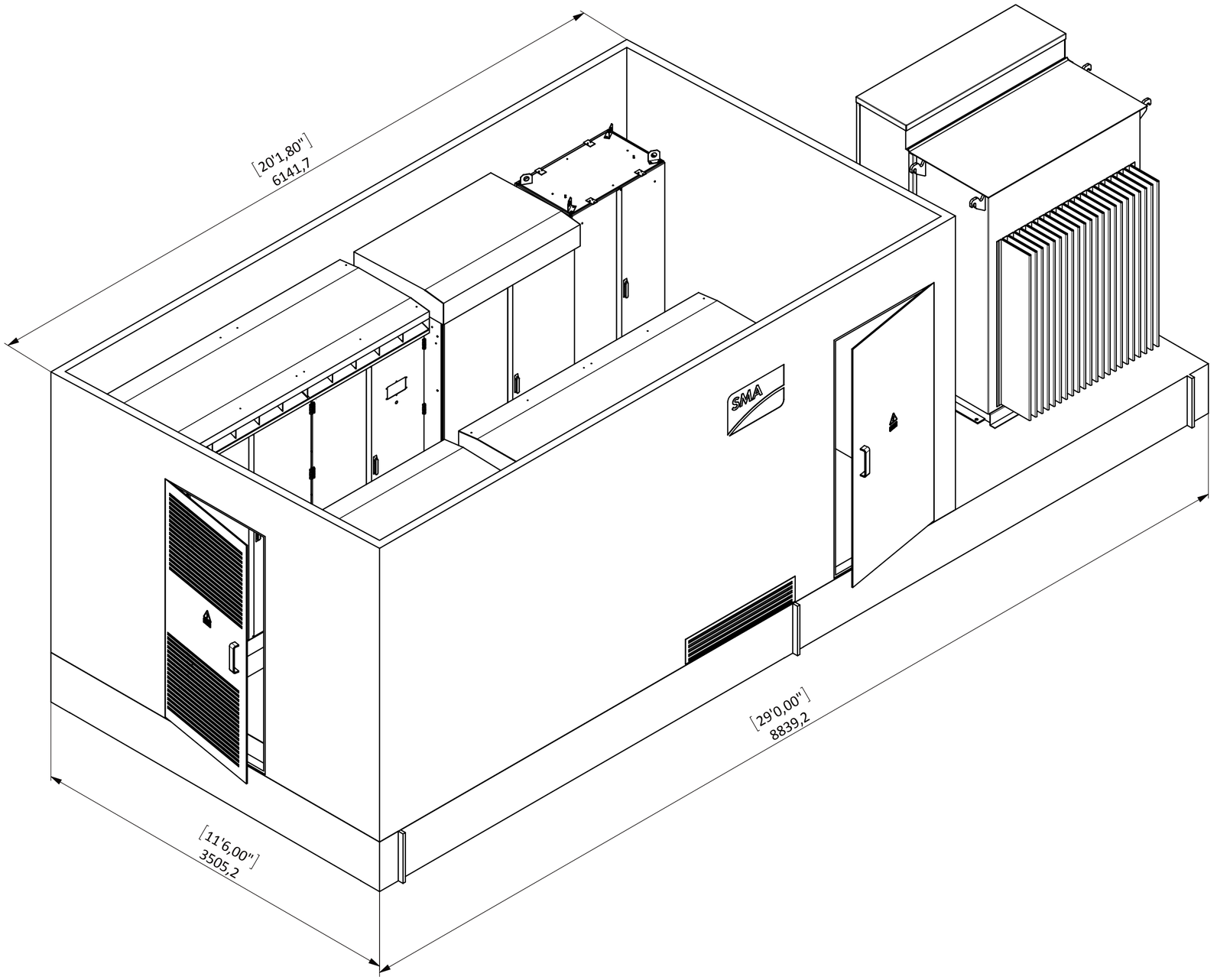

Verwendbar für: / To be used for:

SMA SKID

all dimensions and tolerances are in millimeters [feet / inches]
alle Maß- und Toleranzangaben sind in mm [feet / inches]

	Datum / Date	Name
Bearb.	25.02.2011	Mihelic
Gepr.		
Norm		
Freigabe		

Layout enclosure

SMA Solar Technology AG
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34266 Niestetal
Tel.: +49 561 9522-0

Z-Nr.:
D.-No.:
EDV-Nr.:
Name :

A2

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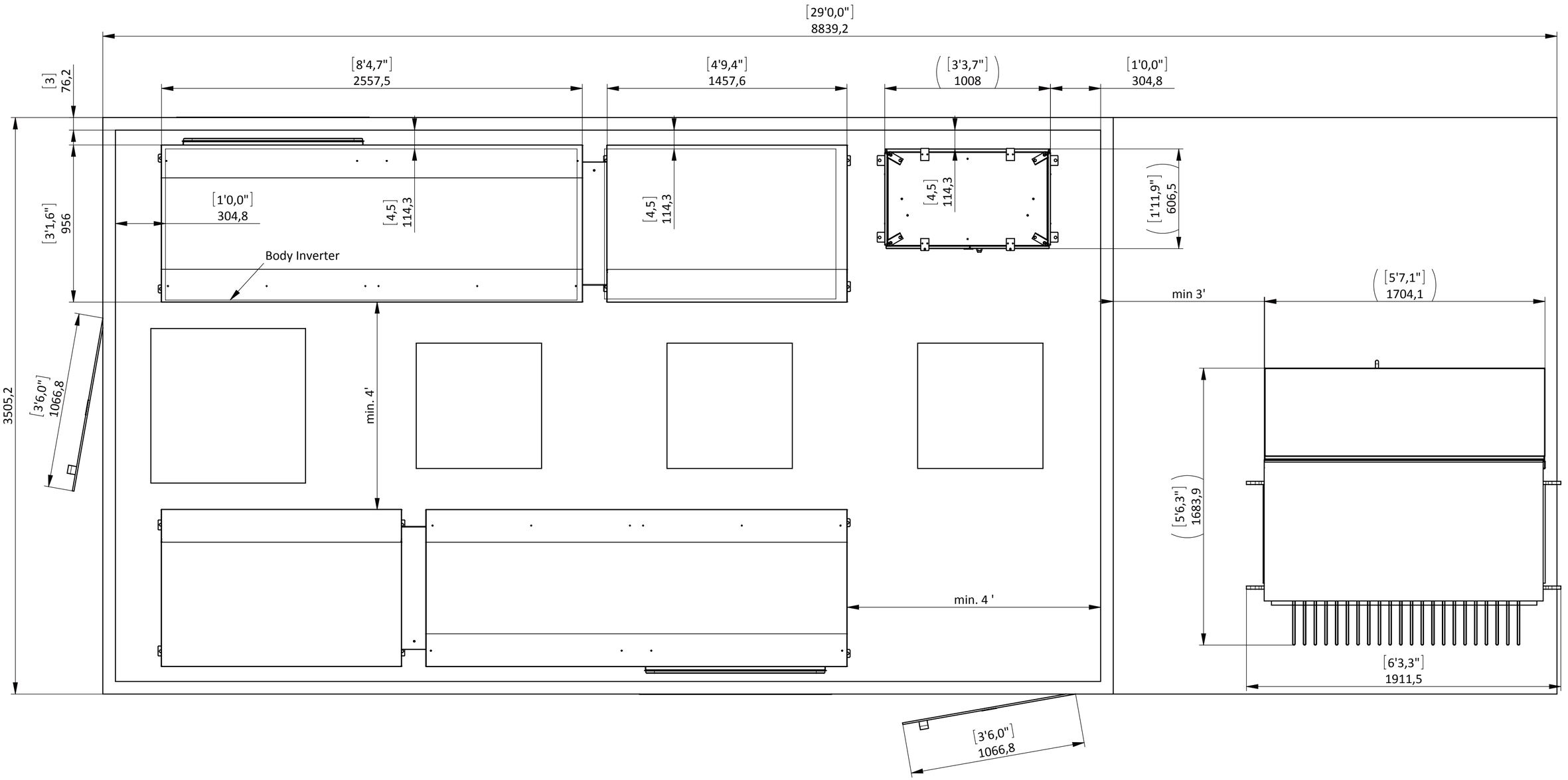

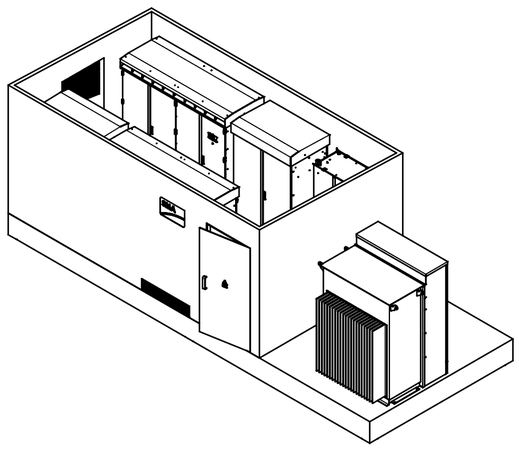

Verwendbar für: / To be used for:

SMA SKID

all dimensions and tolerances are in millimeters [feet / inches]
alle Maß- und Toleranzangaben sind in mm [feet / inches]

	Datum / Date	Name
Bearb.	25.02.2011	Mihelic
Gepr.		
Norm		
Freigabe		

Clearance

SMA Solar Technology AG
Sonnenallee 1
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Tel.: +49 561 9522-0

Z-Nr.:
D.-No.:
EDV-Nr.:
Name :

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Terz-midle-frequency [kHz]	Soundpower-level L_{xpA} [dB_A]500kW	Soundpower-level L_{xpA} [dB_A]640kW	Soundpower-level L_{xpA} [dB_A]720kW	Soundpower-level L_{xpA} [dB_A]760kW	Soundpower level L_{xpA} [dB_A]800kW
0,05	63,30	55,30	57,70	67,00	56,50
0,063	60,80	53,10	56,80	63,20	54,00
0,08	63,90	56,30	56,50	59,50	55,20
0,1	64,10	66,20	65,00	66,50	68,10
0,125	65,70	64,50	60,60	65,20	62,00
0,16	72,30	65,80	65,50	63,20	66,40
0,2	67,30	64,60	66,80	64,90	67,80
0,25	66,10	76,20	77,50	70,80	72,40
0,315	78,40	79,80	77,70	82,20	75,10
0,4	73,70	73,90	73,90	72,80	66,70
0,5	77,80	78,70	77,70	77,40	74,70
0,63	78,90	78,90	74,60	77,40	77,00
0,8	70,60	72,50	74,10	70,60	72,00
1	72,20	71,00	70,00	68,90	67,90
1,25	72,40	72,00	71,50	70,80	71,80
1,6	67,30	68,30	76,70	68,60	68,50
2	69,30	66,30	66,50	67,20	65,30
2,5	65,10	66,80	64,60	64,80	63,90
3,15	62,60	64,30	65,00	63,20	61,00
4,0	53,50	54,20	54,70	52,30	53,80
5,0	51,30	49,50	50,50	51,20	49,80
6,3	68,90	72,60	73,50	73,50	69,70

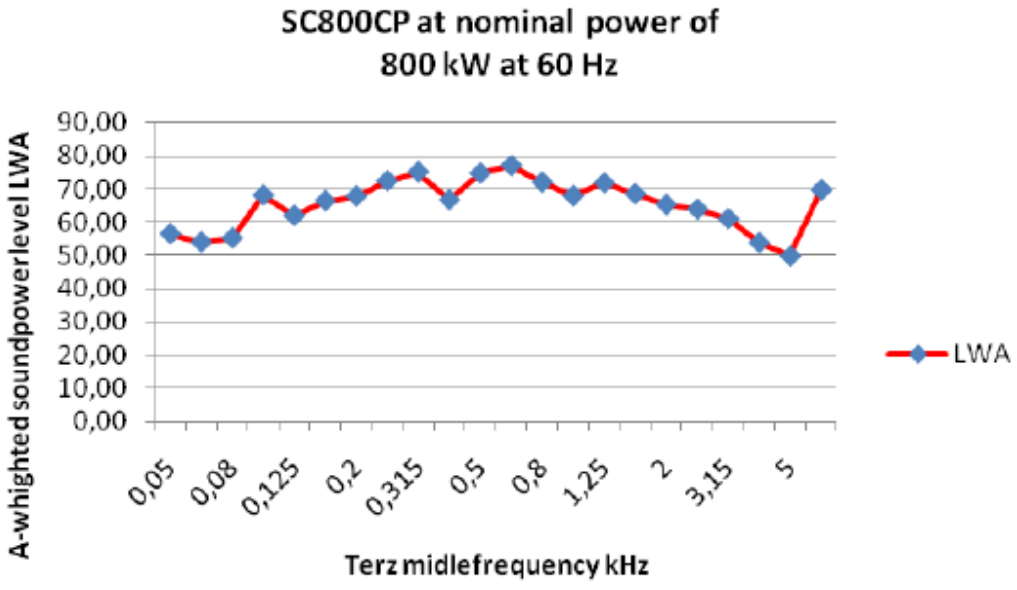

Figure B.1 SC800CP Inverter Sound Power Level as Provided by SMA. Note that the Header in the Table above Represents Various Inverter Models of CS###CP Series.

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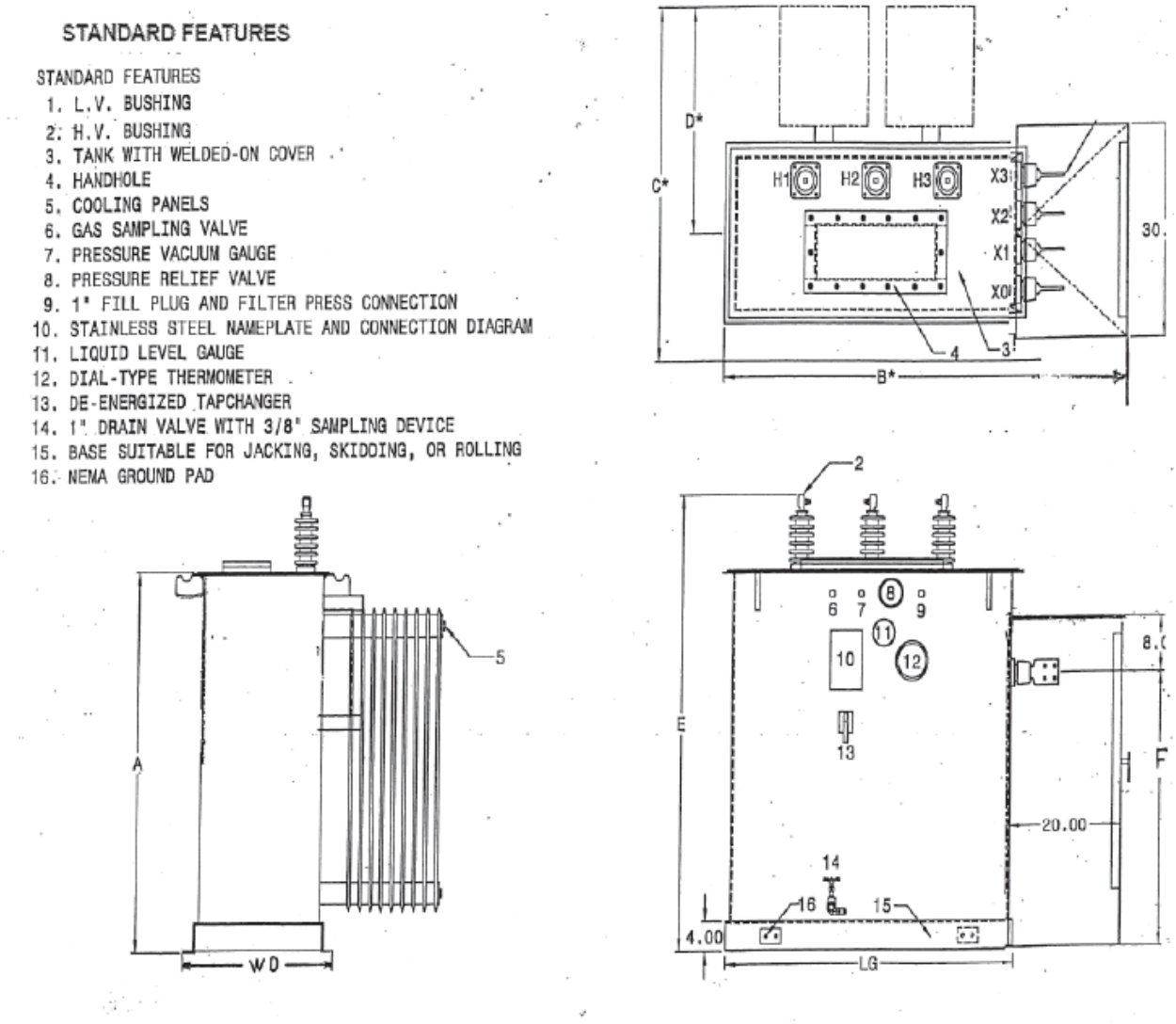

KVA	Fluid	Cond	HV BIL	LV BIL	WD	LG	A	B	C	D	E	F	Gal Liquid	Weight
10000	O	C	250	150	48	95	111	113	138	TBD	132	82	1530	37597

Figure B.2 44-kVA/10-MVA Substation Transformer Catalogue Dimensions (inches).

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Estimated Frequency Spectra for Transformers

Transformer - 44kV/10MVA

From Handbook of Noise and Vibration Control (Crocker, 2007, page 1335-1336, Eq. 18 and Table 20)

Average LpA	68 dBA	Based on NEMA TR1-1993 (R2000), Table 0-2
Estimated surface area	35 m^2	Estimated based on similar transformer dimensions

Correction factors are in dB

Freq. (Hz)	31	63	125	250	500	1000	2000	4000	8000	Notes
C1	-11.0	-5.0	-3.0	-8.0	-8.0	-14.0	-19.0	-24.0	-31.0	Outdoors, indoors in mechanical room over 140 m^3
C2	-11	-2	3	-2	-2	-11	-19	-24	-31	Indoors
C3	-11	-2	3	2	2	-4	-9	-14	-21	Serious Noise Problems

Sound Power Level calculated as Lw=Average LpA + 10*log(Estimated surface area) + C + 10

Freq. (Hz)	31	63	125	250	500	1000	2000	4000	8000	Combined [dB]
C1 based [dB]	82.4	88.4	90.4	85.4	85.4	79.4	74.4	69.4	62.4	**94.5**
C2 based [dB]	82.4	91.4	96.4	91.4	91.4	82.4	74.4	69.4	62.4	**99.5**
C3 based [dB]	82.4	91.4	96.4	95.4	95.4	89.4	84.4	79.4	72.4	**101.5**

Resulting A-weighted sound power level

Freq. (Hz)	A-Weight	C1 based [dBA]	C2 based [dBA]	C2 based [dBA]
31	-39.4	43.0	52.0	57.0
63	-26.2	62.2	65.2	65.2
125	-16.1	74.3	80.3	80.3
250	-8.6	76.8	82.8	86.8
500	-3.2	82.2	88.2	92.2
1000	0	79.4	82.4	89.4
2000	1.2	75.6	75.6	85.6
4000	1	70.4	70.4	80.4
8000	-1.1	61.3	61.3	71.3
LwA [dBA]		**85.8**	**90.8**	**95.6**

Used in the study

Figure B.3 Sound Power Level Calculation for 44-kV/10-MVA Substation Transformer.

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Sound Power Level Calculation for SMA Sunny Central 800CP, 100% LOAD

Third octave, as provided		
Freq #	Freq (Hz)	LwA (dBA)
1	25	
2	31.5	
3	40	
4	50	56.5
5	63	54.0
6	80	55.2
7	100	68.1
8	125	62.0
9	160	66.4
10	200	67.8
11	250	72.4
12	315	75.1
13	400	66.7
14	500	74.7
15	630	77.0
16	800	72.0
17	1000	67.9
18	1250	71.8
19	1600	68.5
20	2000	65.3
21	2500	63.9
22	3150	61.0
23	4000	53.8
24	5000	49.8
25	6300	69.7
26	8000	
27	10000	
	Total LwA	**83.3**

Full octave, as used in CADNA-A model			
Freq #	Freq (Hz)	LwA 1 inverter (dBA)	LwA 2 inverters (dBA)
	31.5		
5	63	60.1	63.1
8	125	70.9	73.9
11	250	77.5	80.5
14	500	79.3	82.3
17	1000	75.7	78.7
20	2000	71.1	74.1
23	4000	62.0	65.0
26	8000	69.7	72.7
	Total LwA	**83.3**	**86.3**

$$10\log\left(10^{\frac{56.5}{10}}+10^{\frac{54.0}{10}}+10^{\frac{55.2}{10}}\right)=60.1dBA$$

$$10\log\left(10^{\frac{60.1}{10}}+10^{\frac{60.1}{10}}\right)=63.1dBA$$

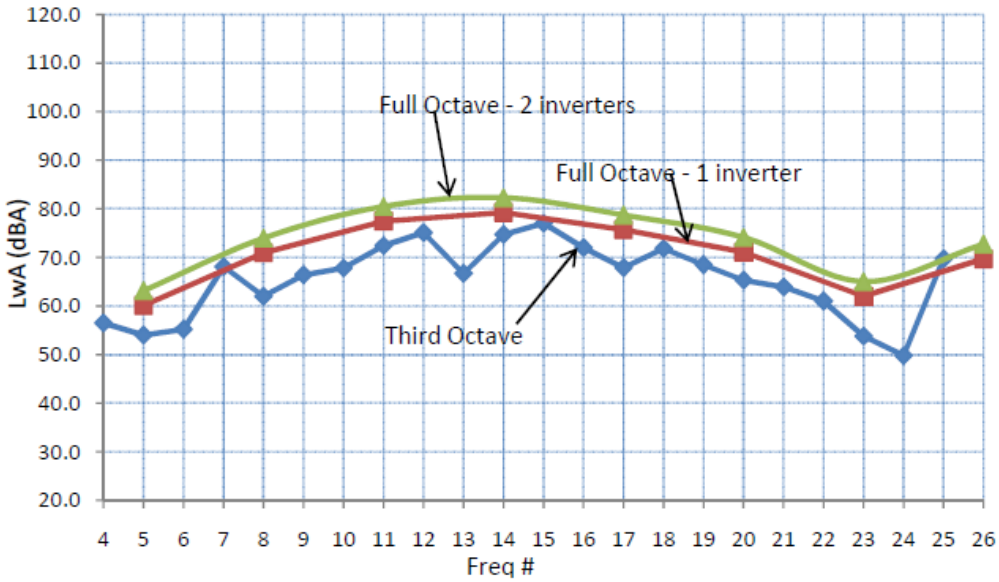

Figure B.4 Sound Power Level Calculation for SMA Sunny Central 800CP, 100% LOAD.

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Estimated Frequency Spectra for Transformers

Transformer - 27.6kV/1.6MVA

From Handbook of Noise and Vibration Control (Crocker, 2007, page 1335-1336, Eq. 18 and Table 20)

Average LpA	61 dBA	Based on NEMA TR1-1993 (R2000), Table 0-2
Estimated surface area	14.872 m^2	Estimated based on client transformer drawings

Correction factors are in dB

Freq. (Hz)	31	63	125	250	500	1000	2000	4000	8000	Notes
C1	-11.0	-5.0	-3.0	-8.0	-8.0	-14.0	-19.0	-24.0	-31.0	Outdoors, indoors in mechanical room over 140 m^3
C2	-11	-2	3	-2	-2	-11	-19	-24	-31	Indoors
C3	-11	-2	3	2	2	-4	-9	-14	-21	Serious Noise Problems

Sound Power Level calculated as Lw=Average LpA + 10*log(Estimated surface area) + C + 10

Freq. (Hz)	31	63	125	250	500	1000	2000	4000	8000	Combined [dB]
C1 based [dB]	71.7	77.7	79.7	74.7	74.7	68.7	63.7	58.7	51.7	**83.8**
C2 based [dB]	71.7	80.7	85.7	80.7	80.7	71.7	63.7	58.7	51.7	**88.8**
C3 based [dB]	71.7	80.7	85.7	84.7	84.7	78.7	73.7	68.7	61.7	**90.8**

Resulting A-weighted sound power level

Freq. (Hz)	A-Weight	C1 based [dBA]	C2 based [dBA]	C2 based [dBA]
31	-39.4	32.3	41.3	46.3
63	-26.2	51.5	54.5	54.5
125	-16.1	63.6	69.6	69.6
250	-8.6	66.1	72.1	76.1
500	-3.2	71.5	77.5	81.5
1000	0	68.7	71.7	78.7
2000	1.2	64.9	64.9	74.9
4000	1	59.7	59.7	69.7
8000	-1.1	50.6	50.6	60.6
LwA [dBA]		**75.1**	**80.1**	**84.9**

Used in the study

Figure B.5 Sound Power Level Calculation for 27.6-kV/1.6-MVA Cluster Transformer.

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Appendix C

Points of Reception Coordinates and Noise Maps from CADNA-A

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Table C.1 List of all receptors considered for the combined noise study from the three solar projects

ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
1	Existing	394911	4946582
2	Existing	394960	4946823
3	Existing	394962	4946797
4	Existing	394965	4946647
5	Existing	394965	4946753
6	Existing	394966	4946773
7	Existing	394968	4946838
8	Existing	394975	4946859
9	Existing	394982	4946742
10	Vacant	394985	4946774
11	Existing	394991	4946886
12	Existing	395006	4946914
13	Existing	395013	4946940
14	Existing	395015	4946869
15	Vacant	395020	4946778
16	Existing	395026	4946984
17	Existing	395035	4947026
18	Vacant	395045	4946272
19	Existing	395052	4947080
20	Vacant	395055	4946326
21	Existing	395057	4947093
22	Vacant	395067	4946781
23	Vacant	395073	4946367
24	Existing	395088	4947125
25	Existing	395108	4947134
26	Existing	395181	4947140
27	Existing	395328	4947059
28	Existing	395415	4947396
29	Vacant	395436	4947070
30	Existing	395440	4947171
31	Existing	395443	4947368
32	Existing	395474	4947518
33	Existing	395479	4947537
34	Existing	395479	4947624
35	Existing	395492	4947297
36	Existing	395503	4947243

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ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
37	Existing	395505	4947654
38	Existing	395524	4947656
39	Existing	395553	4947160
40	Existing	395800	4947848
41	Existing	395873	4948193
42	Existing	395879	4948207
43	Existing	395880	4948181
44	Existing	395887	4948171
45	Existing	395891	4948225
46	Existing	395893	4948021
47	Existing	395896	4948048
48	Existing	395896	4948158
49	Existing	395904	4948147
50	Existing	395908	4948239
51	Existing	395914	4948211
52	Vacant	395931	4948234
53	Existing	395935	4948157
54	Existing	395939	4948130
55	Existing	395940	4948187
56	Existing	395957	4948274
57	Existing	395995	4947982
58	Existing	396002	4948363
59	Existing	396023	4948037
60	Existing	396026	4948399
61	Vacant	396056	4948419
62	Existing	396061	4948470
63	Existing	396086	4948505
64	Existing	396110	4947887
65	Existing	396110	4948475
66	Vacant	396114	4945766
67	Vacant	396115	4948367
68	Existing	396125	4945807
69	Existing	396174	4946027
70	Vacant	396178	4948450
71	Existing	396220	4948053
72	Vacant	396233	4948431
73	Existing	396242	4948747
74	Existing	396245	4945943

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ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
75	Existing	396251	4945907
76	Existing	396255	4948083
77	Existing	396301	4948180
78	Existing	396307	4948076
79	Existing	396313	4948666
80	Existing	396315	4948030
81	Existing	396340	4948572
82	Existing	396365	4945835
83	Existing	396392	4945732
84	Existing	396414	4948298
85	Existing	396426	4945837
86	Existing	396438	4945825
87	Vacant	396541	4946046
88	Vacant	396570	4945753
89	Existing	396594	4947635
90	Existing	396605	4947458
91	Existing	396616	4947485
92	Existing	396802	4947234
93	Existing	396843	4947256
94	Existing	396845	4947224
95	Existing	396908	4947292
96	Existing	396921	4946935
97	Existing	396946	4946892
98	Existing	397006	4947019
99	Existing	397014	4946979
100	Existing	397057	4947029
101	Existing	397096	4946640
102	Existing	397551	4946116
103	Existing	397554	4946085
104	Existing	397556	4946071
105	Existing	397564	4946027
106	Existing	397572	4946113
107	Existing	397599	4948651
108	Existing	397639	4946237
109	Vacant	397654	4945960
110	Vacant	397656	4946186
111	Existing	397674	4946290
112	Existing	397687	4947160

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ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
113	Vacant	397703	4948833
114	Existing	397708	4946264
115	Existing	397875	4945819
116	Existing	397876	4948377
117	Existing	397928	4945831
118	Existing	397931	4948884
119	Existing	397932	4945999
120	Existing	397941	4946075
121	Existing	398009	4948385
122	Existing	398021	4948334
123	Existing	398031	4948485
124	Existing	398078	4947658
125	Vacant	398103	4945589
126	Existing	398117	4948250
127	Vacant	398122	4948400
128	Existing	398138	4948971
129	Existing	398140	4945801
130	Vacant	398164	4948367
131	Existing	398184	4948211
132	Existing	398189	4948156
133	Vacant	398191	4949041
134	Existing	398194	4948189
135	Vacant	398204	4948304
136	Existing	398220	4949064
137	Vacant	398260	4949104
138	Existing	398264	4948021
139	Vacant	398291	4949145
140	Existing	398306	4947173
141	Existing	398308	4948254
142	Existing	398319	4949169
143	Vacant	398322	4949366
144	Vacant	398340	4945716
145	Existing	398360	4949205
146	Existing	398378	4949237
147	Existing	398388	4949637
148	Existing	398399	4947628
149	Existing	398399	4949604
150	Vacant	398405	4949316

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ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
151	Existing	398429	4949709
152	Vacant	398443	4945679
153	Existing	398444	4945819
154	Existing	398451	4949610
155	Existing	398451	4949365
156	Existing	398452	4949543
157	Existing	398478	4948922
158	Existing	398481	4949516
159	Vacant	398483	4949108
160	Existing	398491	4948939
161	Existing	398492	4949038
162	Existing	398510	4949385
163	Existing	398512	4949075
164	Existing	398514	4947631
165	Existing	398517	4947611
166	Existing	398524	4949517
167	Existing	398538	4949436
168	Existing	398540	4947393
169	Existing	398544	4949494
170	Existing	398557	4947418
171	Existing	398560	4945651
172	Vacant	398562	4949173
173	Existing	398573	4949468
174	Existing	398579	4947751
175	Existing	398600	4949168
176	Existing	398607	4949246
177	Existing	398612	4947356
178	Existing	398623	4949145
179	Existing	398624	4947674
180	Existing	398628	4949156
181	Existing	398660	4949226
182	Vacant	398738	4945375
183	Existing	398751	4948037
184	Existing	398755	4948054
185	Vacant	398793	4945515
186	Existing	398820	4947363
187	Vacant	398830	4949125
188	Existing	398906	4945657

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ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
189	Existing	398918	4945681
190	Vacant	398920	4949098
191	Existing	398944	4947277
192	Vacant	398964	4949297
193	Vacant	398984	4949345
194	Existing	398999	4948246
195	Existing	399004	4948238
196	Existing	399009	4948269
197	Existing	399012	4949395
198	Existing	399019	4948297
199	Vacant	399040	4945570
200	Existing	399056	4948318
201	Existing	399060	4945446
202	Existing	399068	4949507
203	Vacant	399075	4949665
204	Existing	399080	4949827
205	Vacant	399085	4949786
206	Vacant	399101	4949545
207	Existing	399109	4949862
208	Existing	399209	4946965
209	Existing	399217	4949886
210	Existing	399218	4946767
211	Existing	399221	4949862
212	Existing	399226	4945419
213	Existing	399249	4949903
214	Vacant	399281	4945401
215	Existing	399302	4949891
216	Existing	399318	4949875
217	Existing	399359	4945405
218	Existing	399377	4949816
219	Existing	399388	4949765
220	Existing	399393	4949795
221	Existing	399401	4949753
222	Existing	399401	4949714
223	Existing	399445	4949713
224	Existing	399448	4949740
225	Existing	399451	4949699
226	Existing	399453	4945487

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ID	Description	UTM Coordinates NAD 83 (m)	
		X	Y
227	Existing	399461	4949761
228	Existing	399468	4946711
229	Existing	399470	4949711
230	Existing	399481	4949690
231	Existing	399501	4949794
232	Existing	399507	4946747
233	Existing	399510	4946528
234	Existing	399537	4946482
235	Existing	399541	4949803
236	Vacant	399548	4948495
237	Vacant	399585	4946296
238	Vacant	399608	4946407
239	Vacant	399667	4948537
240	Vacant	399731	4946099
241	Existing	399802	4948830
242	Existing	399849	4946144
243	Vacant	399854	4949108
244	Vacant	399876	4948771
245	Existing	399908	4945911
246	Existing	399942	4945875
247	Existing	400011	4948883
248	Existing	400015	4948923
249	Existing	400027	4948855
250	Existing	400048	4949021
251	Existing	400071	4948871
252	Existing	400146	4949028
253	Existing	400152	4949034
254	Vacant	400265	4949186
255	Vacant	400299	4949028

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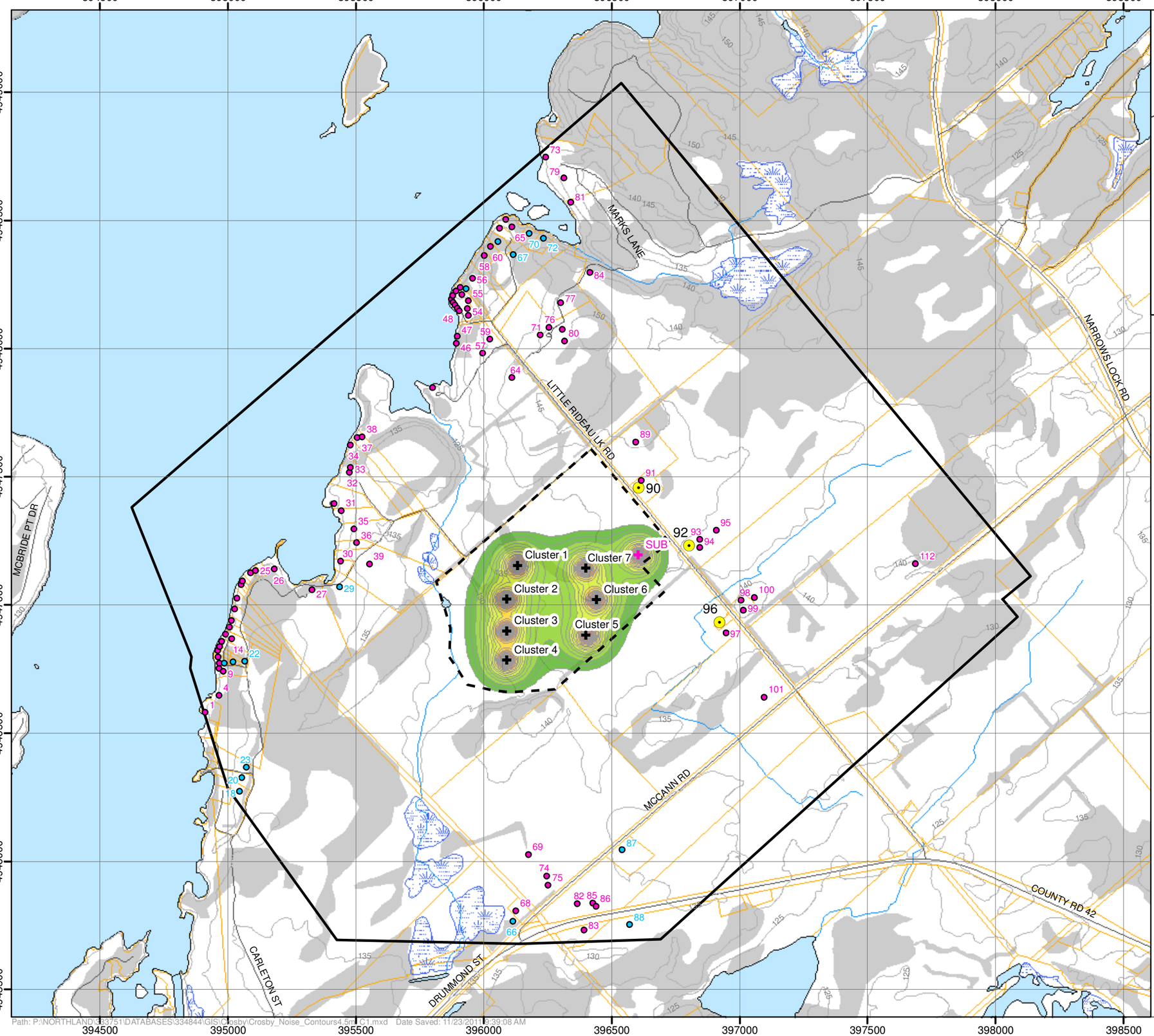

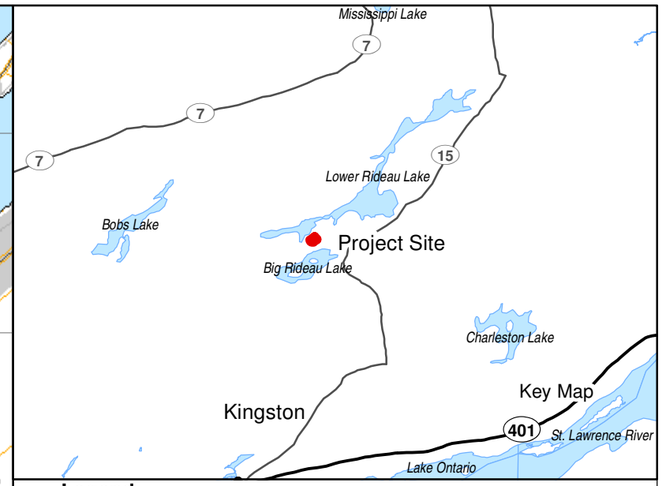

Legend

- Cluster # — Inverter Cluster
- SUB — Substation Transformer
- # — Noise Receptor - Existing
- # — Noise Receptor - Vacant
- # — Representative Noise Receptor
- Road
- Topographic Contour (5m interval)
- Watercourse
- Parcel
- Project Site
- 1000 m from Project Site
- Waterbody
- Wetland
- Wooded Area

Sound Pressure Level (dBA)

40.0 - 41.0	41.1 - 44.0	44.1 - 47.0	47.1 - 49.0	49.1 - 52.0	> 52.1

Notes:
1. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.
2. Spatial referencing UTM NAD 83.

0 150 300 600 Metres

1:15,000

NORTH

Figure C.1
Northland Power Inc.
Crosby Solar Project
Noise Contours at 4.5 m

HATCH™

Path: P:\NORTHLAND\333751\DATABASES\334844\GIS\Crosby\Crosby_Noise_Contours4.5m_C1.mxd Date Saved: 11/23/2011 9:39:08 AM

396000
396500
4947500
4947000
LITTLE RIDEAU LK RD
Cluster 1
Cluster 2
Cluster 3
Cluster 4
Cluster 5
Cluster 6
Cluster 7
SUB
90
91
92
93
94
95
96
Mississippi Lake
Lower Rideau Lake
Bobs Lake
Project Site
Big Rideau Lake
Charleston Lake
Kingston
Key Map
St. Lawrence River
Lake Ontario
7
15
401
Legend
Cluster # Inverter Cluster
SUB Substation Transformer
Noise Receptor - Existing
Noise Receptor - Vacant
Representative Noise Receptor
Road
Topographic Contour (5m interval)
Watercourse
Parcel
Project Site
30 m from Noise Receptor
Waterbody
Wetland
Wooded Area
Sound Pressure Level (dBA)
40.0 - 41.0
41.1 - 44.0
44.1 - 47.0
47.1 - 49.0
49.1 - 52.0
> 52.1
Notes:
1. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.
2. Spatial referencing UTM NAD 83.
0 40 80 160 Metres
NORTH
1:4,000
Figure C.2
Northland Power Inc.
Crosby Solar Project
Noise Contours at 1.5 m
HATCH
Path: P:\NORTHLAND\333751\DATABASES\334844\GIS\Crosby\Crosby_Noise_Contours4.5m_C1.mxd Date Saved: 11/23/2011 9:43:15 AM

Appendix D

CADNA-A Sample Calculations

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Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	3000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	0.00
Night-time Penalty (dB)	0.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	1
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.70
Wind Speed for Dir. (m/s)	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03)	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receiver
Name: 92.0
ID: 92.0
X: 396802.10
Y: 4947233.87
Z: 144.50

Point Source, ISO 9613, Name: "Cr_Inv_1", ID: "Cr_Inv_1"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396127.18	4947156.62	137.60	0	63	68.1	-88.0	0.0	0.0	67.6	0.1	-5.1	0.0	0.0	0.0	0.0	-0.0	5.4	-88.0
2	396127.18	4947156.62	137.60	0	125	78.9	-88.0	0.0	0.0	67.6	0.3	3.6	0.0	0.0	0.0	0.0	-0.0	7.4	-88.0
3	396127.18	4947156.62	137.60	0	250	85.5	-88.0	0.0	0.0	67.6	0.7	2.7	0.0	0.0	0.0	0.0	-0.0	14.4	-88.0
4	396127.18	4947156.62	137.60	0	500	87.3	-88.0	0.0	0.0	67.6	1.3	-1.1	0.0	0.0	0.0	0.0	-0.0	19.4	-88.0
5	396127.18	4947156.62	137.60	0	1000	83.7	-88.0	0.0	0.0	67.6	2.5	-1.5	0.0	0.0	0.0	0.0	-0.0	15.1	-88.0
6	396127.18	4947156.62	137.60	0	2000	79.1	-88.0	0.0	0.0	67.6	6.6	-1.5	0.0	0.0	0.0	0.0	-0.0	6.4	-88.0
7	396127.18	4947156.62	137.60	0	4000	70.0	-88.0	0.0	0.0	67.6	22.3	-1.5	0.0	0.0	0.0	0.0	-0.0	-18.4	-88.0
8	396127.18	4947156.62	137.60	0	8000	77.7	-88.0	0.0	0.0	67.6	79.4	-1.5	0.0	0.0	0.0	0.0	-0.0	-67.8	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_2", ID: "Cr_Inv_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396084.98	4947024.62	135.09	0	63	68.1	-88.0	0.0	0.0	68.5	0.1	-5.1	0.0	0.0	0.0	0.0	-0.0	4.7	-88.0
2	396084.98	4947024.62	135.09	0	125	78.9	-88.0	0.0	0.0	68.5	0.3	3.8	0.0	0.0	0.0	0.0	-0.0	6.3	-88.0
3	396084.98	4947024.62	135.09	0	250	85.5	-88.0	0.0	0.0	68.5	0.8	2.7	0.0	0.0	0.0	0.0	-0.0	13.6	-88.0
4	396084.98	4947024.62	135.09	0	500	87.3	-88.0	0.0	0.0	68.5	1.4	-1.1	0.0	0.0	0.0	0.0	-0.0	18.5	-88.0
5	396084.98	4947024.62	135.09	0	1000	83.7	-88.0	0.0	0.0	68.5	2.7	-1.5	0.0	0.0	0.0	0.0	-0.0	14.0	-88.0
6	396084.98	4947024.62	135.09	0	2000	79.1	-88.0	0.0	0.0	68.5	7.2	-1.5	0.0	0.0	0.0	0.0	-0.0	5.0	-88.0
7	396084.98	4947024.62	135.09	0	4000	70.0	-88.0	0.0	0.0	68.5	24.5	-1.5	0.0	0.0	0.0	0.0	-0.0	-21.4	-88.0
8	396084.98	4947024.62	135.09	0	8000	77.7	-88.0	0.0	0.0	68.5	87.3	-1.5	0.0	0.0	0.0	0.0	-0.0	-76.5	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_3", ID: "Cr_Inv_3"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396084.98	4946901.42	134.03	0	63	68.1	-88.0	0.0	0.0	69.0	0.1	-5.2	0.0	0.0	0.0	0.0	-0.0	4.2	-88.0
2	396084.98	4946901.42	134.03	0	125	78.9	-88.0	0.0	0.0	69.0	0.3	3.9	0.0	0.0	0.0	0.0	-0.0	5.8	-88.0
3	396084.98	4946901.42	134.03	0	250	85.5	-88.0	0.0	0.0	69.0	0.8	2.7	0.0	0.0	0.0	0.0	-0.0	13.0	-88.0
4	396084.98	4946901.42	134.03	0	500	87.3	-88.0	0.0	0.0	69.0	1.5	-1.1	0.0	0.0	0.0	0.0	-0.0	17.9	-88.0
5	396084.98	4946901.42	134.03	0	1000	83.7	-88.0	0.0	0.0	69.0	2.9	-1.6	0.0	0.0	0.0	0.0	-0.0	13.4	-88.0
6	396084.98	4946901.42	134.03	0	2000	79.1	-88.0	0.0	0.0	69.0	7.6	-1.6	0.0	0.0	0.0	0.0	-0.0	4.1	-88.0
7	396084.98	4946901.42	134.03	0	4000	70.0	-88.0	0.0	0.0	69.0	25.9	-1.6	0.0	0.0	0.0	0.0	-0.0	-23.3	-88.0
8	396084.98	4946901.42	134.03	0	8000	77.7	-88.0	0.0	0.0	69.0	92.4	-1.6	0.0	0.0	0.0	0.0	-0.0	-82.1	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_4", ID: "Cr_Inv_4"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396084.98	4946787.02	133.30	0	63	68.1	-88.0	0.0	0.0	69.5	0.1	-5.2	0.0	0.0	0.0	0.0	-0.0	3.7	-88.0
2	396084.98	4946787.02	133.30	0	125	78.9	-88.0	0.0	0.0	69.5	0.4	3.9	0.0	0.0	0.0	0.0	-0.0	5.1	-88.0
3	396084.98	4946787.02	133.30	0	250	85.5	-88.0	0.0	0.0	69.5	0.9	2.7	0.0	0.0	0.0	0.0	-0.0	12.4	-88.0
4	396084.98	4946787.02	133.30	0	500	87.3	-88.0	0.0	0.0	69.5	1.6	-1.1	0.0	0.0	0.0	0.0	-0.0	17.3	-88.0
5	396084.98	4946787.02	133.30	0	1000	83.7	-88.0	0.0	0.0	69.5	3.1	-1.6	0.0	0.0	0.0	0.0	-0.0	12.6	-88.0
6	396084.98	4946787.02	133.30	0	2000	79.1	-88.0	0.0	0.0	69.5	8.2	-1.6	0.0	0.0	0.0	0.0	-0.0	3.0	-88.0
7	396084.98	4946787.02	133.30	0	4000	70.0	-88.0	0.0	0.0	69.5	27.7	-1.6	0.0	0.0	0.0	0.0	-0.0	-25.7	-88.0
8	396084.98	4946787.02	133.30	0	8000	77.7	-88.0	0.0	0.0	69.5	98.8	-1.6	0.0	0.0	0.0	0.0	-0.0	-89.0	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_5", ID: "Cr_Inv_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396402.93	4946882.82	137.60	0	63	68.1	-88.0	0.0	0.0	65.5	0.1	-4.8	0.0	0.0	0.0	0.0	-0.0	7.3	-88.0
2	396402.93	4946882.82	137.60	0	125	78.9	-88.0	0.0	0.0	65.5	0.2	3.2	0.0	0.0	0.0	0.0	-0.0	10.0	-88.0
3	396402.93	4946882.82	137.60	0	250	85.5	-88.0	0.0	0.0	65.5	0.6	2.8	0.0	0.0	0.0	0.0	-0.0	16.6	-88.0
4	396402.93	4946882.82	137.60	0	500	87.3	-88.0	0.0	0.0	65.5	1.0	-1.0	0.0	0.0	0.0	0.0	-0.0	21.8	-88.0
5	396402.93	4946882.82	137.60	0	1000	83.7	-88.0	0.0	0.0	65.5	1.9	-1.4	0.0	0.0	0.0	0.0	-0.0	17.7	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_5", ID: "Cr_Inv_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
6	396402.93	4946882.82	137.60	0	2000	79.1	-88.0	0.0	0.0	65.5	5.1	-1.4	0.0	0.0	0.0	0.0	-0.0	9.9	-88.0
7	396402.93	4946882.82	137.60	0	4000	70.0	-88.0	0.0	0.0	65.5	17.4	-1.4	0.0	0.0	0.0	0.0	-0.0	-11.5	-88.0
8	396402.93	4946882.82	137.60	0	8000	77.7	-88.0	0.0	0.0	65.5	62.1	-1.4	0.0	0.0	0.0	0.0	-0.0	-48.5	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_6", ID: "Cr_Inv_6"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396435.06	4947022.25	137.91	0	63	68.1	-88.0	0.0	0.0	63.5	0.1	-4.5	0.0	0.0	0.0	0.0	-0.0	9.0	-88.0
2	396435.06	4947022.25	137.91	0	125	78.9	-88.0	0.0	0.0	63.5	0.2	2.8	0.0	0.0	0.0	0.0	-0.0	12.3	-88.0
3	396435.06	4947022.25	137.91	0	250	85.5	-88.0	0.0	0.0	63.5	0.4	2.9	0.0	0.0	0.0	0.0	-0.0	18.6	-88.0
4	396435.06	4947022.25	137.91	0	500	87.3	-88.0	0.0	0.0	63.5	0.8	-0.9	0.0	0.0	0.0	0.0	-0.0	23.9	-88.0
5	396435.06	4947022.25	137.91	0	1000	83.7	-88.0	0.0	0.0	63.5	1.6	-1.3	0.0	0.0	0.0	0.0	-0.0	19.9	-88.0
6	396435.06	4947022.25	137.91	0	2000	79.1	-88.0	0.0	0.0	63.5	4.1	-1.4	0.0	0.0	0.0	0.0	-0.0	12.8	-88.0
7	396435.06	4947022.25	137.91	0	4000	70.0	-88.0	0.0	0.0	63.5	13.9	-1.4	0.0	0.0	0.0	0.0	-0.0	-6.1	-88.0
8	396435.06	4947022.25	137.91	0	8000	77.7	-88.0	0.0	0.0	63.5	49.5	-1.4	0.0	0.0	0.0	0.0	-0.0	-34.0	-88.0

Point Source, ISO 9613, Name: "Cr_Inv_7", ID: "Cr_Inv_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396392.86	4947145.45	137.60	0	63	68.1	-88.0	0.0	0.0	63.4	0.1	-4.5	0.0	0.0	0.0	0.0	-0.0	9.1	-88.0
2	396392.86	4947145.45	137.60	0	125	78.9	-88.0	0.0	0.0	63.4	0.2	2.8	0.0	0.0	0.0	0.0	-0.0	12.5	-88.0
3	396392.86	4947145.45	137.60	0	250	85.5	-88.0	0.0	0.0	63.4	0.4	2.9	0.0	0.0	0.0	0.0	-0.0	18.7	-88.0
4	396392.86	4947145.45	137.60	0	500	87.3	-88.0	0.0	0.0	63.4	0.8	-0.9	0.0	0.0	0.0	0.0	-0.0	24.0	-88.0
5	396392.86	4947145.45	137.60	0	1000	83.7	-88.0	0.0	0.0	63.4	1.5	-1.3	0.0	0.0	0.0	0.0	-0.0	20.1	-88.0
6	396392.86	4947145.45	137.60	0	2000	79.1	-88.0	0.0	0.0	63.4	4.0	-1.3	0.0	0.0	0.0	0.0	-0.0	13.0	-88.0
7	396392.86	4947145.45	137.60	0	4000	70.0	-88.0	0.0	0.0	63.4	13.7	-1.3	0.0	0.0	0.0	0.0	-0.0	-5.8	-88.0
8	396392.86	4947145.45	137.60	0	8000	77.7	-88.0	0.0	0.0	63.4	48.9	-1.3	0.0	0.0	0.0	0.0	-0.0	-33.3	-88.0

Point Source, ISO 9613, Name: "Cr_Sub", ID: "Cr_Sub"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396603.39	4947195.87	141.53	0	32	48.0	48.0	0.0	0.0	57.1	0.0	-3.0	0.0	0.0	0.0	0.0	-0.0	-6.1	-6.1
2	396603.39	4947195.87	141.53	0	63	67.2	67.2	0.0	0.0	57.1	0.0	-3.0	0.0	0.0	0.0	0.0	-0.0	13.1	13.1
3	396603.39	4947195.87	141.53	0	125	79.3	79.3	0.0	0.0	57.1	0.1	2.9	0.0	0.0	0.0	0.0	-0.0	19.2	19.2
4	396603.39	4947195.87	141.53	0	250	81.8	81.8	0.0	0.0	57.1	0.2	2.0	0.0	0.0	0.0	0.0	-0.0	22.4	22.4
5	396603.39	4947195.87	141.53	0	500	87.2	87.2	0.0	0.0	57.1	0.4	-0.9	0.0	0.0	0.0	0.0	-0.0	30.6	30.6
6	396603.39	4947195.87	141.53	0	1000	84.4	84.4	0.0	0.0	57.1	0.7	-0.9	0.0	0.0	0.0	0.0	-0.0	27.4	27.4
7	396603.39	4947195.87	141.53	0	2000	80.6	80.6	0.0	0.0	57.1	2.0	-0.9	0.0	0.0	0.0	0.0	-0.0	22.4	22.4
8	396603.39	4947195.87	141.53	0	4000	75.4	75.4	0.0	0.0	57.1	6.6	-0.9	0.0	0.0	0.0	0.0	-0.0	12.6	12.6
9	396603.39	4947195.87	141.53	0	8000	66.3	66.3	0.0	0.0	57.1	23.7	-0.9	0.0	0.0	0.0	0.0	-0.0	-13.6	-13.6

Point Source, ISO 9613, Name: "Cr_Trans_1", ID: "Cr_Trans_1"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396132.18	4947156.12	137.58	0	32	37.3	37.3	0.0	0.0	67.6	0.0	-5.1	0.0	0.0	0.0	0.0	-0.0	-25.3	-25.3
2	396132.18	4947156.12	137.58	0	63	56.5	56.5	0.0	0.0	67.6	0.1	-5.1	0.0	0.0	0.0	0.0	-0.0	-6.1	-6.1
3	396132.18	4947156.12	137.58	0	125	68.6	68.6	0.0	0.0	67.6	0.3	3.6	0.0	0.0	0.0	0.0	-0.0	-2.9	-2.9
4	396132.18	4947156.12	137.58	0	250	71.1	71.1	0.0	0.0	67.6	0.7	2.8	0.0	0.0	0.0	0.0	-0.0	0.1	0.1
5	396132.18	4947156.12	137.58	0	500	76.5	76.5	0.0	0.0	67.6	1.3	-1.1	0.0	0.0	0.0	0.0	-0.0	8.7	8.7
6	396132.18	4947156.12	137.58	0	1000	73.7	73.7	0.0	0.0	67.6	2.5	-1.5	0.0	0.0	0.0	0.0	-0.0	5.2	5.2
7	396132.18	4947156.12	137.58	0	2000	69.9	69.9	0.0	0.0	67.6	6.5	-1.5	0.0	0.0	0.0	0.0	-0.0	-2.7	-2.7
8	396132.18	4947156.12	137.58	0	4000	64.7	64.7	0.0	0.0	67.6	22.1	-1.5	0.0	0.0	0.0	0.0	-0.0	-23.5	-23.5
9	396132.18	4947156.12	137.58	0	8000	55.6	55.6	0.0	0.0	67.6	78.8	-1.5	0.0	0.0	0.0	0.0	-0.0	-89.3	-89.3

Point Source, ISO 9613, Name: "Cr_Trans_2", ID: "Cr_Trans_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396089.98	4947024.12	135.12	0	32	37.3	37.3	0.0	0.0	68.4	0.0	-5.1	0.0	0.0	0.0	0.0	-0.0	-26.0	-26.0
2	396089.98	4947024.12	135.12	0	63	56.5	56.5	0.0	0.0	68.4	0.1	-5.1	0.0	0.0	0.0	0.0	-0.0	-6.9	-6.9
3	396089.98	4947024.12	135.12	0	125	68.6	68.6	0.0	0.0	68.4	0.3	3.8	0.0	0.0	0.0	0.0	-0.0	-3.9	-3.9
4	396089.98	4947024.12	135.12	0	250	71.1	71.1	0.0	0.0	68.4	0.8	2.7	0.0	0.0	0.0	0.0	-0.0	-0.8	-0.8
5	396089.98	4947024.12	135.12	0	500	76.5	76.5	0.0	0.0	68.4	1.4	-1.1	0.0	0.0	0.0	0.0	-0.0	7.7	7.7
6	396089.98	4947024.12	135.12	0	1000	73.7	73.7	0.0	0.0	68.4	2.7	-1.5	0.0	0.0	0.0	0.0	-0.0	4.1	4.1

Point Source, ISO 9613, Name: "Cr_Trans_2", ID: "Cr_Trans_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
7	396089.98	4947024.12	135.12	0	2000	69.9	69.9	0.0	0.0	68.4	7.2	-1.5	0.0	0.0	0.0	0.0	-0.0	-4.1	-4.1
8	396089.98	4947024.12	135.12	0	4000	64.7	64.7	0.0	0.0	68.4	24.3	-1.5	0.0	0.0	0.0	0.0	-0.0	-26.5	-26.5
9	396089.98	4947024.12	135.12	0	8000	55.6	55.6	0.0	0.0	68.4	86.8	-1.5	0.0	0.0	0.0	0.0	-0.0	-98.0	-98.0

Point Source, ISO 9613, Name: "Cr_Trans_3", ID: "Cr_Trans_3"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396089.98	4946900.92	134.17	0	32	37.3	37.3	0.0	0.0	68.9	0.0	-5.2	0.0	0.0	0.0	0.0	-0.0	-26.4	-26.4
2	396089.98	4946900.92	134.17	0	63	56.5	56.5	0.0	0.0	68.9	0.1	-5.2	0.0	0.0	0.0	0.0	-0.0	-7.3	-7.3
3	396089.98	4946900.92	134.17	0	125	68.6	68.6	0.0	0.0	68.9	0.3	3.8	0.0	0.0	0.0	0.0	-0.0	-4.5	-4.5
4	396089.98	4946900.92	134.17	0	250	71.1	71.1	0.0	0.0	68.9	0.8	2.7	0.0	0.0	0.0	0.0	-0.0	-1.4	-1.4
5	396089.98	4946900.92	134.17	0	500	76.5	76.5	0.0	0.0	68.9	1.5	-1.1	0.0	0.0	0.0	0.0	-0.0	7.2	7.2
6	396089.98	4946900.92	134.17	0	1000	73.7	73.7	0.0	0.0	68.9	2.9	-1.6	0.0	0.0	0.0	0.0	-0.0	3.5	3.5
7	396089.98	4946900.92	134.17	0	2000	69.9	69.9	0.0	0.0	68.9	7.6	-1.6	0.0	0.0	0.0	0.0	-0.0	-5.0	-5.0
8	396089.98	4946900.92	134.17	0	4000	64.7	64.7	0.0	0.0	68.9	25.8	-1.6	0.0	0.0	0.0	0.0	-0.0	-28.4	-28.4
9	396089.98	4946900.92	134.17	0	8000	55.6	55.6	0.0	0.0	68.9	91.9	-1.6	0.0	0.0	0.0	0.0	-0.0	-103.6	-103.6

Point Source, ISO 9613, Name: "Cr_Trans_4", ID: "Cr_Trans_4"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396089.98	4946786.52	133.46	0	32	37.3	37.3	0.0	0.0	69.5	0.0	-5.2	0.0	0.0	0.0	0.0	-0.0	-27.0	-27.0
2	396089.98	4946786.52	133.46	0	63	56.5	56.5	0.0	0.0	69.5	0.1	-5.2	0.0	0.0	0.0	0.0	-0.0	-7.9	-7.9
3	396089.98	4946786.52	133.46	0	125	68.6	68.6	0.0	0.0	69.5	0.4	3.9	0.0	0.0	0.0	0.0	-0.0	-5.2	-5.2
4	396089.98	4946786.52	133.46	0	250	71.1	71.1	0.0	0.0	69.5	0.9	2.7	0.0	0.0	0.0	0.0	-0.0	-2.0	-2.0
5	396089.98	4946786.52	133.46	0	500	76.5	76.5	0.0	0.0	69.5	1.6	-1.1	0.0	0.0	0.0	0.0	-0.0	6.5	6.5
6	396089.98	4946786.52	133.46	0	1000	73.7	73.7	0.0	0.0	69.5	3.1	-1.6	0.0	0.0	0.0	0.0	-0.0	2.7	2.7
7	396089.98	4946786.52	133.46	0	2000	69.9	69.9	0.0	0.0	69.5	8.1	-1.6	0.0	0.0	0.0	0.0	-0.0	-6.1	-6.1
8	396089.98	4946786.52	133.46	0	4000	64.7	64.7	0.0	0.0	69.5	27.6	-1.6	0.0	0.0	0.0	0.0	-0.0	-30.8	-30.8
9	396089.98	4946786.52	133.46	0	8000	55.6	55.6	0.0	0.0	69.5	98.3	-1.6	0.0	0.0	0.0	0.0	-0.0	-110.6	-110.6

Point Source, ISO 9613, Name: "Cr_Trans_5", ID: "Cr_Trans_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396397.93	4946883.32	137.58	0	32	37.3	37.3	0.0	0.0	65.6	0.0	-4.8	0.0	0.0	0.0	0.0	-0.0	-23.5	-23.5
2	396397.93	4946883.32	137.58	0	63	56.5	56.5	0.0	0.0	65.6	0.1	-4.8	0.0	0.0	0.0	0.0	-0.0	-4.3	-4.3
3	396397.93	4946883.32	137.58	0	125	68.6	68.6	0.0	0.0	65.6	0.2	3.2	0.0	0.0	0.0	0.0	-0.0	-0.4	-0.4
4	396397.93	4946883.32	137.58	0	250	71.1	71.1	0.0	0.0	65.6	0.6	2.8	0.0	0.0	0.0	0.0	-0.0	2.1	2.1
5	396397.93	4946883.32	137.58	0	500	76.5	76.5	0.0	0.0	65.6	1.0	-1.0	0.0	0.0	0.0	0.0	-0.0	10.9	10.9
6	396397.93	4946883.32	137.58	0	1000	73.7	73.7	0.0	0.0	65.6	2.0	-1.4	0.0	0.0	0.0	0.0	-0.0	7.6	7.6
7	396397.93	4946883.32	137.58	0	2000	69.9	69.9	0.0	0.0	65.6	5.2	-1.4	0.0	0.0	0.0	0.0	-0.0	0.6	0.6
8	396397.93	4946883.32	137.58	0	4000	64.7	64.7	0.0	0.0	65.6	17.5	-1.4	0.0	0.0	0.0	0.0	-0.0	-17.0	-17.0
9	396397.93	4946883.32	137.58	0	8000	55.6	55.6	0.0	0.0	65.6	62.5	-1.4	0.0	0.0	0.0	0.0	-0.0	-71.1	-71.1

Point Source, ISO 9613, Name: "Cr_Trans_6", ID: "Cr_Trans_6"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396440.13	4947021.75	137.94	0	32	37.3	37.3	0.0	0.0	63.5	0.0	-4.5	0.0	0.0	0.0	0.0	-0.0	-21.7	-21.7
2	396440.13	4947021.75	137.94	0	63	56.5	56.5	0.0	0.0	63.5	0.1	-4.5	0.0	0.0	0.0	0.0	-0.0	-2.5	-2.5
3	396440.13	4947021.75	137.94	0	125	68.6	68.6	0.0	0.0	63.5	0.2	2.8	0.0	0.0	0.0	0.0	-0.0	2.1	2.1
4	396440.13	4947021.75	137.94	0	250	71.1	71.1	0.0	0.0	63.5	0.4	2.9	0.0	0.0	0.0	0.0	-0.0	4.3	4.3
5	396440.13	4947021.75	137.94	0	500	76.5	76.5	0.0	0.0	63.5	0.8	-0.9	0.0	0.0	0.0	0.0	-0.0	13.1	13.1
6	396440.13	4947021.75	137.94	0	1000	73.7	73.7	0.0	0.0	63.5	1.5	-1.3	0.0	0.0	0.0	0.0	-0.0	10.0	10.0
7	396440.13	4947021.75	137.94	0	2000	69.9	69.9	0.0	0.0	63.5	4.0	-1.3	0.0	0.0	0.0	0.0	-0.0	3.7	3.7
8	396440.13	4947021.75	137.94	0	4000	64.7	64.7	0.0	0.0	63.5	13.8	-1.3	0.0	0.0	0.0	0.0	-0.0	-11.2	-11.2
9	396440.13	4947021.75	137.94	0	8000	55.6	55.6	0.0	0.0	63.5	49.0	-1.3	0.0	0.0	0.0	0.0	-0.0	-55.6	-55.6

Point Source, ISO 9613, Name: "Cr_Trans_7", ID: "Cr_Trans_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	396397.93	4947144.95	137.58	0	32	37.3	37.3	0.0	0.0	63.3	0.0	-4.5	0.0	0.0	0.0	0.0	-0.0	-21.6	-21.6
2	396397.93	4947144.95	137.58	0	63	56.5	56.5	0.0	0.0	63.3	0.1	-4.5	0.0	0.0	0.0	0.0	-0.0	-2.4	-2.4
3	396397.93	4947144.95	137.58	0	125	68.6	68.6	0.0	0.0	63.3	0.2	2.8	0.0	0.0	0.0	0.0	-0.0	2.3	2.3
4	396397.93	4947144.95	137.58	0	250	71.1	71.1	0.0	0.0	63.3	0.4	2.9	0.0	0.0	0.0	0.0	-0.0	4.4	4.4

Point Source, ISO 9613, Name: "Cr_Trans_7", ID: "Cr_Trans_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
5	396397.93	4947144.95	137.58	0	500	76.5	76.5	0.0	0.0	63.3	0.8	-0.9	0.0	0.0	0.0	0.0	-0.0	13.2	13.2
6	396397.93	4947144.95	137.58	0	1000	73.7	73.7	0.0	0.0	63.3	1.5	-1.3	0.0	0.0	0.0	0.0	-0.0	10.2	10.2
7	396397.93	4947144.95	137.58	0	2000	69.9	69.9	0.0	0.0	63.3	4.0	-1.3	0.0	0.0	0.0	0.0	-0.0	3.9	3.9
8	396397.93	4947144.95	137.58	0	4000	64.7	64.7	0.0	0.0	63.3	13.6	-1.3	0.0	0.0	0.0	0.0	-0.0	-10.9	-10.9
9	396397.93	4947144.95	137.58	0	8000	55.6	55.6	0.0	0.0	63.3	48.4	-1.3	0.0	0.0	0.0	0.0	-0.0	-54.8	-54.8

Point Source, ISO 9613, Name: "Mc_Inv_1", ID: "Mc_Inv_1"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398808.99	4948423.32	131.10	0	63	68.1	-88.0	0.0	0.0	78.4	0.3	-5.7	0.0	0.0	4.8	0.0	-0.0	-9.6	-88.0
2	398808.99	4948423.32	131.10	0	125	78.9	-88.0	0.0	0.0	78.4	1.0	4.2	0.0	0.0	0.6	0.0	-0.0	-5.2	-88.0
3	398808.99	4948423.32	131.10	0	250	85.5	-88.0	0.0	0.0	78.4	2.4	2.5	0.0	0.0	2.2	0.0	-0.0	-0.1	-88.0
4	398808.99	4948423.32	131.10	0	500	87.3	-88.0	0.0	0.0	78.4	4.5	-1.3	0.0	0.0	4.8	0.0	-0.0	1.0	-88.0
5	398808.99	4948423.32	131.10	0	1000	83.7	-88.0	0.0	0.0	78.4	8.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-6.3	-88.0
6	398808.99	4948423.32	131.10	0	2000	79.1	-88.0	0.0	0.0	78.4	22.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-24.9	-88.0
7	398808.99	4948423.32	131.10	0	4000	70.0	-88.0	0.0	0.0	78.4	76.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-87.9	-88.0
8	398808.99	4948423.32	131.10	0	8000	77.7	-88.0	0.0	0.0	78.4	272.7	-1.7	0.0	0.0	4.8	0.0	-0.0	-276.4	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_2", ID: "Mc_Inv_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398918.48	4948533.60	132.60	0	63	68.1	-88.0	0.0	0.0	78.9	0.3	-5.7	0.0	0.0	4.8	0.0	-0.0	-10.1	-88.0
2	398918.48	4948533.60	132.60	0	125	78.9	-88.0	0.0	0.0	78.9	1.0	4.2	0.0	0.0	0.6	0.0	-0.0	-5.8	-88.0
3	398918.48	4948533.60	132.60	0	250	85.5	-88.0	0.0	0.0	78.9	2.6	2.5	0.0	0.0	2.2	0.0	-0.0	-0.8	-88.0
4	398918.48	4948533.60	132.60	0	500	87.3	-88.0	0.0	0.0	78.9	4.8	-1.3	0.0	0.0	4.8	0.0	-0.0	0.1	-88.0
5	398918.48	4948533.60	132.60	0	1000	83.7	-88.0	0.0	0.0	78.9	9.1	-1.7	0.0	0.0	4.8	0.0	-0.0	-7.3	-88.0
6	398918.48	4948533.60	132.60	0	2000	79.1	-88.0	0.0	0.0	78.9	24.0	-1.7	0.0	0.0	4.8	0.0	-0.0	-26.9	-88.0
7	398918.48	4948533.60	132.60	0	4000	70.0	-88.0	0.0	0.0	78.9	81.4	-1.7	0.0	0.0	4.8	0.0	-0.0	-93.3	-88.0
8	398918.48	4948533.60	132.60	0	8000	77.7	-88.0	0.0	0.0	78.9	290.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-294.5	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_3", ID: "Mc_Inv_3"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398954.68	4948664.80	132.35	0	63	68.1	-88.0	0.0	0.0	79.3	0.3	-5.8	0.0	0.0	4.8	0.0	-0.0	-10.5	-88.0
2	398954.68	4948664.80	132.35	0	125	78.9	-88.0	0.0	0.0	79.3	1.1	4.2	0.0	0.0	0.6	0.0	-0.0	-6.2	-88.0
3	398954.68	4948664.80	132.35	0	250	85.5	-88.0	0.0	0.0	79.3	2.7	2.5	0.0	0.0	2.3	0.0	-0.0	-1.2	-88.0
4	398954.68	4948664.80	132.35	0	500	87.3	-88.0	0.0	0.0	79.3	5.0	-1.3	0.0	0.0	4.8	0.0	-0.0	-0.4	-88.0
5	398954.68	4948664.80	132.35	0	1000	83.7	-88.0	0.0	0.0	79.3	9.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-8.1	-88.0
6	398954.68	4948664.80	132.35	0	2000	79.1	-88.0	0.0	0.0	79.3	25.0	-1.7	0.0	0.0	4.8	0.0	-0.0	-28.2	-88.0
7	398954.68	4948664.80	132.35	0	4000	70.0	-88.0	0.0	0.0	79.3	84.7	-1.7	0.0	0.0	4.8	0.0	-0.0	-97.0	-88.0
8	398954.68	4948664.80	132.35	0	8000	77.7	-88.0	0.0	0.0	79.3	302.1	-1.7	0.0	0.0	4.8	0.0	-0.0	-306.7	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_4", ID: "Mc_Inv_4"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398990.88	4948812.40	132.21	0	63	68.1	-88.0	0.0	0.0	79.6	0.3	-5.8	0.0	0.0	4.8	0.0	-0.0	-10.9	-88.0
2	398990.88	4948812.40	132.21	0	125	78.9	-88.0	0.0	0.0	79.6	1.1	4.2	0.0	0.0	0.6	0.0	-0.0	-6.6	-88.0
3	398990.88	4948812.40	132.21	0	250	85.5	-88.0	0.0	0.0	79.6	2.8	2.5	0.0	0.0	2.3	0.0	-0.0	-1.7	-88.0
4	398990.88	4948812.40	132.21	0	500	87.3	-88.0	0.0	0.0	79.6	5.2	-1.3	0.0	0.0	4.8	0.0	-0.0	-1.0	-88.0
5	398990.88	4948812.40	132.21	0	1000	83.7	-88.0	0.0	0.0	79.6	9.9	-1.7	0.0	0.0	4.8	0.0	-0.0	-8.8	-88.0
6	398990.88	4948812.40	132.21	0	2000	79.1	-88.0	0.0	0.0	79.6	26.1	-1.7	0.0	0.0	4.8	0.0	-0.0	-29.6	-88.0
7	398990.88	4948812.40	132.21	0	4000	70.0	-88.0	0.0	0.0	79.6	88.4	-1.7	0.0	0.0	4.8	0.0	-0.0	-101.1	-88.0
8	398990.88	4948812.40	132.21	0	8000	77.7	-88.0	0.0	0.0	79.6	315.4	-1.7	0.0	0.0	4.8	0.0	-0.0	-320.4	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_5", ID: "Mc_Inv_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399195.30	4948918.00	132.60	0	63	68.1	-88.0	0.0	0.0	80.3	0.4	-5.8	0.0	0.0	4.8	0.0	-0.0	-11.6	-88.0
2	399195.30	4948918.00	132.60	0	125	78.9	-88.0	0.0	0.0	80.3	1.2	4.2	0.0	0.0	0.6	0.0	-0.0	-7.4	-88.0
3	399195.30	4948918.00	132.60	0	250	85.5	-88.0	0.0	0.0	80.3	3.0	2.5	0.0	0.0	2.3	0.0	-0.0	-2.6	-88.0
4	399195.30	4948918.00	132.60	0	500	87.3	-88.0	0.0	0.0	80.3	5.6	-1.3	0.0	0.0	4.8	0.0	-0.0	-2.1	-88.0
5	399195.30	4948918.00	132.60	0	1000	83.7	-88.0	0.0	0.0	80.3	10.7	-1.7	0.0	0.0	4.8	0.0	-0.0	-10.4	-88.0
6	399195.30	4948918.00	132.60	0	2000	79.1	-88.0	0.0	0.0	80.3	28.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-32.5	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_5", ID: "Mc_Inv_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
7	399195.30	4948918.00	132.60	0	4000	70.0	-88.0	0.0	0.0	80.3	95.9	-1.7	0.0	0.0	4.8	0.0	-0.0	-109.3	-88.0
8	399195.30	4948918.00	132.60	0	8000	77.7	-88.0	0.0	0.0	80.3	342.0	-1.7	0.0	0.0	4.8	0.0	-0.0	-347.7	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_6", ID: "Mc_Inv_6"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399195.30	4948721.20	132.60	0	63	68.1	-88.0	0.0	0.0	80.0	0.3	-5.8	0.0	0.0	4.8	0.0	-0.0	-11.2	-88.0
2	399195.30	4948721.20	132.60	0	125	78.9	-88.0	0.0	0.0	80.0	1.2	4.2	0.0	0.0	0.6	0.0	-0.0	-7.0	-88.0
3	399195.30	4948721.20	132.60	0	250	85.5	-88.0	0.0	0.0	80.0	2.9	2.5	0.0	0.0	2.3	0.0	-0.0	-2.2	-88.0
4	399195.30	4948721.20	132.60	0	500	87.3	-88.0	0.0	0.0	80.0	5.4	-1.3	0.0	0.0	4.8	0.0	-0.0	-1.6	-88.0
5	399195.30	4948721.20	132.60	0	1000	83.7	-88.0	0.0	0.0	80.0	10.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-9.7	-88.0
6	399195.30	4948721.20	132.60	0	2000	79.1	-88.0	0.0	0.0	80.0	27.2	-1.7	0.0	0.0	4.8	0.0	-0.0	-31.2	-88.0
7	399195.30	4948721.20	132.60	0	4000	70.0	-88.0	0.0	0.0	80.0	92.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-105.4	-88.0
8	399195.30	4948721.20	132.60	0	8000	77.7	-88.0	0.0	0.0	80.0	329.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-334.7	-88.0

Point Source, ISO 9613, Name: "Mc_Inv_7", ID: "Mc_Inv_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399296.33	4948602.33	132.81	0	63	68.1	-88.0	0.0	0.0	80.1	0.4	-5.8	0.0	0.0	4.8	0.0	-0.0	-11.3	-88.0
2	399296.33	4948602.33	132.81	0	125	78.9	-88.0	0.0	0.0	80.1	1.2	4.2	0.0	0.0	0.6	0.0	-0.0	-7.1	-88.0
3	399296.33	4948602.33	132.81	0	250	85.5	-88.0	0.0	0.0	80.1	3.0	2.5	0.0	0.0	2.3	0.0	-0.0	-2.3	-88.0
4	399296.33	4948602.33	132.81	0	500	87.3	-88.0	0.0	0.0	80.1	5.5	-1.3	0.0	0.0	4.8	0.0	-0.0	-1.7	-88.0
5	399296.33	4948602.33	132.81	0	1000	83.7	-88.0	0.0	0.0	80.1	10.4	-1.7	0.0	0.0	4.8	0.0	-0.0	-9.8	-88.0
6	399296.33	4948602.33	132.81	0	2000	79.1	-88.0	0.0	0.0	80.1	27.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-31.5	-88.0
7	399296.33	4948602.33	132.81	0	4000	70.0	-88.0	0.0	0.0	80.1	93.2	-1.7	0.0	0.0	4.8	0.0	-0.0	-106.3	-88.0
8	399296.33	4948602.33	132.81	0	8000	77.7	-88.0	0.0	0.0	80.1	332.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-337.9	-88.0

Point Source, ISO 9613, Name: "Mc_Sub", ID: "Mc_Sub"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399149.14	4948482.67	136.18	0	32	48.0	48.0	0.0	0.0	79.5	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-25.9	-25.9
2	399149.14	4948482.67	136.18	0	63	67.2	67.2	0.0	0.0	79.5	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-6.9	-6.9
3	399149.14	4948482.67	136.18	0	125	79.3	79.3	0.0	0.0	79.5	1.1	3.9	0.0	0.0	0.0	0.0	-0.0	-5.2	-5.2
4	399149.14	4948482.67	136.18	0	250	81.8	81.8	0.0	0.0	79.5	2.8	1.3	0.0	0.0	0.0	0.0	-0.0	-1.7	-1.7
5	399149.14	4948482.67	136.18	0	500	87.2	87.2	0.0	0.0	79.5	5.1	-1.7	0.0	0.0	0.0	0.0	-0.0	4.3	4.3
6	399149.14	4948482.67	136.18	0	1000	84.4	84.4	0.0	0.0	79.5	9.7	-1.7	0.0	0.0	0.0	0.0	-0.0	-3.1	-3.1
7	399149.14	4948482.67	136.18	0	2000	80.6	80.6	0.0	0.0	79.5	25.7	-1.7	0.0	0.0	0.0	0.0	-0.0	-22.9	-22.9
8	399149.14	4948482.67	136.18	0	4000	75.4	75.4	0.0	0.0	79.5	87.1	-1.7	0.0	0.0	0.0	0.0	-0.0	-89.5	-89.5
9	399149.14	4948482.67	136.18	0	8000	66.3	66.3	0.0	0.0	79.5	310.7	-1.7	0.0	0.0	0.0	0.0	-0.0	-322.2	-322.2

Point Source, ISO 9613, Name: "Mc_Trans_1", ID: "Mc_Trans_1"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398812.88	4948426.50	131.07	0	32	37.3	37.3	0.0	0.0	78.4	0.1	-5.7	0.0	0.0	4.8	0.0	-0.0	-40.2	-40.2
2	398812.88	4948426.50	131.07	0	63	56.5	56.5	0.0	0.0	78.4	0.3	-5.7	0.0	0.0	4.8	0.0	-0.0	-21.2	-21.2
3	398812.88	4948426.50	131.07	0	125	68.6	68.6	0.0	0.0	78.4	1.0	4.2	0.0	0.0	0.6	0.0	-0.0	-15.5	-15.5
4	398812.88	4948426.50	131.07	0	250	71.1	71.1	0.0	0.0	78.4	2.4	2.6	0.0	0.0	2.2	0.0	-0.0	-14.5	-14.5
5	398812.88	4948426.50	131.07	0	500	76.5	76.5	0.0	0.0	78.4	4.5	-1.3	0.0	0.0	4.8	0.0	-0.0	-9.9	-9.9
6	398812.88	4948426.50	131.07	0	1000	73.7	73.7	0.0	0.0	78.4	8.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-16.3	-16.3
7	398812.88	4948426.50	131.07	0	2000	69.9	69.9	0.0	0.0	78.4	22.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-34.1	-34.1
8	398812.88	4948426.50	131.07	0	4000	64.7	64.7	0.0	0.0	78.4	76.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-93.3	-93.3
9	398812.88	4948426.50	131.07	0	8000	55.6	55.6	0.0	0.0	78.4	273.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-299.1	-299.1

Point Source, ISO 9613, Name: "Mc_Trans_2", ID: "Mc_Trans_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398923.48	4948533.10	132.58	0	32	37.3	37.3	0.0	0.0	78.9	0.1	-5.7	0.0	0.0	4.8	0.0	-0.0	-40.7	-40.7
2	398923.48	4948533.10	132.58	0	63	56.5	56.5	0.0	0.0	78.9	0.3	-5.7	0.0	0.0	4.8	0.0	-0.0	-21.8	-21.8
3	398923.48	4948533.10	132.58	0	125	68.6	68.6	0.0	0.0	78.9	1.0	4.2	0.0	0.0	0.6	0.0	-0.0	-16.1	-16.1
4	398923.48	4948533.10	132.58	0	250	71.1	71.1	0.0	0.0	78.9	2.6	2.6	0.0	0.0	2.2	0.0	-0.0	-15.2	-15.2
5	398923.48	4948533.10	132.58	0	500	76.5	76.5	0.0	0.0	78.9	4.8	-1.3	0.0	0.0	4.8	0.0	-0.0	-10.7	-10.7
6	398923.48	4948533.10	132.58	0	1000	73.7	73.7	0.0	0.0	78.9	9.1	-1.7	0.0	0.0	4.8	0.0	-0.0	-17.4	-17.4
7	398923.48	4948533.10	132.58	0	2000	69.9	69.9	0.0	0.0	78.9	24.0	-1.7	0.0	0.0	4.8	0.0	-0.0	-36.1	-36.1

Point Source, ISO 9613, Name: "Mc_Trans_2", ID: "Mc_Trans_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
8	398923.48	4948533.10	132.58	0	4000	64.7	64.7	0.0	0.0	78.9	81.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-98.8	-98.8
9	398923.48	4948533.10	132.58	0	8000	55.6	55.6	0.0	0.0	78.9	290.8	-1.7	0.0	0.0	4.8	0.0	-0.0	-317.1	-317.1

Point Source, ISO 9613, Name: "Mc_Trans_3", ID: "Mc_Trans_3"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398959.68	4948664.30	132.47	0	32	37.3	37.3	0.0	0.0	79.3	0.1	-5.8	0.0	0.0	4.8	0.0	-0.0	-41.1	-41.1
2	398959.68	4948664.30	132.47	0	63	56.5	56.5	0.0	0.0	79.3	0.3	-5.8	0.0	0.0	4.8	0.0	-0.0	-22.1	-22.1
3	398959.68	4948664.30	132.47	0	125	68.6	68.6	0.0	0.0	79.3	1.1	4.2	0.0	0.0	0.6	0.0	-0.0	-16.5	-16.5
4	398959.68	4948664.30	132.47	0	250	71.1	71.1	0.0	0.0	79.3	2.7	2.5	0.0	0.0	2.2	0.0	-0.0	-15.6	-15.6
5	398959.68	4948664.30	132.47	0	500	76.5	76.5	0.0	0.0	79.3	5.0	-1.3	0.0	0.0	4.8	0.0	-0.0	-11.3	-11.3
6	398959.68	4948664.30	132.47	0	1000	73.7	73.7	0.0	0.0	79.3	9.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-18.1	-18.1
7	398959.68	4948664.30	132.47	0	2000	69.9	69.9	0.0	0.0	79.3	25.0	-1.7	0.0	0.0	4.8	0.0	-0.0	-37.4	-37.4
8	398959.68	4948664.30	132.47	0	4000	64.7	64.7	0.0	0.0	79.3	84.8	-1.7	0.0	0.0	4.8	0.0	-0.0	-102.4	-102.4
9	398959.68	4948664.30	132.47	0	8000	55.6	55.6	0.0	0.0	79.3	302.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-329.3	-329.3

Point Source, ISO 9613, Name: "Mc_Trans_4", ID: "Mc_Trans_4"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398995.88	4948811.90	132.35	0	32	37.3	37.3	0.0	0.0	79.6	0.1	-5.8	0.0	0.0	4.8	0.0	-0.0	-41.4	-41.4
2	398995.88	4948811.90	132.35	0	63	56.5	56.5	0.0	0.0	79.6	0.3	-5.8	0.0	0.0	4.8	0.0	-0.0	-22.5	-22.5
3	398995.88	4948811.90	132.35	0	125	68.6	68.6	0.0	0.0	79.6	1.1	4.2	0.0	0.0	0.6	0.0	-0.0	-16.9	-16.9
4	398995.88	4948811.90	132.35	0	250	71.1	71.1	0.0	0.0	79.6	2.8	2.5	0.0	0.0	2.2	0.0	-0.0	-16.1	-16.1
5	398995.88	4948811.90	132.35	0	500	76.5	76.5	0.0	0.0	79.6	5.2	-1.3	0.0	0.0	4.8	0.0	-0.0	-11.9	-11.9
6	398995.88	4948811.90	132.35	0	1000	73.7	73.7	0.0	0.0	79.6	9.9	-1.7	0.0	0.0	4.8	0.0	-0.0	-18.9	-18.9
7	398995.88	4948811.90	132.35	0	2000	69.9	69.9	0.0	0.0	79.6	26.1	-1.7	0.0	0.0	4.8	0.0	-0.0	-38.9	-38.9
8	398995.88	4948811.90	132.35	0	4000	64.7	64.7	0.0	0.0	79.6	88.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-106.5	-106.5
9	398995.88	4948811.90	132.35	0	8000	55.6	55.6	0.0	0.0	79.6	315.9	-1.7	0.0	0.0	4.8	0.0	-0.0	-342.9	-342.9

Point Source, ISO 9613, Name: "Mc_Trans_5", ID: "Mc_Trans_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399190.23	4948918.50	132.58	0	32	37.3	37.3	0.0	0.0	80.3	0.1	-5.8	0.0	0.0	4.8	0.0	-0.0	-42.1	-42.1
2	399190.23	4948918.50	132.58	0	63	56.5	56.5	0.0	0.0	80.3	0.4	-5.8	0.0	0.0	4.8	0.0	-0.0	-23.2	-23.2
3	399190.23	4948918.50	132.58	0	125	68.6	68.6	0.0	0.0	80.3	1.2	4.2	0.0	0.0	0.6	0.0	-0.0	-17.7	-17.7
4	399190.23	4948918.50	132.58	0	250	71.1	71.1	0.0	0.0	80.3	3.0	2.5	0.0	0.0	2.2	0.0	-0.0	-17.0	-17.0
5	399190.23	4948918.50	132.58	0	500	76.5	76.5	0.0	0.0	80.3	5.6	-1.3	0.0	0.0	4.8	0.0	-0.0	-13.0	-13.0
6	399190.23	4948918.50	132.58	0	1000	73.7	73.7	0.0	0.0	80.3	10.7	-1.7	0.0	0.0	4.8	0.0	-0.0	-20.4	-20.4
7	399190.23	4948918.50	132.58	0	2000	69.9	69.9	0.0	0.0	80.3	28.2	-1.7	0.0	0.0	4.8	0.0	-0.0	-41.7	-41.7
8	399190.23	4948918.50	132.58	0	4000	64.7	64.7	0.0	0.0	80.3	95.8	-1.7	0.0	0.0	4.8	0.0	-0.0	-114.4	-114.4
9	399190.23	4948918.50	132.58	0	8000	55.6	55.6	0.0	0.0	80.3	341.6	-1.7	0.0	0.0	4.8	0.0	-0.0	-369.3	-369.3

Point Source, ISO 9613, Name: "Mc_Trans_6", ID: "Mc_Trans_6"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399190.23	4948721.70	132.58	0	32	37.3	37.3	0.0	0.0	80.0	0.1	-5.8	0.0	0.0	4.8	0.0	-0.0	-41.8	-41.8
2	399190.23	4948721.70	132.58	0	63	56.5	56.5	0.0	0.0	80.0	0.3	-5.8	0.0	0.0	4.8	0.0	-0.0	-22.8	-22.8
3	399190.23	4948721.70	132.58	0	125	68.6	68.6	0.0	0.0	80.0	1.2	4.2	0.0	0.0	0.6	0.0	-0.0	-17.3	-17.3
4	399190.23	4948721.70	132.58	0	250	71.1	71.1	0.0	0.0	80.0	2.9	2.5	0.0	0.0	2.2	0.0	-0.0	-16.6	-16.6
5	399190.23	4948721.70	132.58	0	500	76.5	76.5	0.0	0.0	80.0	5.4	-1.3	0.0	0.0	4.8	0.0	-0.0	-12.4	-12.4
6	399190.23	4948721.70	132.58	0	1000	73.7	73.7	0.0	0.0	80.0	10.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-19.6	-19.6
7	399190.23	4948721.70	132.58	0	2000	69.9	69.9	0.0	0.0	80.0	27.2	-1.7	0.0	0.0	4.8	0.0	-0.0	-40.3	-40.3
8	399190.23	4948721.70	132.58	0	4000	64.7	64.7	0.0	0.0	80.0	92.2	-1.7	0.0	0.0	4.8	0.0	-0.0	-110.5	-110.5
9	399190.23	4948721.70	132.58	0	8000	55.6	55.6	0.0	0.0	80.0	328.9	-1.7	0.0	0.0	4.8	0.0	-0.0	-356.3	-356.3

Point Source, ISO 9613, Name: "Mc_Trans_7", ID: "Mc_Trans_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399296.83	4948607.40	132.71	0	32	37.3	37.3	0.0	0.0	80.1	0.1	-5.8	0.0	0.0	4.8	0.0	-0.0	-41.9	-41.9
2	399296.83	4948607.40	132.71	0	63	56.5	56.5	0.0	0.0	80.1	0.4	-5.8	0.0	0.0	4.8	0.0	-0.0	-22.9	-22.9
3	399296.83	4948607.40	132.71	0	125	68.6	68.6	0.0	0.0	80.1	1.2	4.2	0.0	0.0	0.6	0.0	-0.0	-17.4	-17.4
4	399296.83	4948607.40	132.71	0	250	71.1	71.1	0.0	0.0	80.1	3.0	2.5	0.0	0.0	2.2	0.0	-0.0	-16.7	-16.7
5	399296.83	4948607.40	132.71	0	500	76.5	76.5	0.0	0.0	80.1	5.5	-1.3	0.0	0.0	4.8	0.0	-0.0	-12.6	-12.6

Point Source, ISO 9613, Name: "Mc_Trans_7", ID: "Mc_Trans_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
6	399296.83	4948607.40	132.71	0	1000	73.7	73.7	0.0	0.0	80.1	10.4	-1.7	0.0	0.0	4.8	0.0	-0.0	-19.9	-19.9
7	399296.83	4948607.40	132.71	0	2000	69.9	69.9	0.0	0.0	80.1	27.5	-1.7	0.0	0.0	4.8	0.0	-0.0	-40.8	-40.8
8	399296.83	4948607.40	132.71	0	4000	64.7	64.7	0.0	0.0	80.1	93.3	-1.7	0.0	0.0	4.8	0.0	-0.0	-111.8	-111.8
9	399296.83	4948607.40	132.71	0	8000	55.6	55.6	0.0	0.0	80.1	332.9	-1.7	0.0	0.0	4.8	0.0	-0.0	-360.4	-360.4

Point Source, ISO 9613, Name: "RL_Inv_1", ID: "RL_Inv_1"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398640.55	4946755.41	137.60	0	63	68.1	-88.0	0.0	0.0	76.6	0.2	-5.7	0.0	0.0	0.0	0.0	-0.0	-3.0	-88.0
2	398640.55	4946755.41	137.60	0	125	78.9	-88.0	0.0	0.0	76.6	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-2.7	-88.0
3	398640.55	4946755.41	137.60	0	250	85.5	-88.0	0.0	0.0	76.6	2.0	2.5	0.0	0.0	0.0	0.0	-0.0	4.4	-88.0
4	398640.55	4946755.41	137.60	0	500	87.3	-88.0	0.0	0.0	76.6	3.7	-1.3	0.0	0.0	0.0	0.0	-0.0	8.3	-88.0
5	398640.55	4946755.41	137.60	0	1000	83.7	-88.0	0.0	0.0	76.6	7.0	-1.7	0.0	0.0	0.0	0.0	-0.0	1.9	-88.0
6	398640.55	4946755.41	137.60	0	2000	79.1	-88.0	0.0	0.0	76.6	18.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-14.1	-88.0
7	398640.55	4946755.41	137.60	0	4000	70.0	-88.0	0.0	0.0	76.6	62.3	-1.7	0.0	0.0	0.0	0.0	-0.0	-67.1	-88.0
8	398640.55	4946755.41	137.60	0	8000	77.7	-88.0	0.0	0.0	76.6	222.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-219.2	-88.0

Point Source, ISO 9613, Name: "RL_Inv_2", ID: "RL_Inv_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398567.65	4946626.74	137.60	0	63	68.1	-88.0	0.0	0.0	76.4	0.2	-5.7	0.0	0.0	0.0	0.0	-0.0	-2.9	-88.0
2	398567.65	4946626.74	137.60	0	125	78.9	-88.0	0.0	0.0	76.4	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-2.5	-88.0
3	398567.65	4946626.74	137.60	0	250	85.5	-88.0	0.0	0.0	76.4	2.0	2.5	0.0	0.0	0.0	0.0	-0.0	4.6	-88.0
4	398567.65	4946626.74	137.60	0	500	87.3	-88.0	0.0	0.0	76.4	3.6	-1.3	0.0	0.0	0.0	0.0	-0.0	8.5	-88.0
5	398567.65	4946626.74	137.60	0	1000	83.7	-88.0	0.0	0.0	76.4	6.8	-1.7	0.0	0.0	0.0	0.0	-0.0	2.1	-88.0
6	398567.65	4946626.74	137.60	0	2000	79.1	-88.0	0.0	0.0	76.4	18.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-13.7	-88.0
7	398567.65	4946626.74	137.60	0	4000	70.0	-88.0	0.0	0.0	76.4	61.2	-1.7	0.0	0.0	0.0	0.0	-0.0	-65.9	-88.0
8	398567.65	4946626.74	137.60	0	8000	77.7	-88.0	0.0	0.0	76.4	218.2	-1.7	0.0	0.0	0.0	0.0	-0.0	-215.3	-88.0

Point Source, ISO 9613, Name: "RL_Inv_3", ID: "RL_Inv_3"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398567.65	4946514.94	137.60	0	63	68.1	-88.0	0.0	0.0	76.6	0.2	-5.7	0.0	0.0	0.0	0.0	-0.0	-3.1	-88.0
2	398567.65	4946514.94	137.60	0	125	78.9	-88.0	0.0	0.0	76.6	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-2.7	-88.0
3	398567.65	4946514.94	137.60	0	250	85.5	-88.0	0.0	0.0	76.6	2.0	2.5	0.0	0.0	0.0	0.0	-0.0	4.4	-88.0
4	398567.65	4946514.94	137.60	0	500	87.3	-88.0	0.0	0.0	76.6	3.7	-1.3	0.0	0.0	0.0	0.0	-0.0	8.3	-88.0
5	398567.65	4946514.94	137.60	0	1000	83.7	-88.0	0.0	0.0	76.6	7.0	-1.7	0.0	0.0	0.0	0.0	-0.0	1.8	-88.0
6	398567.65	4946514.94	137.60	0	2000	79.1	-88.0	0.0	0.0	76.6	18.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-14.2	-88.0
7	398567.65	4946514.94	137.60	0	4000	70.0	-88.0	0.0	0.0	76.6	62.5	-1.7	0.0	0.0	0.0	0.0	-0.0	-67.4	-88.0
8	398567.65	4946514.94	137.60	0	8000	77.7	-88.0	0.0	0.0	76.6	222.8	-1.7	0.0	0.0	0.0	0.0	-0.0	-220.0	-88.0

Point Source, ISO 9613, Name: "RL_Inv_4", ID: "RL_Inv_4"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398640.05	4946351.54	137.60	0	63	68.1	-88.0	0.0	0.0	77.2	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-3.6	-88.0
2	398640.05	4946351.54	137.60	0	125	78.9	-88.0	0.0	0.0	77.2	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-3.3	-88.0
3	398640.05	4946351.54	137.60	0	250	85.5	-88.0	0.0	0.0	77.2	2.1	2.5	0.0	0.0	0.0	0.0	-0.0	3.6	-88.0
4	398640.05	4946351.54	137.60	0	500	87.3	-88.0	0.0	0.0	77.2	3.9	-1.3	0.0	0.0	0.0	0.0	-0.0	7.5	-88.0
5	398640.05	4946351.54	137.60	0	1000	83.7	-88.0	0.0	0.0	77.2	7.5	-1.7	0.0	0.0	0.0	0.0	-0.0	0.8	-88.0
6	398640.05	4946351.54	137.60	0	2000	79.1	-88.0	0.0	0.0	77.2	19.7	-1.7	0.0	0.0	0.0	0.0	-0.0	-16.1	-88.0
7	398640.05	4946351.54	137.60	0	4000	70.0	-88.0	0.0	0.0	77.2	66.8	-1.7	0.0	0.0	0.0	0.0	-0.0	-72.3	-88.0
8	398640.05	4946351.54	137.60	0	8000	77.7	-88.0	0.0	0.0	77.2	238.3	-1.7	0.0	0.0	0.0	0.0	-0.0	-236.1	-88.0

Point Source, ISO 9613, Name: "RL_Inv_5", ID: "RL_Inv_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398842.90	4946797.74	139.43	0	63	68.1	-88.0	0.0	0.0	77.4	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-3.8	-88.0
2	398842.90	4946797.74	139.43	0	125	78.9	-88.0	0.0	0.0	77.4	0.9	4.2	0.0	0.0	0.0	0.0	-0.0	-3.5	-88.0
3	398842.90	4946797.74	139.43	0	250	85.5	-88.0	0.0	0.0	77.4	2.2	2.5	0.0	0.0	0.0	0.0	-0.0	3.4	-88.0
4	398842.90	4946797.74	139.43	0	500	87.3	-88.0	0.0	0.0	77.4	4.0	-1.3	0.0	0.0	0.0	0.0	-0.0	7.2	-88.0
5	398842.90	4946797.74	139.43	0	1000	83.7	-88.0	0.0	0.0	77.4	7.6	-1.7	0.0	0.0	0.0	0.0	-0.0	0.4	-88.0
6	398842.90	4946797.74	139.43	0	2000	79.1	-88.0	0.0	0.0	77.4	20.2	-1.7	0.0	0.0	0.0	0.0	-0.0	-16.8	-88.0
7	398842.90	4946797.74	139.43	0	4000	70.0	-88.0	0.0	0.0	77.4	68.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-74.1	-88.0

Point Source, ISO 9613, Name: "RL_Inv_5", ID: "RL_Inv_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
8	398842.90	4946797.74	139.43	0	8000	77.7	-88.0	0.0	0.0	77.4	243.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-241.9	-88.0

Point Source, ISO 9613, Name: "RL_Inv_6", ID: "RL_Inv_6"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398879.17	4946625.74	141.48	0	63	68.1	-88.0	0.0	0.0	77.7	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-4.2	-88.0
2	398879.17	4946625.74	141.48	0	125	78.9	-88.0	0.0	0.0	77.7	0.9	4.2	0.0	0.0	0.0	0.0	-0.0	-3.9	-88.0
3	398879.17	4946625.74	141.48	0	250	85.5	-88.0	0.0	0.0	77.7	2.3	2.5	0.0	0.0	0.0	0.0	-0.0	3.0	-88.0
4	398879.17	4946625.74	141.48	0	500	87.3	-88.0	0.0	0.0	77.7	4.2	-1.3	0.0	0.0	0.0	0.0	-0.0	6.7	-88.0
5	398879.17	4946625.74	141.48	0	1000	83.7	-88.0	0.0	0.0	77.7	7.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-0.2	-88.0
6	398879.17	4946625.74	141.48	0	2000	79.1	-88.0	0.0	0.0	77.7	20.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-17.8	-88.0
7	398879.17	4946625.74	141.48	0	4000	70.0	-88.0	0.0	0.0	77.7	70.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-76.9	-88.0
8	398879.17	4946625.74	141.48	0	8000	77.7	-88.0	0.0	0.0	77.7	253.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-251.3	-88.0

Point Source, ISO 9613, Name: "RL_Inv_7", ID: "RL_Inv_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398879.17	4946462.34	139.06	0	63	68.1	-88.0	0.0	0.0	77.9	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-4.4	-88.0
2	398879.17	4946462.34	139.06	0	125	78.9	-88.0	0.0	0.0	77.9	0.9	4.2	0.0	0.0	0.0	0.0	-0.0	-4.1	-88.0
3	398879.17	4946462.34	139.06	0	250	85.5	-88.0	0.0	0.0	77.9	2.3	2.5	0.0	0.0	0.0	0.0	-0.0	2.7	-88.0
4	398879.17	4946462.34	139.06	0	500	87.3	-88.0	0.0	0.0	77.9	4.3	-1.3	0.0	0.0	0.0	0.0	-0.0	6.4	-88.0
5	398879.17	4946462.34	139.06	0	1000	83.7	-88.0	0.0	0.0	77.9	8.1	-1.7	0.0	0.0	0.0	0.0	-0.0	-0.6	-88.0
6	398879.17	4946462.34	139.06	0	2000	79.1	-88.0	0.0	0.0	77.9	21.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-18.5	-88.0
7	398879.17	4946462.34	139.06	0	4000	70.0	-88.0	0.0	0.0	77.9	72.6	-1.7	0.0	0.0	0.0	0.0	-0.0	-78.8	-88.0
8	398879.17	4946462.34	139.06	0	8000	77.7	-88.0	0.0	0.0	77.9	259.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-257.5	-88.0

Point Source, ISO 9613, Name: "RL_Sub", ID: "RL_Sub"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	399020.36	4947013.11	138.50	0	32	48.0	48.0	0.0	0.0	78.0	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-24.4	-24.4
2	399020.36	4947013.11	138.50	0	63	67.2	67.2	0.0	0.0	78.0	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-5.4	-5.4
3	399020.36	4947013.11	138.50	0	125	79.3	79.3	0.0	0.0	78.0	0.9	3.9	0.0	0.0	0.0	0.0	-0.0	-3.5	-3.5
4	399020.36	4947013.11	138.50	0	250	81.8	81.8	0.0	0.0	78.0	2.3	1.3	0.0	0.0	0.0	0.0	-0.0	0.2	0.2
5	399020.36	4947013.11	138.50	0	500	87.2	87.2	0.0	0.0	78.0	4.3	-1.7	0.0	0.0	0.0	0.0	-0.0	6.6	6.6
6	399020.36	4947013.11	138.50	0	1000	84.4	84.4	0.0	0.0	78.0	8.2	-1.7	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
7	399020.36	4947013.11	138.50	0	2000	80.6	80.6	0.0	0.0	78.0	21.5	-1.7	0.0	0.0	0.0	0.0	-0.0	-17.2	-17.2
8	399020.36	4947013.11	138.50	0	4000	75.4	75.4	0.0	0.0	78.0	73.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-73.9	-73.9
9	399020.36	4947013.11	138.50	0	8000	66.3	66.3	0.0	0.0	78.0	260.6	-1.7	0.0	0.0	0.0	0.0	-0.0	-270.5	-270.5

Point Source, ISO 9613, Name: "RL_Trans_1", ID: "RL_Trans_1"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398645.55	4946754.91	137.66	0	32	37.3	37.3	0.0	0.0	76.6	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-33.7	-33.7
2	398645.55	4946754.91	137.66	0	63	56.5	56.5	0.0	0.0	76.6	0.2	-5.7	0.0	0.0	0.0	0.0	-0.0	-14.7	-14.7
3	398645.55	4946754.91	137.66	0	125	68.6	68.6	0.0	0.0	76.6	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-13.0	-13.0
4	398645.55	4946754.91	137.66	0	250	71.1	71.1	0.0	0.0	76.6	2.0	2.6	0.0	0.0	0.0	0.0	-0.0	-10.1	-10.1
5	398645.55	4946754.91	137.66	0	500	76.5	76.5	0.0	0.0	76.6	3.7	-1.2	0.0	0.0	0.0	0.0	-0.0	-2.5	-2.5
6	398645.55	4946754.91	137.66	0	1000	73.7	73.7	0.0	0.0	76.6	7.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-8.2	-8.2
7	398645.55	4946754.91	137.66	0	2000	69.9	69.9	0.0	0.0	76.6	18.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-23.4	-23.4
8	398645.55	4946754.91	137.66	0	4000	64.7	64.7	0.0	0.0	76.6	62.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-72.6	-72.6
9	398645.55	4946754.91	137.66	0	8000	55.6	55.6	0.0	0.0	76.6	222.6	-1.7	0.0	0.0	0.0	0.0	-0.0	-241.9	-241.9

Point Source, ISO 9613, Name: "RL_Trans_2", ID: "RL_Trans_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398572.65	4946626.24	137.58	0	32	37.3	37.3	0.0	0.0	76.5	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-33.5	-33.5
2	398572.65	4946626.24	137.58	0	63	56.5	56.5	0.0	0.0	76.5	0.2	-5.7	0.0	0.0	0.0	0.0	-0.0	-14.5	-14.5
3	398572.65	4946626.24	137.58	0	125	68.6	68.6	0.0	0.0	76.5	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-12.8	-12.8
4	398572.65	4946626.24	137.58	0	250	71.1	71.1	0.0	0.0	76.5	2.0	2.6	0.0	0.0	0.0	0.0	-0.0	-9.9	-9.9
5	398572.65	4946626.24	137.58	0	500	76.5	76.5	0.0	0.0	76.5	3.6	-1.2	0.0	0.0	0.0	0.0	-0.0	-2.3	-2.3
6	398572.65	4946626.24	137.58	0	1000	73.7	73.7	0.0	0.0	76.5	6.8	-1.7	0.0	0.0	0.0	0.0	-0.0	-7.9	-7.9
7	398572.65	4946626.24	137.58	0	2000	69.9	69.9	0.0	0.0	76.5	18.1	-1.7	0.0	0.0	0.0	0.0	-0.0	-22.9	-22.9
8	398572.65	4946626.24	137.58	0	4000	64.7	64.7	0.0	0.0	76.5	61.3	-1.7	0.0	0.0	0.0	0.0	-0.0	-71.4	-71.4

Point Source, ISO 9613, Name: "RL_Trans_2", ID: "RL_Trans_2"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
9	398572.65	4946626.24	137.58	0	8000	55.6	55.6	0.0	0.0	76.5	218.8	-1.7	0.0	0.0	0.0	0.0	-0.0	-237.9	-237.9

Point Source, ISO 9613, Name: "RL_Trans_3", ID: "RL_Trans_3"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398572.65	4946514.44	137.58	0	32	37.3	37.3	0.0	0.0	76.6	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-33.7	-33.7
2	398572.65	4946514.44	137.58	0	63	56.5	56.5	0.0	0.0	76.6	0.2	-5.7	0.0	0.0	0.0	0.0	-0.0	-14.7	-14.7
3	398572.65	4946514.44	137.58	0	125	68.6	68.6	0.0	0.0	76.6	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-13.0	-13.0
4	398572.65	4946514.44	137.58	0	250	71.1	71.1	0.0	0.0	76.6	2.0	2.6	0.0	0.0	0.0	0.0	-0.0	-10.1	-10.1
5	398572.65	4946514.44	137.58	0	500	76.5	76.5	0.0	0.0	76.6	3.7	-1.2	0.0	0.0	0.0	0.0	-0.0	-2.6	-2.6
6	398572.65	4946514.44	137.58	0	1000	73.7	73.7	0.0	0.0	76.6	7.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-8.2	-8.2
7	398572.65	4946514.44	137.58	0	2000	69.9	69.9	0.0	0.0	76.6	18.5	-1.7	0.0	0.0	0.0	0.0	-0.0	-23.5	-23.5
8	398572.65	4946514.44	137.58	0	4000	64.7	64.7	0.0	0.0	76.6	62.6	-1.7	0.0	0.0	0.0	0.0	-0.0	-72.8	-72.8
9	398572.65	4946514.44	137.58	0	8000	55.6	55.6	0.0	0.0	76.6	223.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-242.7	-242.7

Point Source, ISO 9613, Name: "RL_Trans_4", ID: "RL_Trans_4"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398645.05	4946351.04	137.58	0	32	37.3	37.3	0.0	0.0	77.2	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-34.3	-34.3
2	398645.05	4946351.04	137.58	0	63	56.5	56.5	0.0	0.0	77.2	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-15.3	-15.3
3	398645.05	4946351.04	137.58	0	125	68.6	68.6	0.0	0.0	77.2	0.8	4.2	0.0	0.0	0.0	0.0	-0.0	-13.7	-13.7
4	398645.05	4946351.04	137.58	0	250	71.1	71.1	0.0	0.0	77.2	2.1	2.6	0.0	0.0	0.0	0.0	-0.0	-10.8	-10.8
5	398645.05	4946351.04	137.58	0	500	76.5	76.5	0.0	0.0	77.2	3.9	-1.3	0.0	0.0	0.0	0.0	-0.0	-3.4	-3.4
6	398645.05	4946351.04	137.58	0	1000	73.7	73.7	0.0	0.0	77.2	7.5	-1.7	0.0	0.0	0.0	0.0	-0.0	-9.3	-9.3
7	398645.05	4946351.04	137.58	0	2000	69.9	69.9	0.0	0.0	77.2	19.8	-1.7	0.0	0.0	0.0	0.0	-0.0	-25.4	-25.4
8	398645.05	4946351.04	137.58	0	4000	64.7	64.7	0.0	0.0	77.2	67.0	-1.7	0.0	0.0	0.0	0.0	-0.0	-77.8	-77.8
9	398645.05	4946351.04	137.58	0	8000	55.6	55.6	0.0	0.0	77.2	238.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-258.8	-258.8

Point Source, ISO 9613, Name: "RL_Trans_5", ID: "RL_Trans_5"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398837.90	4946798.24	139.39	0	32	37.3	37.3	0.0	0.0	77.4	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-34.4	-34.4
2	398837.90	4946798.24	139.39	0	63	56.5	56.5	0.0	0.0	77.4	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-15.4	-15.4
3	398837.90	4946798.24	139.39	0	125	68.6	68.6	0.0	0.0	77.4	0.9	4.2	0.0	0.0	0.0	0.0	-0.0	-13.8	-13.8
4	398837.90	4946798.24	139.39	0	250	71.1	71.1	0.0	0.0	77.4	2.2	2.6	0.0	0.0	0.0	0.0	-0.0	-11.0	-11.0
5	398837.90	4946798.24	139.39	0	500	76.5	76.5	0.0	0.0	77.4	4.0	-1.3	0.0	0.0	0.0	0.0	-0.0	-3.6	-3.6
6	398837.90	4946798.24	139.39	0	1000	73.7	73.7	0.0	0.0	77.4	7.6	-1.7	0.0	0.0	0.0	0.0	-0.0	-9.6	-9.6
7	398837.90	4946798.24	139.39	0	2000	69.9	69.9	0.0	0.0	77.4	20.1	-1.7	0.0	0.0	0.0	0.0	-0.0	-25.9	-25.9
8	398837.90	4946798.24	139.39	0	4000	64.7	64.7	0.0	0.0	77.4	68.2	-1.7	0.0	0.0	0.0	0.0	-0.0	-79.2	-79.2
9	398837.90	4946798.24	139.39	0	8000	55.6	55.6	0.0	0.0	77.4	243.3	-1.7	0.0	0.0	0.0	0.0	-0.0	-263.4	-263.4

Point Source, ISO 9613, Name: "RL_Trans_6", ID: "RL_Trans_6"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398874.10	4946626.24	141.38	0	32	37.3	37.3	0.0	0.0	77.7	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-34.8	-34.8
2	398874.10	4946626.24	141.38	0	63	56.5	56.5	0.0	0.0	77.7	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-15.7	-15.7
3	398874.10	4946626.24	141.38	0	125	68.6	68.6	0.0	0.0	77.7	0.9	4.2	0.0	0.0	0.0	0.0	-0.0	-14.2	-14.2
4	398874.10	4946626.24	141.38	0	250	71.1	71.1	0.0	0.0	77.7	2.3	2.6	0.0	0.0	0.0	0.0	-0.0	-11.4	-11.4
5	398874.10	4946626.24	141.38	0	500	76.5	76.5	0.0	0.0	77.7	4.2	-1.3	0.0	0.0	0.0	0.0	-0.0	-4.1	-4.1
6	398874.10	4946626.24	141.38	0	1000	73.7	73.7	0.0	0.0	77.7	7.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-10.2	-10.2
7	398874.10	4946626.24	141.38	0	2000	69.9	69.9	0.0	0.0	77.7	20.9	-1.7	0.0	0.0	0.0	0.0	-0.0	-26.9	-26.9
8	398874.10	4946626.24	141.38	0	4000	64.7	64.7	0.0	0.0	77.7	70.8	-1.7	0.0	0.0	0.0	0.0	-0.0	-82.0	-82.0
9	398874.10	4946626.24	141.38	0	8000	55.6	55.6	0.0	0.0	77.7	252.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-272.8	-272.8

Point Source, ISO 9613, Name: "RL_Trans_7", ID: "RL_Trans_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	398874.10	4946462.84	138.99	0	32	37.3	37.3	0.0	0.0	77.9	0.1	-5.7	0.0	0.0	0.0	0.0	-0.0	-34.9	-34.9
2	398874.10	4946462.84	138.99	0	63	56.5	56.5	0.0	0.0	77.9	0.3	-5.7	0.0	0.0	0.0	0.0	-0.0	-16.0	-16.0
3	398874.10	4946462.84	138.99	0	125	68.6	68.6	0.0	0.0	77.9	0.9	4.2	0.0	0.0	0.0	0.0	-0.0	-14.4	-14.4
4	398874.10	4946462.84	138.99	0	250	71.1	71.1	0.0	0.0	77.9	2.3	2.6	0.0	0.0	0.0	0.0	-0.0	-11.7	-11.7
5	398874.10	4946462.84	138.99	0	500	76.5	76.5	0.0	0.0	77.9	4.3	-1.3	0.0	0.0	0.0	0.0	-0.0	-4.4	-4.4
6	398874.10	4946462.84	138.99	0	1000	73.7	73.7	0.0	0.0	77.9	8.1	-1.7	0.0	0.0	0.0	0.0	-0.0	-10.6	-10.6

Point Source, ISO 9613, Name: "RL_Trans_7", ID: "RL_Trans_7"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
7	398874.10	4946462.84	138.99	0	2000	69.9	69.9	0.0	0.0	77.9	21.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-27.6	-27.6
8	398874.10	4946462.84	138.99	0	4000	64.7	64.7	0.0	0.0	77.9	72.5	-1.7	0.0	0.0	0.0	0.0	-0.0	-83.9	-83.9
9	398874.10	4946462.84	138.99	0	8000	55.6	55.6	0.0	0.0	77.9	258.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-279.0	-279.0