Appendix C4

Environmental Noise Impact Assessment, Including MOE Review

MOE Review Letter

Ontario

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Date: November 8, 2007

Pages: 3

Thank you for providing the revisions to the Environmental Noise Impact Assessment report.

The comments from the Air and Noise Unit are attached. The Ministry considers the noise requirements as complete under the Environmental Screening Process.

The revised noise report and the supporting information (i.e. received October 31 and November 1, 2007) should be included in the appendices to the Environmental Review Report.

Vicki Mitchell

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November 5, 2007

MEMORANDUM

TO: Vicki Mitchell, Environmental Assessment Coordinator
Eastern Region

FROM: Victor Low, Supervisor – Air & Noise Unit
Environmental Assessment & Approvals Branch

RE: **Noise Review of Revised Environmental Noise Impact Assessment Report (dated June 6, 2007) – Wolfe Island Wind Project; Canadian Renewable Energy Corporation; County of Frontenac.**

Further to your request and our memoranda of January 12, April 05, and October 11, 2007, we have reviewed the revised information for the subject project in the Environmental Noise Impact Assessment (ENIA) report, dated June 6, 2007, and in the additional information subsequently received dated October 31 and November 1, 2207 prepared by Aercoustics Engineering Limited. It is anticipated this document will be part of an Environmental Screening Report (ESR) for the Wolfe Island Wind project.

The proposed project is for installing eighty-six (86) wind turbine generators on 80 m high towers, each rated at 2.3 MW for a combined electrical power capacity of about 197.8 MW. Also, this proposal includes a transformer substation with two (2) transformer units each rated at 100 MVA, 34.5/230 kV. Additionally, this proposal includes an acoustical barrier on three sides of the transformers.

The above-noted report provides the required information for review under the Environmental Screening Process and predicts that the noise impact, at approximately two hundred and fifty-six (256) Points of Reception, will be in compliance with the MOE applicable noise guidelines. These requirements are stated in the guidance document titled "*Interpretation for Applying MOE Technical Publications to Wind Turbine Generators*"- July 2004 and the MOE *Publications NPC 205, 232, & 233.*

Based on the information provided in the above-noted ENIA report and in the information subsequently received, 2007 this Ministry considers the noise requirements complete and, therefore, concludes the technical review under the Environmental Screening Process.

This Ministry's technical review of the complete report at the screening stage will be later utilized during the review of the corresponding application for a Certificate of Approval. Provided that the proposal is not changed and therefore the complete report remains accurate, there is unlikely to be a need for further technical review during the Certificate of Approval process.

Any changes to the proposal or to the complete report at the time of the application for Certificate of Approval will require further technical review and may delay approval. The applicant is accountable for disclosing any changes that have been made to the complete report at the time of application for Certificate of Approval.

Please contact John Kowalewski, Senior Noise Engineer, at 416-314-0412 if there are any questions.

Victor Low, P.Eng.
JK/

Environmental Noise Impact Assessment

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

WOLFE ISLAND WIND PROJECT
WOLFE ISLAND, ONTARIO

PREPARED FOR:

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Revised: 31 October 2007
Revised: 6 June 2007
Original: 17 April 2007

Executive Summary

The purpose of this environmental noise impact assessment, prepared for the Wolfe Island Wind Project (the "Project"), is to fulfill the Canadian Renewable Energy Corporation's, a wholly owned subsidiary of Canadian Hydro Developers Inc., requirements under Ontario Regulation 116/01 of the *Environmental Assessment Act* and to provide the basis for the Certificate of Approval – Air ["C of A (Air)"] under Section 9 of the *Environmental Protection Act* ("EPA"). The objective of this assessment is to demonstrate, by means of technical assessment, that the noise impact from the operation of the Project will comply with the Ministry of the Environment's ("MOE") environmental noise guidelines for wind turbines.

A baseline ambient noise survey was conducted within the project area to substantiate the regulatory sound level limit requirements for the Project. The noise data collected during the monitoring period was subsequently used to compare the existing ambient noise levels to the sound level limit requirements as defined in the MOE's *Interpretation for Applying MOE NPC Technical Publications to Wind Turbine Generators (06 July 2004)*.

Building upon the project specific guidelines, noise impact prediction modelling was undertaken. The noise impact from the Project's wind turbine array and transformers operating at maximum rated power on the nearest points of reception was predicted using an acoustic model, ISO 9613, as required by the MOE. Transformer noise barrier walls were also integrated into and considered within the analysis.

The analysis shows that the noise impact from the Project does not exceed the most restrictive nighttime noise limits that apply for areas with acoustic designation of Class 3 (Rural) as defined by the MOE. Consequently, there is no need for the application of any additional mitigation measures and no further studies are contemplated for environmental noise in relation to the Project.

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GLOSSARY

agl	above ground level
C of A (Air)	Certificate of Approval – Air
CREC	Canadian Renewable Energy Corporation, a wholly owned subsidiary of Canadian Hydro Developers, Inc.
dB(A)	decibel A-weighted
ENIA	Environmental Noise Impact Assessment
EPA	*Environmental Protection Act*
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
kW	kilowatt
kV	kilovolt
LLA	Licence and Option to Lease Agreement
m	metre
m/s	metres per second
MOE	Ontario Ministry of the Environment
MW	Megawatt
PWL	Sound Power Level

1.0 INTRODUCTION

Canadian Renewable Energy Corporation ("CREC"), a wholly owned subsidiary of Canadian Hydro Developers, Inc., has retained Aercoustics Engineering Limited ("Aercoustics") to prepare an environmental noise impact assessment ("ENIA") of the proposed 197.8 mega watt ("MW") Wolfe Island Wind Project ("Project"). The Project is situated on Wolfe Island, in the southern part of Frontenac County, Ontario.

The Government of Ontario has made a commitment to the generation of electricity from renewable sources an important part of Ontario's energy future. Specifically, the Government of Ontario has set targets of having 1,350 MW of renewable electricity in service by 2007 and 2,700 MW in service by 2010. To assist in meeting these targets, the Government has awarded CREC a Renewable Energy Supply II Contract for the Project.

The purpose of this ENIA is to fulfill CREC's requirements under Ontario Regulation 116/01 of the *Environmental Assessment Act* and to provide the basis for the Certificate of Approval – Air ["C of A (Air)"] under Section 9 of the *Environmental Protection Act* ("EPA"). Consequently, in fulfilling these requirements, the objective of this assessment is twofold, to:

1. Confirm the sound level limit requirements for the Project by providing an assessment of the existing baseline environmental noise conditions in the vicinity of the Project; and
2. Predict the noise impacts from the Project at the nearest points of reception and to demonstrate, by means of technical assessment, that the noise impact from the operation of the Project will comply with the Ministry of the Environment's ("MOE") environmental noise guidelines for wind turbines.

The baseline noise data presented in this assessment have been used to compare the current ambient noise levels to the sound level limit requirements as defined by the MOE in their July 6, 2004 publication: *Interpretation For Applying MOE NPC Technical Publications to Wind Turbine Generators* ("MOE Interpretation"). For continued reference, the MOE Interpretation (ATTACHMENT A) was prepared to assist proponents of wind turbine installations in determining what information should be submitted when applying for a C of A (Air), under the EPA.

2.0 DISCUSSION OF ACOUSTIC TERMINOLOGY

In order to fully understand the analysis presented in this ENIA, a brief discussion of the technical terms utilized throughout the report is included below.

The noise data presented in this report has been given in terms of sound pressure level. Sound pressure levels are measured in decibels ("dB"). It is common practice to sum sound pressure levels over the entire audible spectrum to give an overall sound level.

The MOE requires that instantaneous sound pressure be processed by a special filter (i.e., A-weighting). As human hearing is less sensitive to low frequency sound, the weighting emphases the frequencies in the range 500 Hertz ("Hz") to 4000 Hz; while progressively diminishing the relative contributions at high and low frequencies. This corresponds approximately to the hearing response to humans at normal sound levels (e.g., 50 dB). The resulting "A-weighted" sound level is often used as a criterion to indicate a maximum allowable sound level. In general, low frequencies are weighted higher (e.g., C-weighted).

Additional terms used to describe overall sound levels include the L_{eq}, L_{max}, L_{min}, as well as other statistical indices. The L_{eq} is defined as the equivalent continuous sound level, which, in a stated time and at a stated location, has the same energy as the time varying signal. It is common acoustical practice to measure L_{eq} sound levels, typically over a 1-hour duration, in order to obtain a representative average sound level. The L_{max} and L_{min} can be respectively defined as the maximum and minimum sound levels that occur over the same stated time and location as the L_{eq}.

Statistical indices, the most common of which is the L_{90}, can also be used to describe the distribution of sound levels within a community. The L_{90} is defined as the sound level exceeded 90% of the time and is used as a typical indicator of the "ambient" or "background" noise level in a given area or at a point of reception.

The MOE defines a "point of reception" as any point on the premises of a person within 30 m of a dwelling or camping area, where sound or vibration originating from other than those premises is received. The MOE designates points of reception into three classes:

- Class 1 refers to an acoustical environment typical of a major population centre where the background noise is dominated by the urban hum. These areas are highly urbanized and have moderate to high noise levels throughout the day and night.
- Class 2 means an area with an acoustic environment that has low ambient sound levels between 19:00 hours and 07:00 hours; where the evening and night-time levels are defined by natural sounds and infrequent human activity and there are no clearly audible sounds from stationary sources (e.g., industrial, commercial, etc,).
- Class 3 refers to areas that are rural and/or small communities with a population of less than 1,000 with an acoustic environment that is dominated by natural sounds and has little or no road traffic during the night-time period.

3.0 DESCRIPTION OF WIND TURBINE SITE AND SURROUNDS

The Project is located on Wolfe Island, Township of Frontenac Islands, in the southern part of Frontenac County, Ontario. The closest community in the vicinity of the Project is the Town of Marysville. The dominant environmental feature in the vicinity of the Project is Lake Ontario, located southwest of the Study Area (Figure 1).

Consistent with the dominant land-use pattern apparent in the Township as a whole, the majority of forest cover has been removed during the process of settlement for rural and agricultural production. Forest cover within the area is limited to natural features and other localized areas that are not suited to agricultural production. Field crop production and modern livestock production dominate the turbine site locations and surrounding landscape.

As noted above, the wind plant will be designed to generate 197.8 MW of renewable electricity. Eighty-six 2.3 MW wind turbines, along with a 34.5 kV / 230 kV transformer station, will be placed strategically over the study area as shown in Figure 2.

In the summer months Wolfe Island's population temporarily increases due to recreation (e.g., cottaging) and tourism. The Island is also a gateway to the U.S.A. via a seasonal ferry system.

Within this agricultural / rural area, the main sources of ambient sound that currently exist include:

1. Vehicular traffic noise from former provincial Highway 95 and 96 in the study area.
2. Vehicular traffic on concession roads, most of which are gravel roads.
3. Sounds due to human activity as well as agricultural and rural activities.
4. Sounds due to human domestic activities such as property maintenance and recreation.
5. Natural sounds from wind and lake noise, insects, wildlife, atmospheric effects, etc.

The acoustic classification of the area is generally Class 3 (rural).

3.1 Description of Receptors

Noise receptors have been selected for this analysis based on two criteria: i) their spatial proximity to the Project (i.e., receptors within 1,000 metres of a wind turbine); and ii) level of benefit derived from the Project (e.g., participating or non-participating receptors). A total of 256 non participating receptors are located within 1,000 metres of a proposed wind turbine and have been included for assessment.

All receptors in the study area were identified by CREC through site visits and interpretation of high resolution aerial photography flown in 2006 specifically for the Project. Each receptor has been assigned a unique identifier for modelling and reporting purposes. Their locations relative to the wind turbines and transformer station are shown in Figure 2. The zoning and property boundaries are shown in Figure 11 and Attachment F.

For the purposes of this ENIA, all points of reception have been treated as two-story residences, despite the fact that single story residences exist in the study area. This approach adds additional conservancy to the model's predicted results.

3.2 MOE Environmental Noise Limits

The sound limit requirements for a wind turbine or an array of such units, termed a "wind plant", have been established in accordance with the existing MOE publications (NPC-205/232/233) as well as the wind induced background noise level. The specific definition of sound limits, expressed as a function of wind speed and ambient noise levels, as outlined in the MOE Interpretation, includes the following:

3.2.1 Wind Turbine Installations in Class 1 & 2 Areas (Urban): Wind Speeds Below 8m/s

The lowest sound level limit at a Point of Reception in Class 1 and 2 Areas (Urban), under conditions of average wind speed up to 8 m/s (i.e., 29km/h), expressed in terms of the hourly L_{eq} is 45 dB(A) or the minimum hourly background sound level established in accordance with requirements in Publications NPC-205/NPC-233, whichever is higher.

3.2.2 Wind Turbine Installations In Class 3 Areas (Rural): Wind Speeds Below 6m/s

The lowest sound level limit at a Point of Reception in Class 3 Areas (Rural), under conditions of average wind speed up to 6 m/s (i.e., 22km/h), expressed in terms of the hourly L_{eq} is 40 dB(A) or the minimum hourly background sound level established in accordance with requirements in Publications NPC-232/NPC-233, whichever is higher.

3.2.3 Wind Turbine Installations In Class 1 & 2 and Class 3 Areas: Wind Speeds Above 8m/s and 6m/s Respectively

The sound level limit at a Point of Reception in Class Areas 1 & 2 (Urban) or in Class 3 Areas (Rural), under conditions of average wind speed above 8 m/s and 6m/s respectively, expressed in terms of the hourly L_{eq}, is the wind induced background sound level, expressed in terms of ninetieth percentile sound level (L_{A90}) plus 7 dB, or the minimum hourly background sound level established in accordance with requirements in Publications NPC-205/NPC-232/NPC-233, whichever is higher. A summary of the above limits is shown in Table 1 for continued reference.

Table 1: MOE Sound Level Limits at Points of Reception for Wind Plants

Wind Speed (m/s)	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s
Wind Turbine Noise Criterion NPC-232 (dBA) Class 3	40 dBA	40 dBA	40 dBA	43 dBA	45 dBA	49 dBA	51 dBA	53 dBA
Wind Turbine Noise Criterion NPC-205 (dBA) Class 1 & 2	45 dBA	45 dBA	45 dBA	45 dBA	45 dBA	49 dBA	51 dBA	53 dBA

Notes:

1. The measurement of wind induced background sound level is not required to establish the applicable criterion. The wind induced background sound level reference curve was determined by correlating the ninetieth percentile sound level (L_{A90}) with the average wind speed measured at a particularly quiet site.
2. If the existing minimum hourly background sound level, established in accordance with requirements in Publications NPC-205/NPC-232/NPC-233, is selected as the sound level limit, the measurement of wind speed (for the purpose of determination of wind induced background sound level) is not required. The selected limit applies in the entire range of wind speed under consideration from 4m/s to 11m/s with the exception of wind turbine noise criterion values higher than the existing minimum hourly background sound level.
3. Wind Turbine Noise Criterion at wind speeds expressed as fractional values of m/s should be interpolated from the above table.

3.3 Environmental Noise Monitoring Program

3.3.1 Monitoring Protocol

Monitoring was conducted in accordance with the requirements defined by MOE in their NPC-103 publication. Long-term monitoring at six sites throughout the study area was carried out between 21 September 2006 and 07 October 2006, and included weekend periods. This resulted in between 115 and 213 hours of continuous data collection at each location. All of the data collected exceeds the minimum MOE requirement of 48 hours of data including a Saturday and Sunday.

Weather conditions encountered during the monitoring period confirms that wind induced background noise was below the level specified by MOE in NPC-103, which typically specifies wind speeds below 25 kph and temperatures above –5 degrees Celsius as being acceptable for the acquisition of reliable ambient environmental noise data. Additional information on the monitoring protocol is provided in ATTACHMENT B

3.3.2 Monitoring Locations

Ambient environmental noise monitoring was conducted at six locations within the study area as shown in Figure 10. The monitoring locations were selected based upon the potential project layout and/or their representativeness of environs within the study area. Table 2 provides a summary description of each monitoring site as well as proximity to adjacent transportation corridors.

Table 2: Description & Classification of Monitoring Locations

Monitoring Location	Site Description	Dwelling Distances
Site 1	OS Lot 06 in north central portion of the study area. The noise monitor was placed 60m from Hwy 96 (a main road). Site is located on Hwy. 96 on the south side. White residence, street address #931. (Most houses in this area are setback 60m from highway 96)	The "White" residence is 120m from Highway 96 Other homes nearby are 60m from Highway 96 800m from Hwy 95
Site 2	OS Lot 16 in northwest portion of the study area. This is the future site of the transformer station. South of Hwy 96. 4th Line is currently a dirt road. Nearest home (street address #631) is 60m from Hwy 96. Near cattle pasture in a rural setting.	Future dwellings would be 200m from Highway 96. Lot is currently sub-divided. Located on 4th Line
Site 3	On Simcoe Island in northwest of the study area. Near dwelling street address # 728. Near cattle pasture in a rural setting.	25m from the intersection of Eve Lane and Nine Mile Point
Site 4	Con 9, Lot 1 NBL located about 85m east of 8th Line. Dwelling (about 200m from 8th Line) is at northeast end of study area, in a rural setting (street address #172)	85m from 8th Line 500m from Baseline Road 1100m from Hwy 96
Site 5	Con 7 Lot 10 SBL located about 50m north of Stevenson lane. Located at southeast end of study area, in a rural setting (Pyke Property)	60m from Hwy 95 200m from Burton Bay Rd and in proximity to the Cape Vincent Ferry
Site 6	Con 7 Lot 4 SBL located about 25m east of Highway 95 (a main road). Dwelling (street address #902) is in centre of study area (Broeder Property)	25m from Highway 95 300m from Reeds Bay Rd

3.3.3 Monitoring Results

The lowest 1-hour L_{90}'s ranged, in dB(A), from the low 20's to the low 30's for Sites 5 and 6 and into the high 30's dB(A) at the other sites. A trend toward higher noise levels was generally observed for receptors that were located closer to the Highways 95 and 96.

The lowest levels typically prevailed during night-time periods and early morning periods (i.e., 00:00 – 05:00 hrs), especially during weekend/Sunday hours. Noise levels were measured to be generally higher during the day as a result of greater local activity and increased noise due to comparatively higher volumes of traffic on Highways 95 and 96 in comparison to other municipal roads. In addition, domestic and other agricultural activities are also generally greater during daytime hours.

A graphical summary of the long-term environmental noise monitoring that was conducted at Locations 1 through 6 is presented in ATTACHMENT B, along with the raw ambient sound data. A summary of the sound level statistics obtained at the monitoring locations is also given in ATTACHMENT B and provided in Table 3.

Table 3: Summary of 1 Hour Leq/L90 Sound Levels

Monitoring Location	L_{EQ} [dB(A)]	L_{90} [dB(A)]
Monitor Site 1	37-60+ dBA	36-50+ dBA
Monitor Site 2	45-70+ dBA	43-50+ dBA
Monitor Site 3	39-70+ dBA	38-60+ dBA
Monitor Site 4	38-60+ dBA	37-50+ dBA
Monitor Site 5	35-70+ dBA	33-50+ dBA
Monitor Site 6	25-70+ dBA	21-60+ dBA

Based upon the results of the ambient monitoring program, Monitoring locations 1, 3, 4, 5 and 6 are representative of a Class 3 receptor area. According to MOE guidelines this area is defined as a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic. MOE sound limit publication, NPC-232, typically applies to the assessment of stationary noise source effects in rural areas. These areas are assessed as Class 3 (rural) areas for the purposes of noise impact assessment (section 5).

Monitoring location 2 is characterized as a Class 2; because there is daytime urban hum from traffic and a background noise environment which is dominated by natural sounds such as birds, insects, wildlife, atmospheric effects, etc. In this instance, a sound level limit that is above the 40 dB(A) minimum would apply. This conclusion is directly supported by the site measurements that showed the lowest 1 hour L_{eq} measured over a 167 hour period was 45 dBA.

3.3.4 Receptor Sound Limits

Based upon the recorded ambient conditions, and considering the MOE publications related to receptor classifications, the Table below provides the Classification of receptors and the applicable regulatory sound limit for each location and adjacent areas.

Table 4: Sound Limits at Receptors

Monitoring Location	Regulatory Sound Limit [dB(A) and ≤6m/s wind speed] Receptor Class
Monitor Site 1	40 dBA, Class 3
Monitor Site 2	45 dBA, Class 2
Monitor Site 3	40 dBA, Class 3
Monitor Site 4	40 dBA, Class 3
Monitor Site 5	40 dBA, Class 3
Monitor Site 6	40 dBA, Class 3

The Project sound limits are ultimately a function of several variables:

1. current ambient levels due to sound levels caused by both natural and human activity (e.g., traffic) sounds
2. acoustic classification of the study area (e.g., Class 2 and/or Class 3 as defined by MOE)
3. wind induced background sound levels.

It should be noted that although two classification zones were identified, based upon the results of the long-term ambient monitoring program, the ENIA has opted to apply the more conservative Class 3 (Rural) values to all territories within the study area in order to maintain additional conservancy in the assessment and interpretation of the results.

For the purposes of this environmental noise impact assessment, a Class 3 sound level limit has been applied to the entire study area as follows:

Table 5: Sound Level Limits for Class 3 Areas

Wind Speed (m/s)	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s
Wind Turbine Sound Level Limit [dB(A)] (Class 3 Area, NPC-232)	40 dBA	40 dBA	40 dBA	43 dBA	45 dBA	49 dBA	51 dBA	53 dBA

4.0 DESCRIPTION OF SOURCES

4.1 Transformer Station

CREC plans to build a transformer station on 4th Line south of Highway 96 as part of the Project. This substation will contain two identical 34.5/230 kV transformers situated side-by-each within the chain-linked fenced area (See Figures 2E and 9A)

The manufacturer's data sheet for this transformer indicates a maximum sound emission level of 80 dB(A) measured in accordance with the IEEE standard C57.12.90-1999. This is the average sound pressure level measured at a distance of 2 m from the transformer cooling fans. The data sheet is attached in Attachment D.

The noise contribution from the substation is calculated using the DataKustik CadnaA version 3.6 environmental noise prediction software. The calculations are based on the ISO 9613-2 standard entitled "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation", which is an established prediction method accepted by the MOE. For this analysis, the noise contribution from the substation was added to the noise contributions of the wind turbines to assess the total cumulative effect of the Project.

IEEE C57.12.90-1993 standard, "Distribution, Power, and Regulating Transformers" has been used to develop the noise modelling parameters. This standard outlines a nearfield sound level specification for the transformer. Each transformer in this study is modelled having five radiating area sources. Four of which are representative of the sides of the transformer, while the fifth represents the top.

The vertical area sources have been modelled to have a maximum source height of 4.93 m, which is the overall height of the acoustical vertical area enveloping the transformer. ATTACHMENT D provides the manufacturer's drawings outlining the physical height of the transformer. This modelling protocol is in accordance with the IEEE standard.

4.1.1 Potential Sources of Noise

Transformer noise is comprised of casing noise emitted from the operating transformer itself and cooling fan noise. Transformer noise has a pronounced tonal quality and has been considered in the analysis that follows.

4.1.2 Transformer Station Noise Emission Rating

The acoustic measurement surface of a transformer is 9.52 m long by 9.99 m wide by 4.93 m high. The Cadna acoustic model surface is taken to be 0.3 m from the transformer tank or transformer cooling fan whichever is more outboard. The calculated sound power level for each vertical surface is based upon the area of the acoustic measurement surface. The horizontal area of the top of the transformer is modelled in accordance with the IEEE standard for large transformers; in which the top is representative of 25% of the total vertical measurement surface area. Therefore, the calculated sound power level for the top of the transformer is based on 48.1 m^2. The tables below outline the sound power spectrum that was used for each transformer's four vertical area sources and top horizontal surface.

Table 6: Transformer Average Sound Pressure Level @ the measurement surface

Octave Band Center Freq. (Hz)	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz	dBA
Wolfe Island Transformer As per IEEE standard C57.12.90-1999 (spectrum in dB)	77 dB	71 dB	78 dB	75 dB	83 dB	69 dB	50 dB	46 dB	42 dB	80 dBA

Table 7: Calculated Sound Power for Transformer Faces

Octave Band Center Freq. (Hz)	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz	dBA
Transformer North Face (9.52m x 4.93m @ 80 dBA) (spectrum in dB)	93.7 dB	87.7 dB	94.7 dB	91.7 dB	99.7 dB	85.7 dB	66.7 dB	62.7 dB	58.7 dB	97.1 dBA
Transformer South Face (9.52m x 4.93m @ 80 dBA) (spectrum in dB)	93.7 dB	87.7 dB	94.7 dB	91.7 dB	99.7 dB	85.7 dB	66.7 dB	62.7 dB	58.7 dB	97.1 dBA
Transformer East Face (9.99m x 4.93m @ 80 dBA) (spectrum in dB)	93.9 dB	87.9 dB	94.9 dB	91.9 dB	99.9 dB	85.9 dB	66.9 dB	62.9 dB	58.9 dB	97.3 dBA
Transformer West Face (9.99m x 4.93m @ 80 dBA) (spectrum in dB)	93.9 dB	87.9 dB	94.9 dB	91.9 dB	99.9 dB	85.9 dB	66.9 dB	62.9 dB	58.9 dB	97.3 dBA
Transformer Top Face (48.1 m^2 @ 80 dBA) spectrum in dB	93.8 dB	87.8 dB	94.8 dB	91.8 dB	99.8 dB	85.8 dB	66.8 dB	62.8 dB	58.8 dB	97.2 dBA

The above listed spectrums correspond to the total sound power level for each of the vertical area sources used to model the transformer for the typical worst case operating scenario as zero to full load with all cooling equipment operating. It should be noted that this spectrum does not account for tonality. Thus, a 5 dB penalty, consistent with MOE guideline NPC 104, has been included in this analysis. Consequently, the overall source sound power including tonality was amended to be 102.1 dB(A) for the north or south face and 102.3 for the east or west face for purposes of this analysis to maintain additional conservancy in the model results.

Similar to the vertical face sources, this spectrum does not account for tonality from the top face. Thus, following the same methodology noted above, a 5 dB penalty was included in this analysis. This creates an overall source sound power level for the top of the transformer, including tonality, of 102.2 dB(A). The tonal adjusted value of 102.2 dB(A) is utilized in this analysis to maintain additional conservancy in the model results.

4.2 Blasting Noise and Vibration

Although not certain at the time of writing, given the proximity of bedrock to the ground surface on Wolfe Island, CREC may perform blasting operations during the construction of the Project. Noise and vibration levels from any required blasting activities will be required to meet the MOE guideline as set out in MOE publication NPC 119.

Based upon NPC 119, if the entity in charge of the blasting operation carries out routine monitoring of peak pressure level, the peak pressure level limit for sound concussion resulting from blasting can be 128 dB. If the routine monitoring is not carried out, then the peak pressure level limit for sound concussion from blasting should be 120 dB.

Consistent with NPC 119, if the entity in charge of the blasting operation carries out routine monitoring of vibration, the peak particle velocity limit for vibration resulting from blasting can be 1.25 cm/s. If routine vibration monitoring is not carried out, then the peak particle velocity limit for vibration from blasting should be 1.00 cm/s.

4.3 Wind Turbine Generators

All of the wind turbines utilized by the Project will be Siemens Model SWT 2.3-93 wind turbines. These are turbines designed for medium and high-wind sites and are well suited for energy extraction in the Wolfe Island area. As evidenced by the model classification, the Siemens SWT 2.3-93 has a nominal rating of 2.3 MW. It has a three-bladed upwind rotor that drives an electric asynchronous generator via a planetary gear. Each blade has a length of 45 metres.

The Siemens turbine allows both the rotor and the generator to vary their speed by up to 10% during wind gusts to reduce strain on the turbine components and comes equipped with a microprocessor-controlled pitch regulating system. A separate hydraulic pitch cylinder for each blade is situated within the nacelle. The generator and associated gearing are housed in a nacelle that is mounted on an 80 m high tower. The nacelle unit is free to turn into the wind.

Other features of the Siemens SWT 2.3-93 include:

- typical rotor speed of revolution: 6 to 16 rpm
- air brake: three separate pitch settings
- cut-in wind speed: 4 m/s
- nominal wind speed: 16 m/s
- cut-out wind speed: 25 m/s
- generator: 60 Hz, 690 V, and 1,800 – 1980 rpm.

Additional information on the Siemens SWT 2.3-93 is provided in ATTACHMENT C.
Turbine coordinates are listed in Table 13 and Attachment F.

4.3.1 Potential Sources of Noise

There are several sources that contribute to the sound emitted by a typical wind turbine. As the rotating blades of the turbine extract power from the air-stream, the blades experience lift and drag forces. These forces generate sound, much in the same manner as a rotating propeller or fan – also known as aerodynamic noise. The sound is predominantly tonal, with the fundamental sound established by the blade passage frequency, which is the product of the total number of blades and the rotation rate. For the proposed turbines the blade passage has a maximum frequency of 1 Hz. This is well below the audible frequency range (i.e., 20 Hz to 16,000 Hz).

Sounds with frequency contents below 20 Hz are often referred to as infrasound. There are many other sources of infrasound such as those generated by winds, waterfalls, and the sound of waves breaking on the beach. Measurements at 200 m from typical units have shown that the infrasound levels are well below the level of perceptibility [1],[2]. As noted above, there are no non-participating Points of Reception within 400 m of a wind turbine and thus the potential effect of infrasound is not anticipated.

Perceptible sounds are generated predominantly by mechanical gears, the electric generator and a characteristic "swoosh" which is essentially higher frequency broadband noise that is amplitude modulated at a low frequency [1],[2]. In contrast to the first-generation wind turbines, some 30 years ago, innovations in blade geometry, materials, and mechanical systems have significantly lowered the sound power levels of present generation wind turbines, like those used for this Project.

4.3.2 Wind Turbine Noise Emission Rating

With a rotor speed six to sixteen rpm the resultant blade passage frequency spans the range 0.3 Hz to 0.8 Hz. Siemens has provided CREC with noise emissions for the SWT 2.3-93 wind turbines for wind speeds of 6ms/ to 10m/s with a quality assurance of +/- 1 dBA. See Table 8 below and Attachment C.

Table 8: Wind Turbine Sound Emission

Turbine Model	PWL(A) @ selected wind speed (m/s)					
	≤6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s
Siemens SWT 2.3-93	103 dBA	105 dBA	105 dBA	105 dBA	105 dBA	105 dBA

A typical noise emission spectrum for 6m/s wind speed, for wind at a 10m reference height was provided by Siemens (see Attachment C). Aercoustics used noise emission spectra outlined in the "Windtest" report of Attachment C for all other wind speeds. Table 9 presents all the turbine noise emission spectra that were used in the noise assessment calculations.

Table 9: ENIA Sound Power Spectrums @ wind speeds from 6m/s to 11m/s for Siemens SWT-2.3-93

Wind Speed (m/s)	Wind Turbine PWL @ 31.5 Hz	Wind Turbine PWL @ 63 Hz	Wind Turbine PWL @ 125 Hz	Wind Turbine PWL @ 250 Hz	Wind Turbine PWL @ 500 Hz	Wind Turbine PWL @ 1k Hz	Wind Turbine PWL @ 2k Hz	Wind Turbine PWL @ 4k Hz	Wind Turbine PWL @ 8k Hz	Overall PWL dBA
6 m/s	112.7 dB	109.6 dB	107.6 dB	106.5 dB	102.6 dB	95.6 dB	89.8 dB	85.1 dB	82.2 dB	103.4 dBA
7 m/s	112.9 dB	110.3 dB	109.1 dB	108.1 dB	104.0 dB	97.4 dB	91.4 dB	86.4 dB	83.2 dB	104.9 dBA
8 m/s	111.8 dB	109.7 dB	109.3 dB	108.6 dB	104.0 dB	97.2 dB	91.9 dB	87.2 dB	84.5 dB	105.1 dBA
9 m/s	112.1 dB	110.1 dB	109.0 dB	107.8 dB	103.8 dB	98.3 dB	92.2 dB	86.9 dB	83.9 dB	105.0 dBA
10 m/s	112.7 dB	109.6 dB	105.7 dB	103.9 dB	103.4 dB	100.5 dB	94.4 dB	87.7 dB	86.4 dB	104.9 dBA
11 m/s	112.7 dB	109.6 dB	105.7 dB	103.9 dB	103.4 dB	100.5 dB	94.4 dB	87.7 dB	86.4 dB	104.9 dBA

Attachment C also presents a detailed noise measurement report by "Windtest GmbH" for a single Siemens SWT 2.3-93 wind turbine. This noise emission measurement report demonstrates that the SWT 2.3-93 wind turbine meets the Siemens noise emission outlined in Table 8 above and presented in Attachment C.

As outlined in the Windtest report, for all wind speeds the tonal audibility $\Delta L_{a,k}$ is a negative number. This means that the tonality is below the tonal audibility criterion curve L_a. Therefore, tones are not audible and penalties are not appropriate and are not applied.

5.0 MODEL RESULTS

5.1 Transformer Station Impact Assessment

DataKustik CadnaA environmental noise model generated the worst-case results shown in Table 10. These results include sound power levels that account for tonality and contributions of the wind turbines. As indicated in the Table, and applying the conservative application of Class 3 (rural) areas to all Points of Reception, the transformers are not expected to meet the applicable noise guidelines without the application of abatement measures. The receptors identified in Table 10 are the worst-case receptors.

Table 10: Total Noise Impact without Transformer Noise Controls

Receptor	R26 (on Highway 96)	R27 (on Highway 96)	R576 (near 5th Line)	Allowable Level
Wind speed: 6m/s	42 dBA	44 dBA	41 dBA	40 dBA

5.1.1 Transformer Noise Controls

In order to satisfy the sound level limits at the receptor locations, a local transformer pit and a local acoustical barrier was applied as shown on Figure 9A, 9B, 9C. The barrier would encompass the area proximal to the north, east, and south faces of the transformers, leaving the west and top faces exposed for cooling. The barrier would have a nominal height of at least 5 m (at least 3.7m above the top surface of the core of the transformer, see Figure 9C). Additionally, 3.4 m tall earthen berm near the western extent of the transformer station property was applied to attenuate transformer noise propagating west.

The acoustical barrier would be constructed using Durisol sound blocks, or equivalent. The acoustical wall should be free of any gaps, openings, or discontinuities, and should have a surface weight of at least 4lb/ft^2 (20kg/m^2). Furthermore, the barrier should be an absorptive barrier to ensure that reflections are not a concern.

5.1.2 Cumulative Noise Effect

Based upon the above design considerations , the acoustical barrier, earthen berm, and countersunk transformers were inserted into the to DataKustik CadnaA environmental noise model. The model generated results outlined in Table 11. The resultant predicted worst-case conditions, are applied against the Class 3 (rural) designation, and account for transformer tonality and contributions from the wind turbines.

Table 11: Cumulative Noise Impact with Transformer Barriers

Receptor	R26 (on Highway 96)	R27 (on Highway 96)	R576 (near 5th Line)	Allowable Level
Wind speed: 6m/s	40 dBA	39 dBA	39 dBA	40 dBA

5.2 Wind Turbine Impact Assessment

The noise impact at 256 receptors has been predicted using a formula based on ISO 9613-2 Part 2; consistent with the MOE's modelling requirements. The locations and sound power levels of all the wind turbine sources, the transformer station sources and the location of the receptors were integrated into a master data file.

Environmental noise is predicted for each of 12 different wind directions separately in 30 degree increments. Each wind direction results in noise predictions for the 256 receptors. The highest noise for each receptor is outlined in the assessment summary Table 13. The wind direction for the worst receptor is wind blowing from 30 degrees, i.e. wind from the northeast. Each receptor has its own worst case wind direction, which is the wind direction from its nearest turbine to the receptor. This wind direction is downwind noise propagation. The noise assessment accounts for all turbines running simultaneously. It is unrealistic that the wind blows downwind from each turbine to a receptor (i.e. multiple wind directions at the same time). The highest noise level for each receptor, which represents the worst-case prediction, is outlined below in the assessment summary Table 13.

The programme computes the octave band levels at the receptors from all the sound sources, including the transformers. The resultant A-weighted sound pressure levels are then transferred to the site map that shows both source and receiver locations. The detailed maps showing the locations of the wind turbines, transformer station, and the receptors are found in Figure 11 and Attachment F.

The residences of the landowners that have entered into a Licence and Option to Lease Agreement with CREC are not included in this analysis as they will receive a direct economic benefit from the project. Thus, these receptors, consistent with the MOE Guidance Note contained in Attachment A, were considered "participating" and excluded from further evaluation.

Maximum sound levels have been predicted at all 256 receptors, the detailed calculations are provided in ATTACHMENT E. The maximum predicted sound levels at all receptors are predicted to be within the MOE environmental noise limits for Class 3 (rural) areas.

5.3 Wind Turbine Summary Tables

The sound power emitted by the wind turbines and transformer station, as well as their location with respect to the receptors determines the sound pressure levels induced by the operation of all Project components. The acoustic power of each wind turbine as provided by the manufacturer is shown in ATTACHMENT C and summarized in Table 12.

Table 12: Wind Turbine Sound Emission Summary

Turbine Model	Turbine ID	Turbine Easting	Turbine Northing	PWL(A) +/- 1 dBA, @ selected wind speed (m/s)					
				<=6m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s
Siemens SWT 2.3 -93	T1	381096	4890718	103 dBA	105 dBA	105 dBA	105 dBA	105 dBA	105 dBA
Siemens SWT 2.3 -93	T2	380970	4891106	103	105	105	105	105	105
Siemens SWT 2.3 -93	T3	380532	4891086	103	105	105	105	105	105
Siemens SWT 2.3 -93	T4	380265	4890695	103	105	105	105	105	105
Siemens SWT 2.3 -93	T5	380642	4890651	103	105	105	105	105	105
Siemens SWT 2.3 -93	T6	380783	4889413	103	105	105	105	105	105
Siemens SWT 2.3 -93	T7	380588	4889742	103	105	105	105	105	105
Siemens SWT 2.3 -93	T8	381190	4889698	103	105	105	105	105	105
Siemens SWT 2.3 -93	T9	380898	4890050	103	105	105	105	105	105
Siemens SWT 2.3 -93	T10	381248	4890217	103	105	105	105	105	105
Siemens SWT 2.3 -93	T11	381585	4889978	103	105	105	105	105	105
Siemens SWT 2.3 -93	T12	381835	4890321	103	105	105	105	105	105
Siemens SWT 2.3 -93	T13	382379	4890517	103	105	105	105	105	105
Siemens SWT 2.3 -93	T14	382188	4890906	103	105	105	105	105	105
Siemens SWT 2.3 -93	T15	381558	4888203	103	105	105	105	105	105
Siemens SWT 2.3 -93	T16	381258	4888690	103	105	105	105	105	105
Siemens SWT 2.3 -93	T17	381067	4888979	103	105	105	105	105	105
Siemens SWT 2.3 -93	T18	381653	4888713	103	105	105	105	105	105
Siemens SWT 2.3 -93	T19	382071	4888659	103	105	105	105	105	105
Siemens SWT 2.3 -93	T20	381804	4889250	103	105	105	105	105	105
Siemens SWT 2.3 -93	T21	382480	4889320	103	105	105	105	105	105
Siemens SWT 2.3 -93	T22	382263	4889684	103	105	105	105	105	105
Siemens SWT 2.3 -93	T23	382130	4890170	103	105	105	105	105	105
Siemens SWT 2.3 -93	T24	382735	4890034	103	105	105	105	105	105
Siemens SWT 2.3 -93	T25	382725	4890491	103	105	105	105	105	105
Siemens SWT 2.3 -93	T26	383140	4890843	103	105	105	105	105	105
Siemens SWT 2.3 -93	T27	382239	4891316	103	105	105	105	105	105
Siemens SWT 2.3 -93	T28	382110	4891661	103	105	105	105	105	105
Siemens SWT 2.3 -93	T29	384739	4886915	103	105	105	105	105	105
Siemens SWT 2.3 -93	T30	384728	4886411	103	105	105	105	105	105
Siemens SWT 2.3 -93	T31	384870	4886140	103	105	105	105	105	105
Siemens SWT 2.3 -93	T32	385244	4886397	103	105	105	105	105	105
Siemens SWT 2.3 -93	T33	384487	4887236	103	105	105	105	105	105
Siemens SWT 2.3 -93	T34	384045	4887203	103	105	105	105	105	105
Siemens SWT 2.3 -93	T35	384255	4887842	103	105	105	105	105	105
Siemens SWT 2.3 -93	T36	388872	4887339	103	105	105	105	105	105
Siemens SWT 2.3 -93	T37	388798	4887799	103	105	105	105	105	105
Siemens SWT 2.3 -93	T38	387285	4888063	103	105	105	105	105	105
Siemens SWT 2.3 -93	T39	387296	4887573	103	105	105	105	105	105
Siemens SWT 2.3 -93	T40	388007	4886993	103	105	105	105	105	105
Siemens SWT 2.3 -93	T41	387583	4886726	103	105	105	105	105	105
Siemens SWT 2.3 -93	T42	386303	4889081	103	105	105	105	105	105
Siemens SWT 2.3 -93	T43	390549	4891528	103	105	105	105	105	105
Siemens SWT 2.3 -93	T44	390346	4891151	103	105	105	105	105	105

Turbine Model	Turbine ID	Turbine Easting	Turbine Northing	PWL(A) +/- 1 dBA @ selected wind speed (m/s)					
				<=6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s
Siemens SWT 2.3 -93	T45	389996	4891249	103 dBA	105 dBA	105 dBA	105 dBA	105 dBA	105 dBA
Siemens SWT 2.3 -93	T46	389920	4890710	103	105	105	105	105	105
Siemens SWT 2.3 -93	T47	390438	4890506	103	105	105	105	105	105
Siemens SWT 2.3 -93	T48	389199	4889695	103	105	105	105	105	105
Siemens SWT 2.3 -93	T49	388637	4890406	103	105	105	105	105	105
Siemens SWT 2.3 -93	T50	388202	4890596	103	105	105	105	105	105
Siemens SWT 2.3 -93	T51	387725	4890476	103	105	105	105	105	105
Siemens SWT 2.3 -93	T52	387186	4890684	103	105	105	105	105	105
Siemens SWT 2.3 -93	T53	388107	4889392	103	105	105	105	105	105
Siemens SWT 2.3 -93	T54	387751	4889593	103	105	105	105	105	105
Siemens SWT 2.3 -93	T55	387531	4889914	103	105	105	105	105	105
Siemens SWT 2.3 -93	T56	385835	4890230	103	105	105	105	105	105
Siemens SWT 2.3 -93	T57	389830	4891783	103	105	105	105	105	105
Siemens SWT 2.3 -93	T58	389380	4892171	103	105	105	105	105	105
Siemens SWT 2.3 -93	T59	389135	4892814	103	105	105	105	105	105
Siemens SWT 2.3 -93	T60	388788	4893031	103	105	105	105	105	105
Siemens SWT 2.3 -93	T61	390017	4894155	103	105	105	105	105	105
Siemens SWT 2.3 -93	T62	389709	4893992	103	105	105	105	105	105
Siemens SWT 2.3 -93	T63	388770	4893412	103	105	105	105	105	105
Siemens SWT 2.3 -93	T64	388541	4893734	103	105	105	105	105	105
Siemens SWT 2.3 -93	T65	387713	4892924	103	105	105	105	105	105
Siemens SWT 2.3 -93	T66	388141	4891451	103	105	105	105	105	105
Siemens SWT 2.3 -93	T67	386810	4891256	103	105	105	105	105	105
Siemens SWT 2.3 -93	T68	386436	4891850	103	105	105	105	105	105
Siemens SWT 2.3 -93	T69	386252	4892239	103	105	105	105	105	105
Siemens SWT 2.3 -93	T70	386887	4893953	103	105	105	105	105	105
Siemens SWT 2.3 -93	T71	386332	4894081	103	105	105	105	105	105
Siemens SWT 2.3 -93	T72	385835	4892968	103	105	105	105	105	105
Siemens SWT 2.3 -93	T73	384261	4893401	103	105	105	105	105	105
Siemens SWT 2.3 -93	T74	384449	4892947	103	105	105	105	105	105
Siemens SWT 2.3 -93	T75	384516	4892627	103	105	105	105	105	105
Siemens SWT 2.3 -93	T76	383914	4893048	103	105	105	105	105	105
Siemens SWT 2.3 -93	T77	384485	4892136	103	105	105	105	105	105
Siemens SWT 2.3 -93	T78	385215	4890994	103	105	105	105	105	105
Siemens SWT 2.3 -93	T79	384859	4889375	103	105	105	105	105	105
Siemens SWT 2.3 -93	T80	384263	4889938	103	105	105	105	105	105
Siemens SWT 2.3 -93	T81	384157	4890367	103	105	105	105	105	105
Siemens SWT 2.3 -93	T82	383075	4893026	103	105	105	105	105	105
Siemens SWT 2.3 -93	T83	382824	4892624	103	105	105	105	105	105
Siemens SWT 2.3 -93	T84	382011	4891987	103	105	105	105	105	105
Siemens SWT 2.3 -93	T85	381893	4892264	103	105	105	105	105	105
Siemens SWT 2.3 -93	T86	382192	4892633	103	105	105	105	105	105

The total noise impact at each receptor, including the wind turbines and transformer station, has been summarized in the noise assessment summary table (Table 13). The predicted sound pressure levels, as well as the sound level limits as set by either MOE NPC-205 or NPC 232, are included for easy reference. The noise impact from the simultaneous operation of all wind turbines and transformers is below the sound level limit associated with NPC 232 (i.e., 40 dBA). The noise assessment summary table presents the predicted sound levels for all 256 receptors that are located off the project sites and are within 1,000m of a wind turbine. It should be noted that receptor numbers are not perfectly contiguous due to various changes to the participating/non-participating stakeholder list over the course of project design activities and screening of all receptors within 1,000 meters of the proposed turbine locations.

Table 13 Wind Turbine and Transformer Noise Assessment Summary:

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at Selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
RN1	Non-residential	384572	4894240	895	T73	36	37	38	37	37	37	40	43	45	49	51	53	40	Yes
R2	Residence	384488	4894197	828	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R3	Residence	384405	4894123	736	T73	37	38	39	39	38	38	40	43	45	49	51	53	40	Yes
R4	Residence	384431	4894139	757	T73	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
RN5	Non-residential	384568	4894285	936	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R6	Residence	384639	4894134	825	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
RN7	Non-residential	384686	4894101	819	T73	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R20	Residence	380059	4891626	718	T3	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R21	Residence	379833	4891337	743	T3	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R22	Residence	383743	4890912	607	T26	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R26	Residence	381780	4893070	601	T86	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R27	Residence	382283	4893364	737	T86	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R29	Residence	384597	4890820	632	T81	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
R30	Residence	383636	4889815	639	T80	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R31	Residence	383851	4889505	598	T80	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R32	Residence	384151	4889034	786	T79	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R33	Residence	385122	4887713	794	T33	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R35	Residence	386989	4886935	630	T41	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R36	Residence	387559	4886216	511	T41	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R37	Residence	388515	4886440	751	T40	37	38	39	39	38	38	40	43	45	49	51	53	40	Yes
R38	Residence	389150	4888098	462	T37	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R39	Residence	388169	4888063	682	T37	39	40	41	40	40	40	40	43	45	49	51	53	40	Yes
R40	Residence	388113	4888113	754	T37	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R41	Residence	388081	4888183	805	T38	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R42	Residence	387414	4888905	766	T54	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R43	Residence	388477	4888697	787	T53	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R44	Residence	386776	4888609	668	T42	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R45	Residence	386218	4888280	805	T42	37	38	39	38	38	38	40	43	45	49	51	53	40	Yes
R46	Residence	386472	4887836	844	T38	37	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R47	Residence	386483	4887698	823	T39	37	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R48	Residence	385063	4889989	647	T79	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP49	Participating Res.	385654	4890593	406	T56	41	43	43	43	43	43	40	43	45	49	51	53	40	No
R50	Residence	386152	4890866	711	T56	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R51	Residence	385754	4891483	728	T78	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R52	Residence	385802	4891555	699	T68	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R53	Residence	385179	4892537	669	T75	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R54	Residence	385056	4893287	696	T74	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R55	Residence	385789	4893961	556	T71	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R56	Residence	387281	4891718	660	T67	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R57	Residence	391233	4891382	699	T43	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R58	Residence	390365	4892138	637	T43	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
R59	Residence	390332	4892471	852	T57	38	39	40	40	39	39	40	43	45	49	51	53	40	Yes
R60	Residence	389886	4892727	752	T58	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP61	Participating Res.	389344	4893699	468	T62	42	43	43	43	43	43	40	43	45	49	51	53	40	No
R62	Residence	388023	4893632	528	T64	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R63	Residence	387687	4893722	798	T65	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R64	Residence	387435	4894101	568	T70	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R65	Residence	387074	4894668	739	T70	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R66	Residence	386999	4894652	708	T70	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R67	Residence	389354	4888531	919	T37	36	37	38	38	37	37	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level NPC 232	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11		
R68	Residence	390021	4889562	833	T48	37	38	39	38	38	38	40	43	45	49	51	53	40	Yes
R69	Residence	390899	4890339	490	T47	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R70	Residence	391235	4890633	807	T47	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R71	Residence	391274	4890672	852	T47	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R72	Residence	391348	4890749	942	T47	36	37	38	38	37	37	40	43	45	49	51	53	40	Yes
R73	Residence	391390	4890767	987	T47	36	37	38	37	37	37	40	43	45	49	51	53	40	Yes
R79	Residence	380415	4891981	903	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R80	Residence	380476	4892022	938	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R85	Residence	381152	4892703	861	T85	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R86	Residence	381135	4892639	846	T85	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R87	Residence	380962	4892451	950	T85	38	39	40	39	39	39	40	43	45	49	51	53	40	Yes
R88	Residence	381263	4892780	814	T85	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R89	Residence	381293	4892826	822	T85	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R90	Residence	387141	4886837	456	T41	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R91	Residence	389073	4894040	614	T64	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R92	Residence	390286	4892242	647	T57	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R94	Residence	383719	4891063	619	T26	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
R95	Residence	384766	4887862	511	T35	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R96	Residence	384097	4891251	886	T81	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R97	Residence	384836	4891642	606	T77	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R98	Residence	384422	4888436	617	T35	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R99	Residence	385226	4887204	566	T29	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R100	Residence	387338	4889030	698	T54	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R101	Residence	387654	4888988	607	T53	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R102	Residence	384940	4890199	726	T80	40	41	42	41	41	41	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
RP103	Participating Res.	384734	4890627	605	T78	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R104	Residence	386018	4891067	806	T78	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R105	Residence	386153	4893492	613	T72	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R106	Residence	387397	4891547	655	T67	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
R107	Residence	386570	4890193	736	T56	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R108	Residence	387040	4889456	671	T55	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
RP109	Participating Res.	386909	4889801	632	T55	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
RP110	Participating Res.	389890	4890134	577	T46	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R111	Residence	389265	4891158	737	T45	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R112	Residence	389295	4891265	701	T45	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R113	Residence	388592	4892232	790	T58	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R114	Residence	388247	4892594	628	T65	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
RP115	Participating Res.	389394	4893419	624	T63	41	43	43	43	43	43	40	43	45	49	51	53	40	NO
R116	Residence	389652	4889161	700	T48	37	38	39	38	38	38	40	43	45	49	51	53	40	Yes
R117	Residence	389727	4889423	594	T48	38	39	40	40	39	39	40	43	45	49	51	53	40	Yes
R118	Residence	387457	4888995	666	T54	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP119	Participating Res.	387419	4889039	646	T54	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R120	Residence	388955	4888529	747	T37	37	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R121	Residence	384294	4891308	850	T77	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R122	Residence	385323	4892488	702	T72	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP123	Participating Res.	384752	4888727	657	T79	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R125	Residence	383732	4889686	588	T80	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
R126	Residence	385659	4889004	649	T42	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R127	Residence	386970	4889544	672	T55	40	41	42	41	41	41	40	43	45	49	51	53	40	Yes
RP128	Participating Res.	385977	4889383	444	T42	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
RP129	Participating Res.	386651	4887584	645	T39	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
RP130	Participating Res.	384825	4887845	570	T35	40	41	42	41	41	41	40	43	45	49	51	53	40	Yes
R131	Residence	386294	4888138	943	T42	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R132	Residence	388169	4887933	643	T37	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP133	Participating Res.	388264	4890996	405	T50	43	45	45	45	45	45	40	43	45	49	51	53	40	No
RP134	Participating Res.	387197	4891620	531	T67	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
RP135	Participating Res.	388393	4889849	539	T53	42	44	44	44	44	44	40	43	45	49	51	53	40	NO
R136	Residence	389734	4889808	547	T48	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R137	Residence	387029	4892265	724	T68	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP138	Participating Res.	388323	4892674	586	T60	41	42	42	42	42	42	40	43	45	49	51	53	40	NO
R139	Residence	386965	4893214	743	T70	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
RP140	Participating Res.	387325	4893103	427	T65	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
RP141	Participating Res.	386223	4892696	458	T69	42	43	43	43	43	43	40	43	45	49	51	53	40	NO
R142	Residence	387442	4893945	555	T70	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R144	Residence	386533	4889872	784	T56	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R163	Residence	379758	4891620	940	T3	37	38	39	38	38	38	40	43	45	49	51	53	40	Yes
R164	Residence	380094	4891656	719	T3	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R165	Residence	380128	4891679	718	T3	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R166	Residence	381392	4892802	735	T85	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R167	Residence	381145	4892564	806	T85	39	40	40	40	40	40	40	43	45	49	51	53	40	Yes
R169	Residence	382386	4893380	772	T86	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R170	Residence	382479	4893424	717	T82	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R171	Residence	382620	4893500	657	T82	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R172	Residence	383099	4893826	800	T82	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R173	Residence	383866	4893969	692	T73	38	39	40	39	39	39	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R174	Residence	383837	4893964	705	T73	38	39	40	39	39	39	40	43	45	49	51	53	40	YeS
R175	Residence	383919	4893980	672	T73	38	39	40	40	39	39	40	43	45	49	51	53	40	YeS
R176	Residence	384019	4894027	671	T73	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R177	Residence	384116	4894113	727	T73	37	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R178	Residence	384158	4894129	735	T73	37	38	39	38	38	38	40	43	45	49	51	53	40	YeS
R179	Residence	384240	4894173	772	T73	37	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R180	Residence	384298	4894201	801	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R181	Residence	384362	4894265	870	T73	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R193	Residence	384866	4894197	1000	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R194	Residence	384874	4894159	975	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
RN223	Non-residential	384763	4893997	779	T73	37	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R224	Residence	384805	4893862	713	T73	38	39	40	39	39	39	40	43	45	49	51	53	40	Yes
RN225	Non-residential	384912	4893751	739	T73	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R231	Residence	385461	4894556	992	T71	34	36	36	36	36	36	40	43	45	49	51	53	40	YeS
R232	Residence	385523	4894539	930	T71	35	36	36	36	36	36	40	43	45	49	51	53	40	YeS
R233	Residence	385402	4894409	986	T71	35	36	37	37	36	36	40	43	45	49	51	53	40	YeS
R236	Residence	385503	4894411	892	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R237	Residence	385483	4894450	926	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R296	Residence	384648	4890991	567	T78	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RP297	Participating Res.	384829	4890356	672	T81	40	42	42	42	42	42	40	43	45	49	51	53	40	YeS
R304	Residence	383196	4886704	985	T34	36	37	38	38	37	37	40	43	45	49	51	53	40	YeS
R305	Residence	383197	4886725	973	T34	36	37	38	38	37	37	40	43	45	49	51	53	40	YeS
R306	Residence	383190	4886760	963	T34	36	37	38	38	37	37	40	43	45	49	51	53	40	YeS
R307	Residence	383168	4886816	959	T34	36	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R308	Residence	383171	4886843	945	T34	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R309	Residence	383191	4886865	918	T34	37	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R310	Residence	383227	4886973	850	T34	37	38	39	39	38	38	40	43	45	49	51	53	40	YeS
R311	Residence	383237	4887025	827	T34	37	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R312	Residence	383327	4887099	725	T34	38	39	40	39	39	39	40	43	45	49	51	53	40	YeS
R313	Residence	383374	4887193	671	T34	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R314	Residence	383387	4887222	658	T34	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R315	Residence	383459	4887430	628	T34	39	41	41	41	41	41	40	43	45	49	51	53	40	YeS
R316	Residence	383674	4887672	598	T34	40	42	42	42	42	42	40	43	45	49	51	53	40	YeS
R317	Residence	383703	4887713	567	T35	40	42	42	42	42	42	40	43	45	49	51	53	40	YeS
R318	Residence	383733	4887746	531	T35	40	42	42	42	42	42	40	43	45	49	51	53	40	YeS
R319	Residence	383913	4888204	498	T35	40	41	42	42	41	41	40	43	45	49	51	53	40	YeS
R320	Residence	383902	4888356	624	T35	39	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R321	Residence	384159	4888355	522	T35	39	41	41	41	41	41	40	43	45	49	51	53	40	YeS
R322	Residence	384133	4888259	434	T35	40	42	42	42	42	42	40	43	45	49	51	53	40	YeS
R335	Residence	387848	4885983	789	T41	36	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R336	Residence	387895	4886008	783	T41	36	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R338	Residence	387490	4885895	836	T41	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R339	Residence	388108	4886134	791	T41	36	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R340	Residence	389659	4887396	789	T36	36	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R341	Residence	389807	4887631	980	T36	35	36	36	36	36	36	40	43	45	49	51	53	40	YeS
R363	Residence	387773	4885952	797	T41	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R364	Residence	389484	4888888	856	T48	36	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R365	Residence	390083	4889597	889	T48	37	38	39	38	38	38	40	43	45	49	51	53	40	YeS
R366	Residence	390097	4889606	902	T48	37	38	39	38	38	38	40	43	45	49	51	53	40	YeS
R367	Residence	390121	4889626	925	T48	37	38	39	38	38	38	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R368	Residence	388270	4887890	536	T37	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
R387	Residence	390976	4893956	979	T61	34	35	36	35	35	35	40	43	45	49	51	53	40	Yes
R388	Residence	390916	4894090	901	T61	35	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R389	Residence	390367	4893833	476	T61	40	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R390	Residence	390734	4893965	742	T61	36	37	38	37	37	37	40	43	45	49	51	53	40	Yes
R391	Residence	390566	4894739	802	T61	35	36	37	37	36	36	40	43	45	49	51	53	40	Yes
RP392	Participating Res.	389526	4893166	526	T59	41	42	43	42	42	42	40	43	45	49	51	53	40	NO
R393	Residence	390134	4892386	675	T57	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R394	Residence	387011	4894740	797	T70	36	37	38	37	37	37	40	43	45	49	51	53	40	Yes
R395	Residence	386846	4894869	917	T70	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R396	Residence	386761	4894871	899	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R397	Residence	386846	4894799	847	T70	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R398	Residence	386807	4894905	951	T71	35	36	37	37	36	36	40	43	45	49	51	53	40	Yes
R399	Residence	386786	4894952	982	T71	35	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R421	Residence	386417	4894873	797	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R422	Residence	386441	4894873	799	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R423	Residence	386468	4894888	818	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R424	Residence	386577	4894640	610	T71	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R425	Residence	386301	4894646	566	T71	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R426	Residence	386355	4894685	604	T71	37	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R427	Residence	386411	4894661	585	T71	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R428	Residence	386465	4895014	942	T71	34	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R429	Residence	385995	4894866	854	T71	35	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R430	Residence	385766	4894485	695	T71	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R431	Residence	385541	4894440	869	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R432	Residence	385452	4894495	973	T71	35	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R433	Residence	385457	4894483	963	T71	35	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R434	Residence	385468	4894459	943	T71	35	36	37	37	36	36	40	43	45	49	51	53	40	Yes
R435	Residence	385909	4894739	782	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	Yes
RN436	Non-residential	385570	4894280	788	T71	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
RN437	Non-residential	386079	4891342	621	T68	40	41	42	42	41	41	40	43	45	49	51	53	40	Yes
RP438	Participating Res.	385242	4892212	761	T77	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R439	Residence	384851	4893592	620	T73	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
RN440	Non-residential	384921	4893798	770	T73	38	39	39	39	39	39	40	43	45	49	51	53	40	Yes
R441	Residence	384763	4894039	812	T73	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R442	Residence	384809	4894072	866	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R443	Residence	384819	4894039	848	T73	37	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R444	Residence	384846	4894090	904	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R445	Residence	384818	4894153	936	T73	36	37	38	38	37	37	40	43	45	49	51	53	40	Yes
R446	Residence	384776	4894187	940	T73	36	37	38	37	37	37	40	43	45	49	51	53	40	Yes
R451	Residence	384715	4894239	953	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R452	Residence	384785	4894228	979	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R489	Residence	384460	4894303	924	T73	34	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R490	Residence	384526	4894323	959	T73	34	36	36	36	36	36	40	43	45	49	51	53	40	Yes
R491	Residence	384494	4894300	929	T73	35	36	37	36	36	36	40	43	45	49	51	53	40	Yes
R492	Residence	384511	4894268	902	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R493	Residence	384464	4894270	892	T73	36	37	37	37	37	37	40	43	45	49	51	53	40	Yes
R494	Residence	384449	4894218	838	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R495	Residence	384412	4894199	812	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes
R496	Residence	384455	4894185	808	T73	36	38	38	38	38	38	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R497	Residence	384567	4894005	677	T73	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R498	Residence	384381	4894102	711	T73	37	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R499	Residence	384356	4894181	786	T73	37	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R502	Residence	383877	4893999	711	T73	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R503	Residence	383797	4893950	719	T73	38	39	40	39	39	39	40	43	45	49	51	53	40	YeS
R504	Residence	383701	4893824	702	T73	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R509	Residence	382833	4893924	930	T82	36	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R510	Residence	382903	4893987	976	T82	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R512	Residence	384220	4888396	555	T35	39	40	41	40	40	40	40	43	45	49	51	53	40	YeS
R513	Residence	384128	4888342	516	T35	39	41	41	41	41	41	40	43	45	49	51	53	40	YeS
R514	Residence	383830	4888027	464	T35	40	42	42	42	42	42	40	43	45	49	51	53	40	YeS
R515	Residence	383914	4888296	568	T35	39	41	41	41	41	41	40	43	45	49	51	53	40	YeS
R516	Residence	383433	4887276	616	T34	39	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R517	Residence	383383	4887209	662	T34	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R518	Residence	383398	4887270	650	T34	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R519	Residence	383295	4887087	759	T34	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R520	Residence	383270	4887068	787	T34	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R521	Residence	383200	4886911	894	T34	37	38	39	38	38	38	40	43	45	49	51	53	40	YeS
R522	Residence	383147	4886840	969	T34	37	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R523	Residence	383149	4886863	958	T34	37	38	39	38	38	38	40	43	45	49	51	53	40	YeS
R524	Residence	383183	4886788	957	T34	36	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R525	Residence	383196	4886678	998	T34	36	37	38	37	37	37	40	43	45	49	51	53	40	YeS
R534	Residence	383744	4888645	952	T35	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R535	Residence	385878	4887088	938	T32	37	38	38	38	38	38	40	43	45	49	51	53	40	YeS
R536	Residence	382438	4893414	746	T82	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description	GPS co-ords		Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
						<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
RN537	Non-residential	382442	4893361	716	T82	40	41	41	41	41	41	40	43	45	49	51	53	40	YeS
R538	Residence	382574	4893581	748	T82	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R539	Residence	382470	4893532	789	T82	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R540	Residence	382432	4893538	822	T82	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R541	Residence	382275	4893427	798	T86	39	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R542	Residence	381081	4892466	837	T85	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R543	Residence	381057	4892540	880	T85	38	40	40	40	40	40	40	43	45	49	51	53	40	YeS
R544	Residence	381011	4892518	918	T85	38	39	40	39	39	39	40	43	45	49	51	53	40	YeS
R545	Residence	380986	4892483	933	T85	38	39	40	39	39	39	40	43	45	49	51	53	40	YeS
R547	Residence	380500	4892063	978	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R549	Residence	380374	4891937	866	T3	38	39	40	39	39	39	40	43	45	49	51	53	40	YeS
R550	Residence	380136	4891817	831	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R551	Residence	380052	4891746	816	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R552	Residence	380096	4891785	824	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R553	Residence	380165	4891737	747	T3	38	40	40	40	40	40	40	43	45	49	51	53	40	Yes
RP554	Participating Res.	379983	4891657	792	T3	38	39	40	40	39	39	40	43	45	49	51	53	40	Yes
RP555	Participating Res.	379925	4891644	825	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R574	Residence	380030	4891732	818	T3	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R575	Residence	380930	4892450	981	T85	38	39	39	39	39	39	40	43	45	49	51	53	40	YeS
R576	Residence	383245	4892087	682	T83	40	41	42	42	41	41	40	43	45	49	51	53	40	YeS
R588	Residence	385420	4894373	958	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R589	Residence	385444	4894326	921	T71	35	37	37	37	37	37	40	43	45	49	51	53	40	YeS
R592	Residence	387746	4893651	728	T65	39	40	41	40	40	40	40	43	45	49	51	53	40	Yes
RP594	Participating Res.	387138	4891608	481	T67	41	42	43	42	42	42	40	43	45	49	51	53	40	NO
R595	Residence	389713	4889395	595	T48	38	39	40	40	39	39	40	43	45	49	51	53	40	Yes

Point of Reception ID	Receptor Description			Distance to nearest Wind Turbine (m)	Turbine ID	Calculated Sound Pressure Level (dBA) at selected Windspeeds (m/s)						Sound Level Limts (dBA) at Selected Windspeeds (m/s)						Background Level	Compliance with Limit (Yes/No)
		GPS co-ords				<=6	7	8	9	10	11	<=6	7	8	9	10	11	NPC 232	
R596	Residence	389888	4889983	728	T46	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R597	Residence	383415	4887427	669	T34	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes
R598	Residence	380092	4891431	559	T3	40	42	42	42	42	42	40	43	45	49	51	53	40	Yes
RP599	Participating Res.	383857	4893437	393	T76	43	45	45	45	45	45	40	43	45	49	51	53	40	NO
R600	Residence	387653	4888755	782	T53	39	41	41	41	41	41	40	43	45	49	51	53	40	Yes

6.0 CONCLUSION

A baseline ambient sound survey was conducted for the wind plant siting area to substantiate the regulatory sound level limit requirements for the Project. The noise data collected during the long-term monitoring period was subsequently used to compare the existing ambient noise levels to the sound level limit requirements as defined in the MOE Interpretation. While a Class 2 (urban) area was delineated with the site data, for conservancy in interpreting the model results, the entire study area was designated Class 3 (rural) for the purposes of the ENIA.

Building upon the project specific sound limit guidelines, noise impact prediction modelling was undertaken. The noise impact on the nearest points of reception was predicted using an acoustic model, ISO 9613, as required by the MOE, based on noise from the Project's wind turbine array, coupled with transformers with an acoustical barrier, earthen berm, countersunk, tonality penalty, and operating at maximum rated power.

The analysis shows that the cumulative noise impact from the Project does not exceed the most restrictive night-time noise limits that apply for areas with an acoustic designation of Class 3 (Rural) as defined by the MOE. Consequently, there is no need for the application of any additional mitigation measures and no further studies are contemplated for environmental noise in relation to the Project.

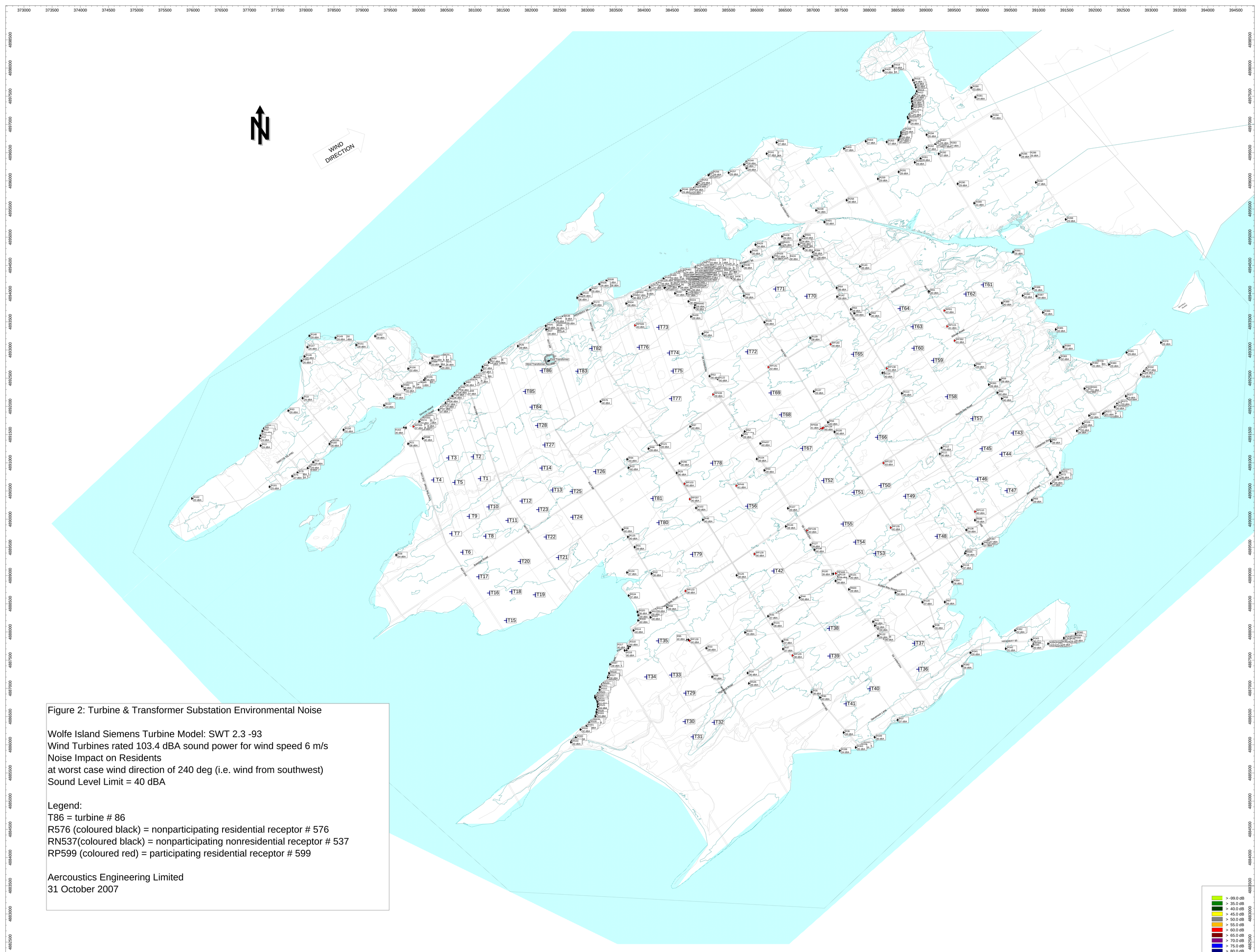
Finally, although not known at the time of writing, CREC may perform blasting operations during construction of the Project. Noise and vibration levels from blasting shall meet the MOE guidelines outlined in MOE publication NPC 119.

7.0 REFERENCES:

1. *Infrasound Emission from Wind Turbines,* Jorgen Jakobsen, Danish Environmental Protection Agency, 17 Aug 2005
2. *Infrasound from Wind Turbines-Fact, Fiction or Deception,* Geoff Leventhall, Journal of Canadian Acoustical Association, 2006
3. *NPC-102 – Instrumentation,* Ontario Ministry of Environment
4. *NPC-103 – Procedures,* Ontario Ministry of Environment
5. *NPC-104 – Sound Level Adjustments,* Ontario Ministry of Environment
6. *NPC-205 – Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban) ,* Ontario Ministry of Environment
7. *NPC-206 – Sound Levels due to Road Traffic,* Ontario Ministry of Environment
8. *NPC-232 – Sound Level Limits for Stationary Sources in Class 3 Areas (Rural) ,* Ontario Ministry of Environment
9. *NPC-233 – Information to be Submitted for Approval of Stationary Sources of Sound,* Ontario Ministry of Environment
10. *IEC 61400-11- "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques – International Restrictions", Dec. 2002*
11. *ISO-9613-2 – "Acoustics – Attenuation of sound propagation outdoors – Part 2: General method of calculation", Dec. 1996*
12. *ETSU-R-97 – "The Assessment and Rating of Noise from Wind Farms", Final Report, September 1996.*
13. *IEEE C57.12.90-1993 – Part I: IEEE Standard Test Code for Liquid – Immersed, Distribution, Power, and Regulating Transformers*
14. *CAN/CSA-C88-M90 – Power Transformers and Reactors – Electrical Power Systems and Equipment – A National Standard of Canada (Reaffirmed 2004)*

FIGURE 1: Key Plan




WIND DIRECTION
T1
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T86
Wind Transformer
SIMON ISLAND
Rocky Point Road
Rocky Point Road
Rocky Point Road

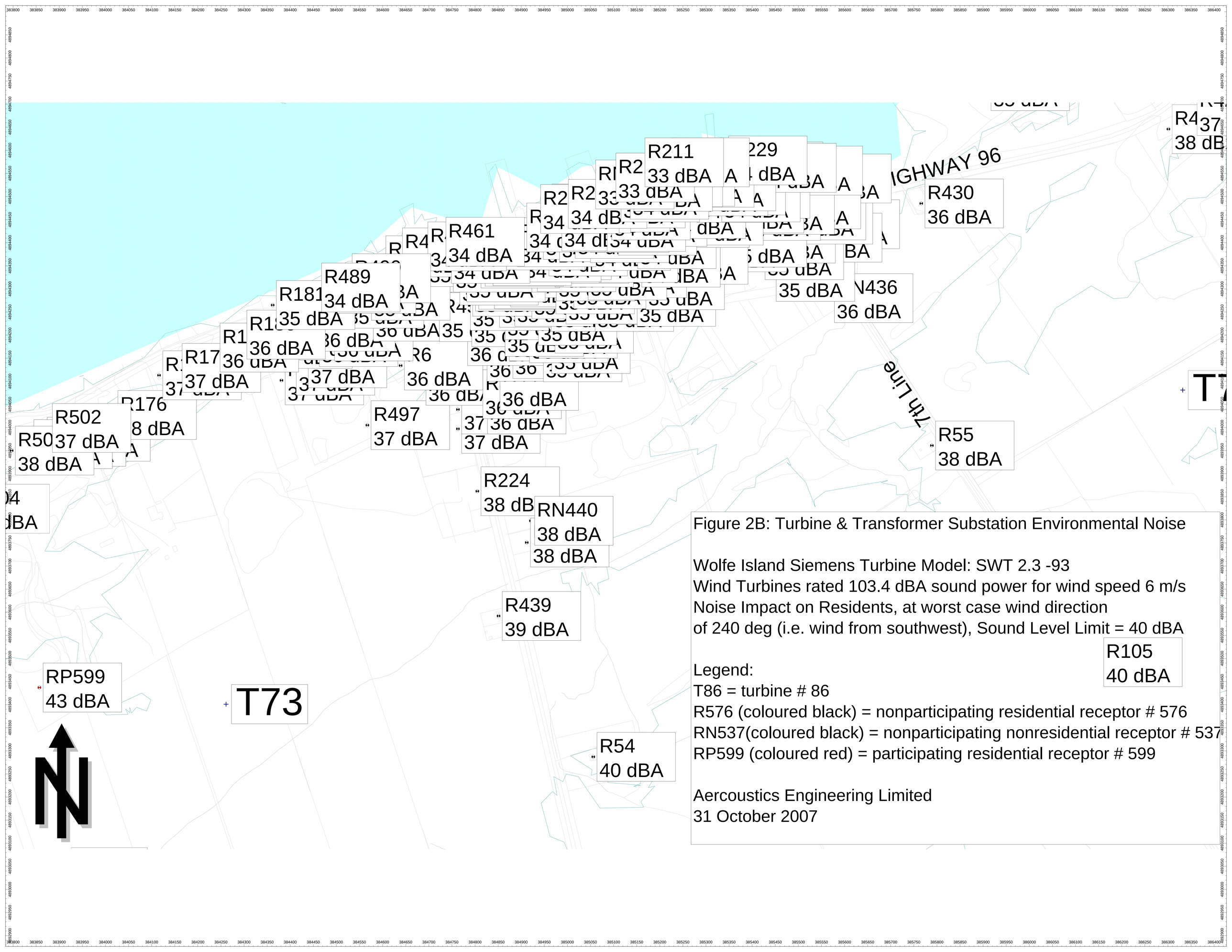


Figure 2B: Turbine & Transformer Substation Environmental Noise

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 103.4 dBA sound power for wind speed 6 m/s
Noise Impact on Residents, at worst case wind direction
of 240 deg (i.e. wind from southwest), Sound Level Limit = 40 dBA

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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Figure 2C: Turbine & Transformer Substation Environmental Noise

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 103.4 dBA sound power for wind speed 6 m/s
Noise Impact on Residents at worst case wind direction
of 240 deg, i.e. wind from southwest
Sound Level Limit = 40 dBA

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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R148 28 dBA
R149 28 dBA
R150 28 dBA
R152 28 dBA
R151 28 dBA
R147 26 dBA
R146 26 dBA
R145 26 dBA
R570
R567 33 dBA
R569
R566 33 dBA
R573 33 dBA
R571 35 dBA
R572 35 dBA
R156 32 dBA
R155 35 dBA
R36 dBA
R565 35 dBA
R563 dBA
R560 33 dBA
R154 34 dBA
R153 33 dBA
R559 35 dBA
R19 26 dBA
R157 34 dBA
R93 26 dBA
R23 36 dBA
R547 37 dBA
R79 37 dBA
R549 37 dBA
Simcoe Island
Ferry Road
R550
R552 37 dBA
R574 37 dBA
R553 38 dBA
R165 38 dBA
RP555 37 dBA
38 dBA
R163 36 dBA
R8
R9
R10 24 dBA
R11 24 dBA
R12 24 dBA
R13 24 dBA
R158 32 dBA
R159
R160 30 dBA
R598 40 dBA
R21 38 dBA
SIMCOE ISLAND
R14 29 dBA
R15 29 dBA
29 dBA
R78 27 dBA
R75
T3

Figure 2D: Turbine & Transformer Substation Environmental Noise

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 103.4 dBA sound power for wind speed 6 m/s
Noise Impact on Residents at worst case wind direction
of 240 deg, i.e. wind from southwest
Sound Level Limit = 40 dBA

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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Reeds Bay

Reeds Road

Highland Road

R98 38 dBA
R512 39 dBA
R513 39 dBA
R320 38 dBA
R515 39 dBA
R322 40 dBA
R319 40 dBA
R514 40 dBA
R318 40 dBA
R317 40 dBA
R316 40 dBA
R315 39 dBA
R518 38 dBA
R517 38 dBA
R520
R311 36 dBA
R310 36 dBA
R521 36 dBA
R309
R308
R307
R524
R306 34 dBA
34 dBA
R525 34 dBA
R526
R528
R303
33 dBA
R529
R530 33 dBA
R301 32 dBA
R532 32 dBA
R300 30 dBA
R533 30 dBA
R95 40 dBA
RP130 40 dBA
R323 35 dBA
R33 38 dBA
R99 40 dBA
R34 36 dBA
R535 36 dBA

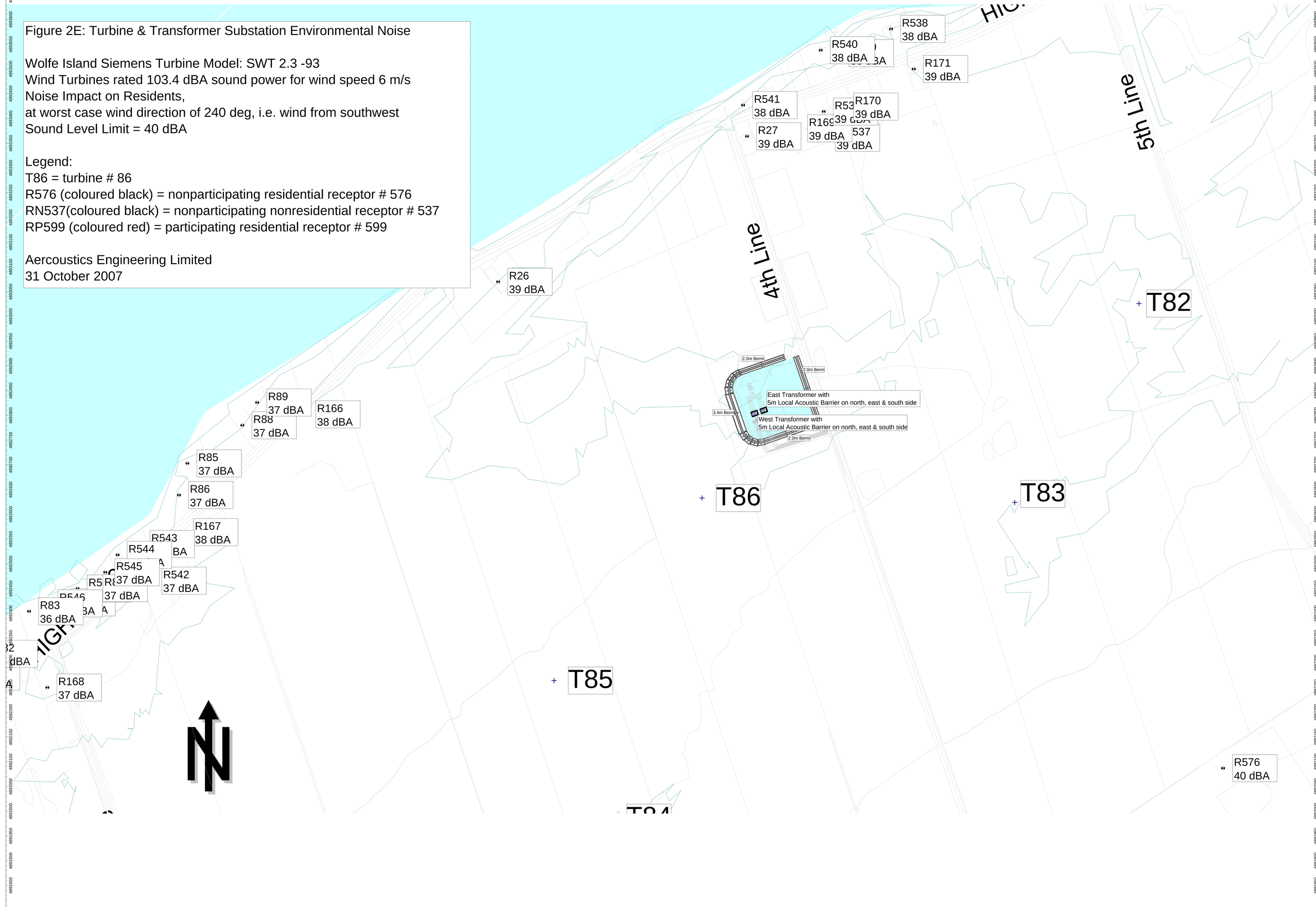
T35
T34
T33
T29
T30
T32
T31

Figure 2E: Turbine & Transformer Substation Environmental Noise

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 103.4 dBA sound power for wind speed 6 m/s
Noise Impact on Residents,
at worst case wind direction of 240 deg, i.e. wind from southwest
Sound Level Limit = 40 dBA

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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31 October 2007



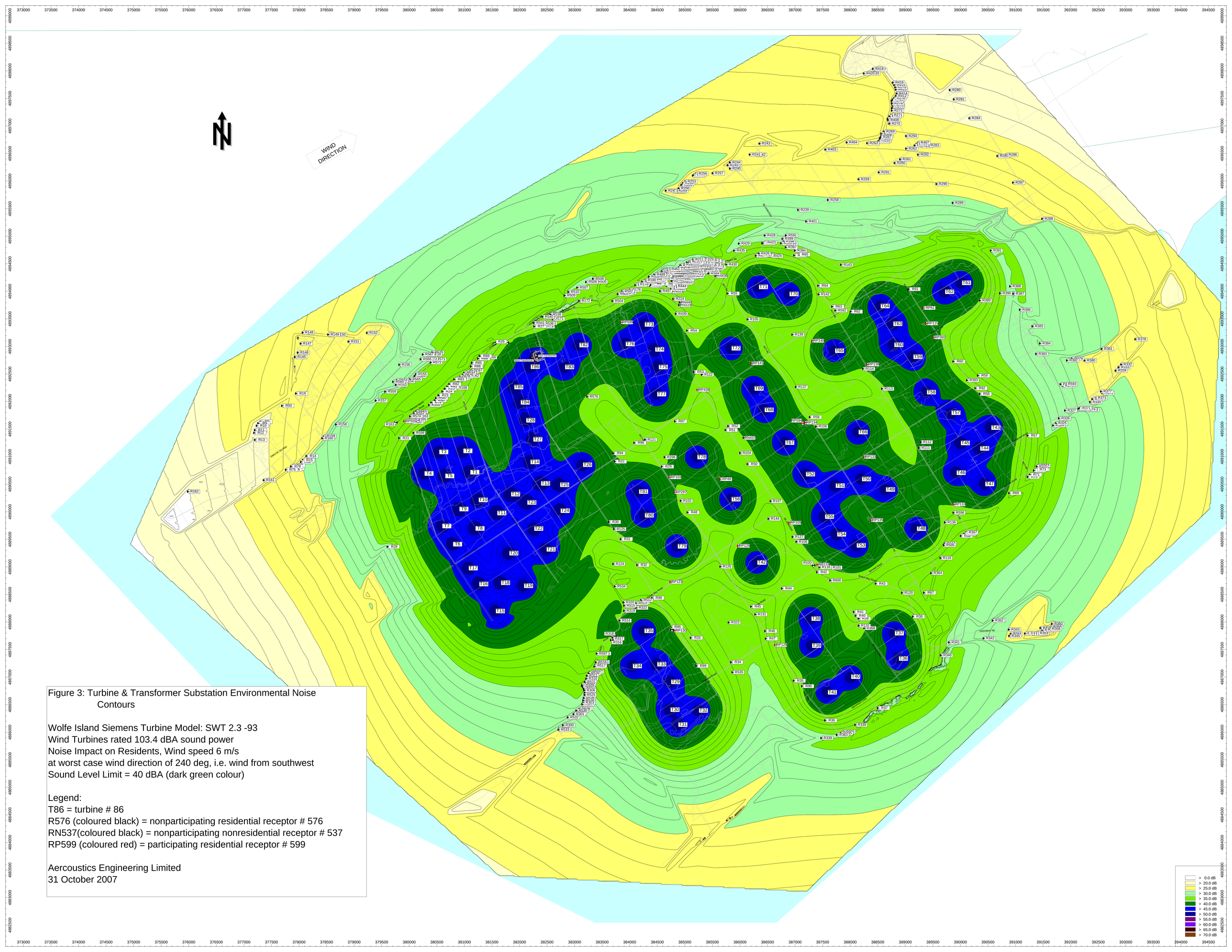
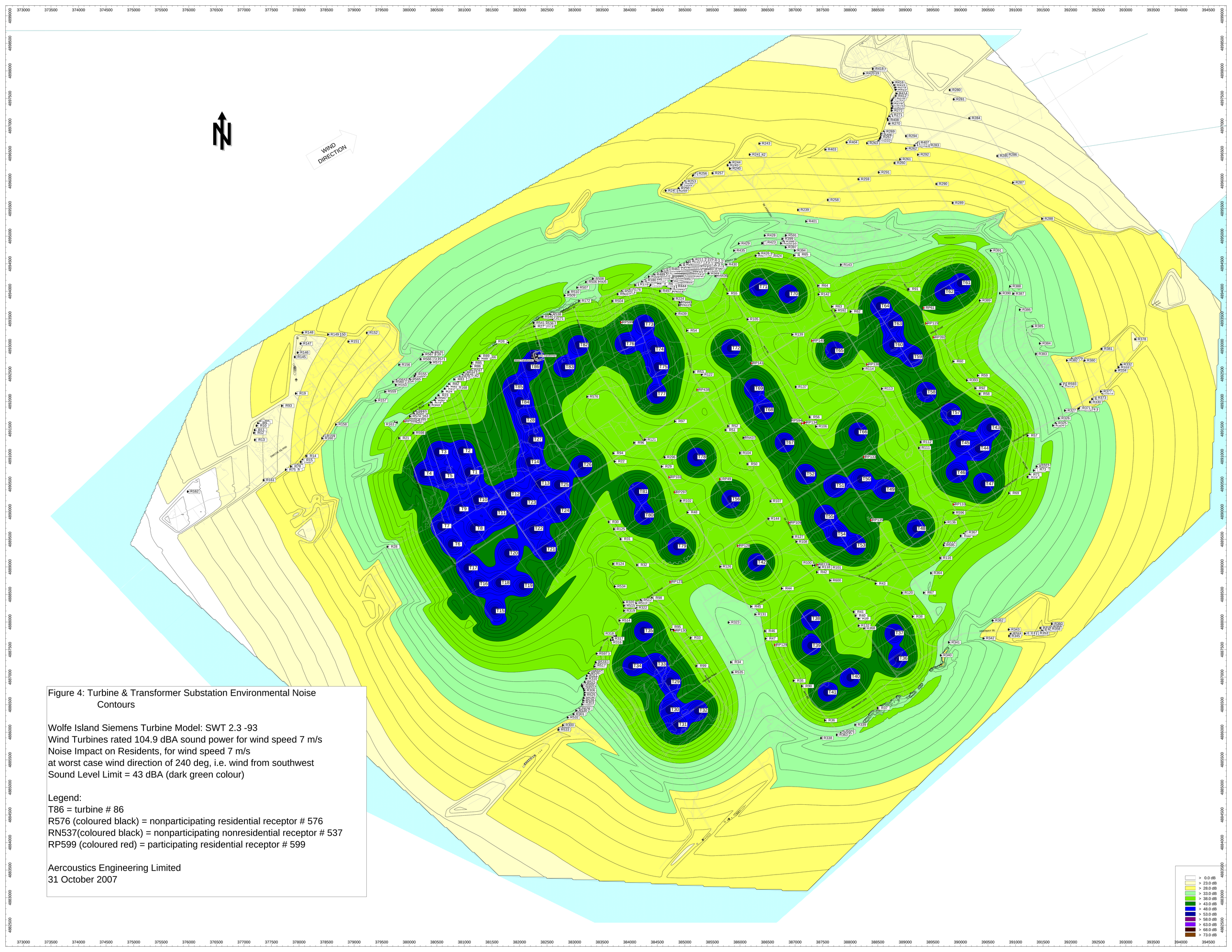


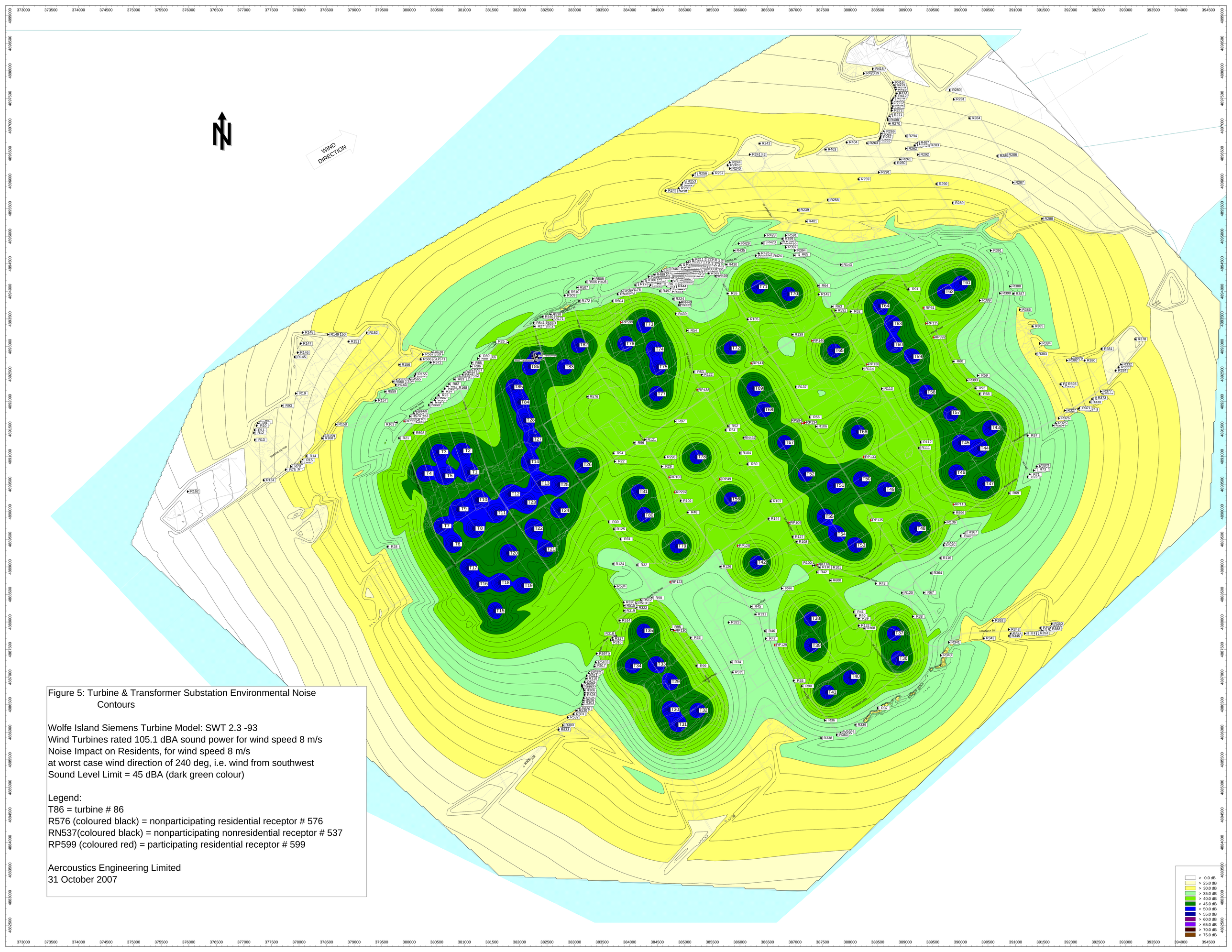
Figure 3: Turbine & Transformer Substation Environmental Noise Contours

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 103.4 dBA sound power
Noise Impact on Residents, Wind speed 6 m/s
at worst case wind direction of 240 deg, i.e. wind from southwest
Sound Level Limit = 40 dBA (dark green colour)

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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WIND DIRECTION
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
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T70
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T81
T82
T83
T84
T85
SWOOS ISLAND
Wolfe Island Shoreline
Bath Road
Front Road
Marysville Line
Sheridan Road
Bayridge Road
Telephone Road
Highway 95
Bayridge Road
Bayridge Road
Bayridge Road


WIND DIRECTION
WOLFE ISLAND
SIMCOE ISLAND
Cataraqui River
Gardiners Road
Bath Road
Battersea Road
Bayridge Road
Princess Street
Unnamed Road
HIGHWAY 95
Wolfe Island Ferry Terminal
Wolfe Island Ferry Terminal
Wolfe Island Ferry Terminal

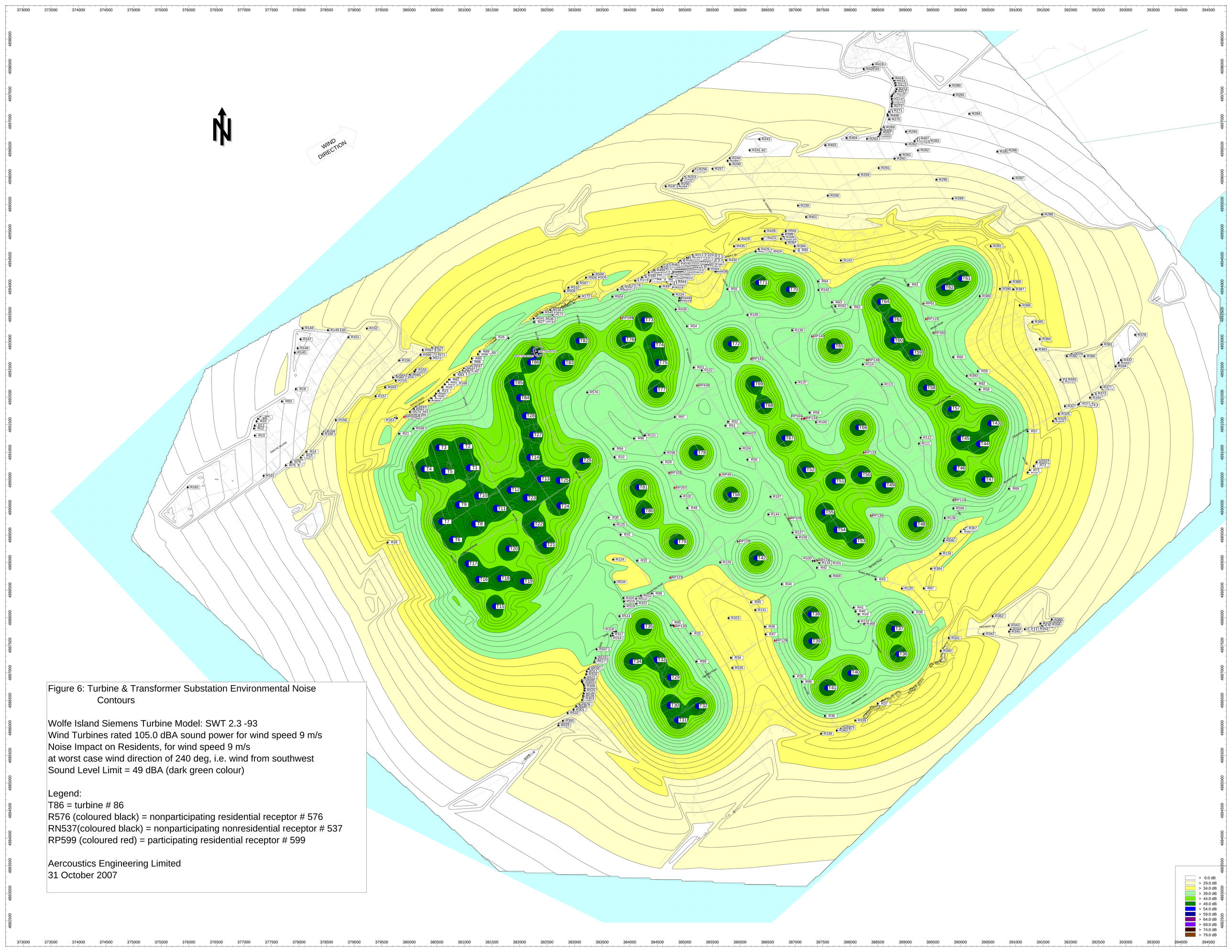


Figure 6: Turbine & Transformer Substation Environmental Noise Contours

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 105.0 dBA sound power for wind speed 9 m/s
Noise Impact on Residents, for wind speed 9 m/s
at worst case wind direction of 240 deg, i.e. wind from southwest
Sound Level Limit = 49 dBA (dark green colour)

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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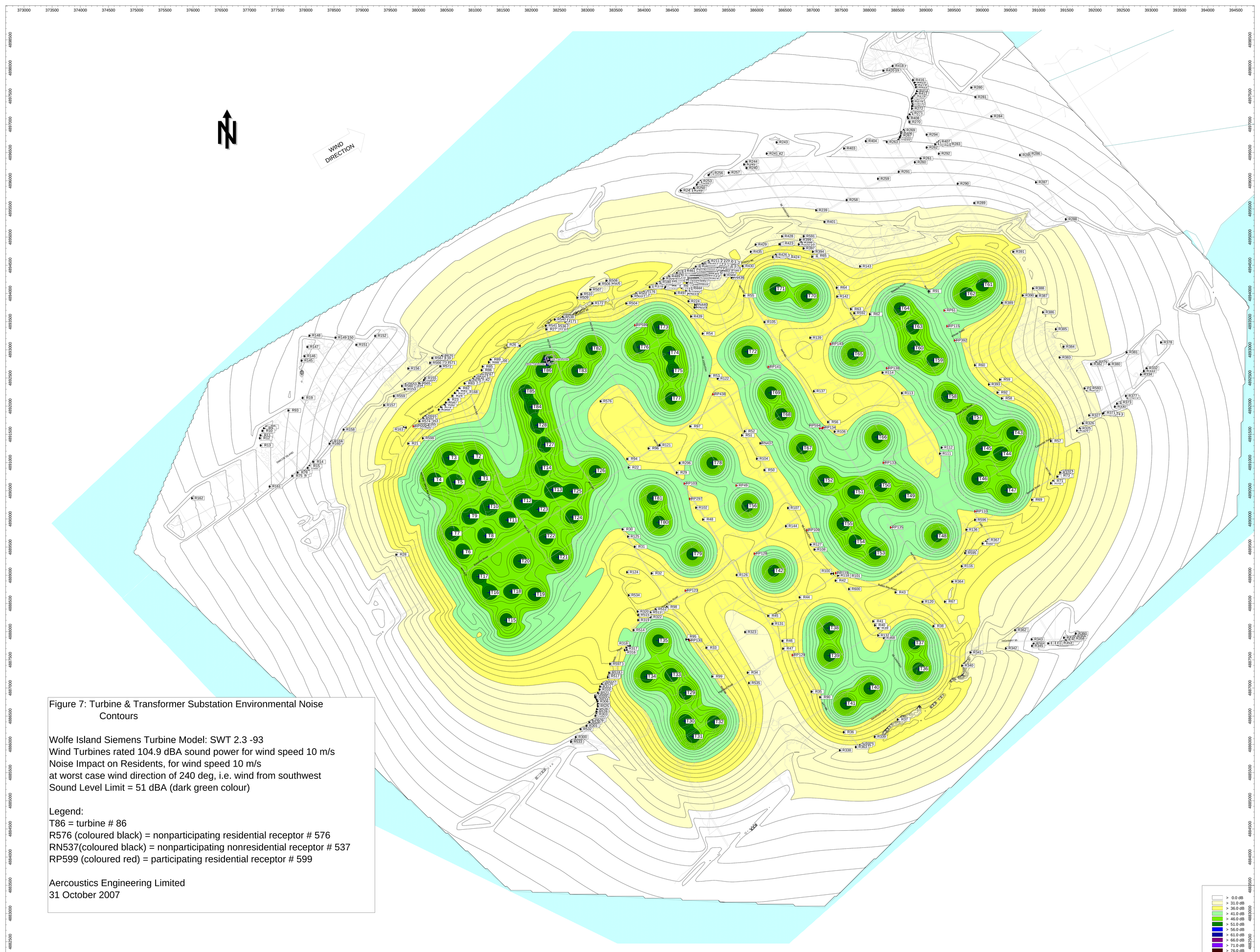


Figure 7: Turbine & Transformer Substation Environmental Noise Contours

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 104.9 dBA sound power for wind speed 10 m/s
Noise Impact on Residents, for wind speed 10 m/s
at worst case wind direction of 240 deg, i.e. wind from southwest
Sound Level Limit = 51 dBA (dark green colour)

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

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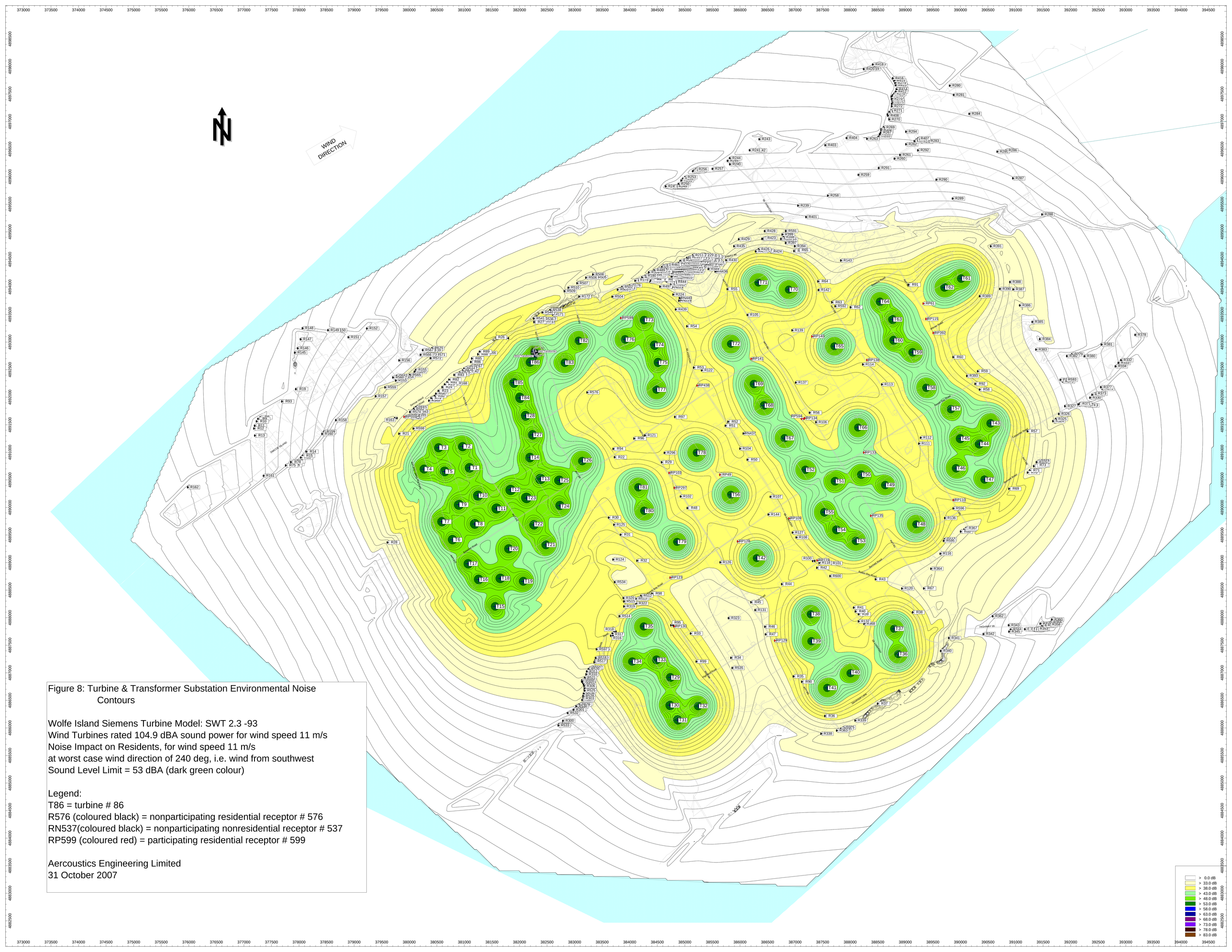


Figure 8: Turbine & Transformer Substation Environmental Noise Contours

Wolfe Island Siemens Turbine Model: SWT 2.3 -93
Wind Turbines rated 104.9 dBA sound power for wind speed 11 m/s
Noise Impact on Residents, for wind speed 11 m/s
at worst case wind direction of 240 deg, i.e. wind from southwest
Sound Level Limit = 53 dBA (dark green colour)

Legend:
T86 = turbine # 86
R576 (coloured black) = nonparticipating residential receptor # 576
RN537(coloured black) = nonparticipating nonresidential receptor # 537
RP599 (coloured red) = participating residential receptor # 599

Aercoustics Engineering Limited
31 October 2007

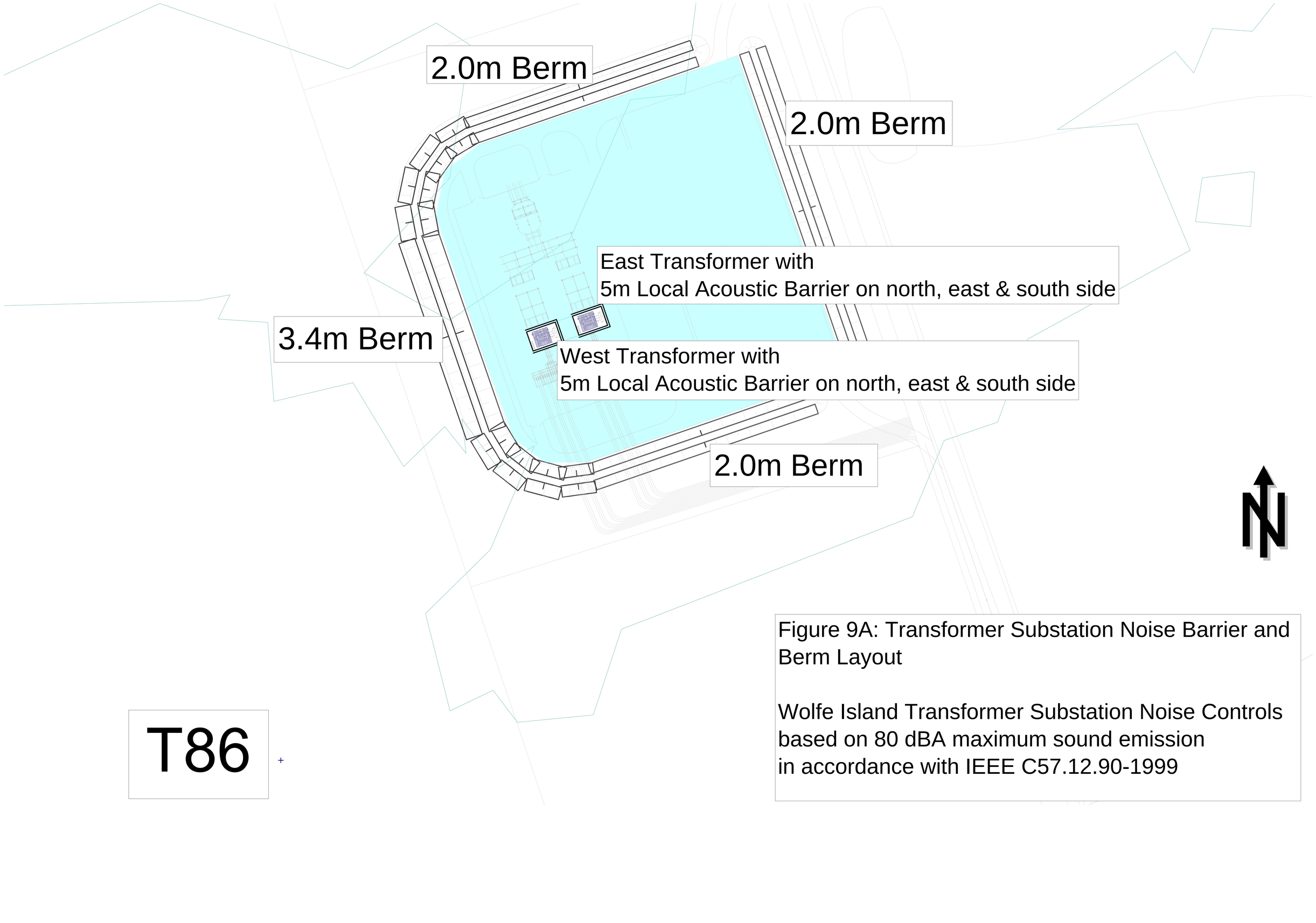


Figure 9A: Transformer Substation Noise Barrier and Berm Layout

Wolfe Island Transformer Substation Noise Controls based on 80 dBA maximum sound emission in accordance with IEEE C57.12.90-1999

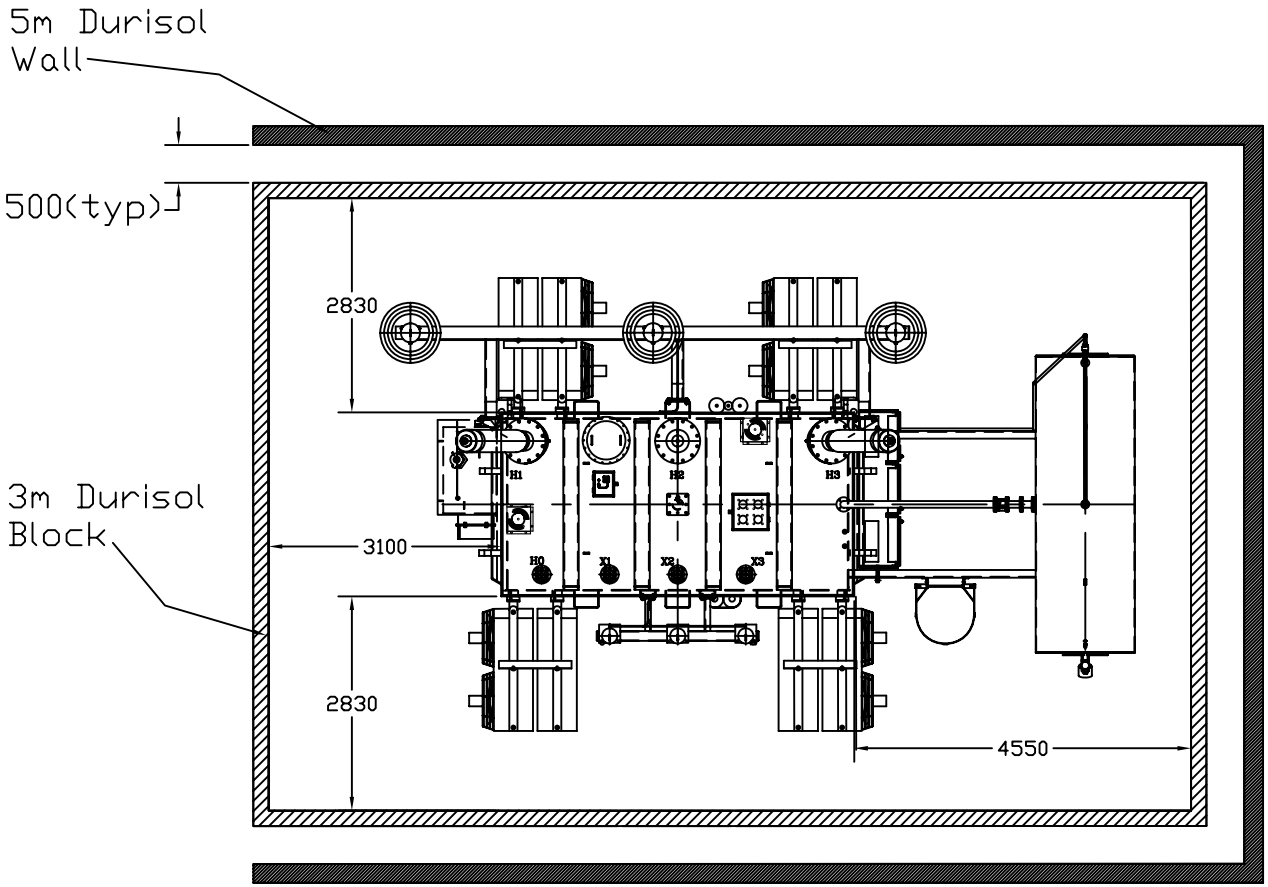


FIGURE : 9B

Transformer - Noise Controls/Plan View

The scope of work outlined in this document is limited to the acoustic, noise and/or vibration control aspects of the design. Contractor to verify all dimensions.

Scale 1:100	Dwg. No. Fig. 9B	PROJECT Wolfe Island Wind Project	AERCOUSTICS ENGINEERING LIMITED
Drawn	Checked ks	DRAWING	50 Ronson Drive Suite 165 Rexdale Ontario M9W 1B3 CANADA Phone: (416)249-3361
Date 12feb2007	File wi-cadna		

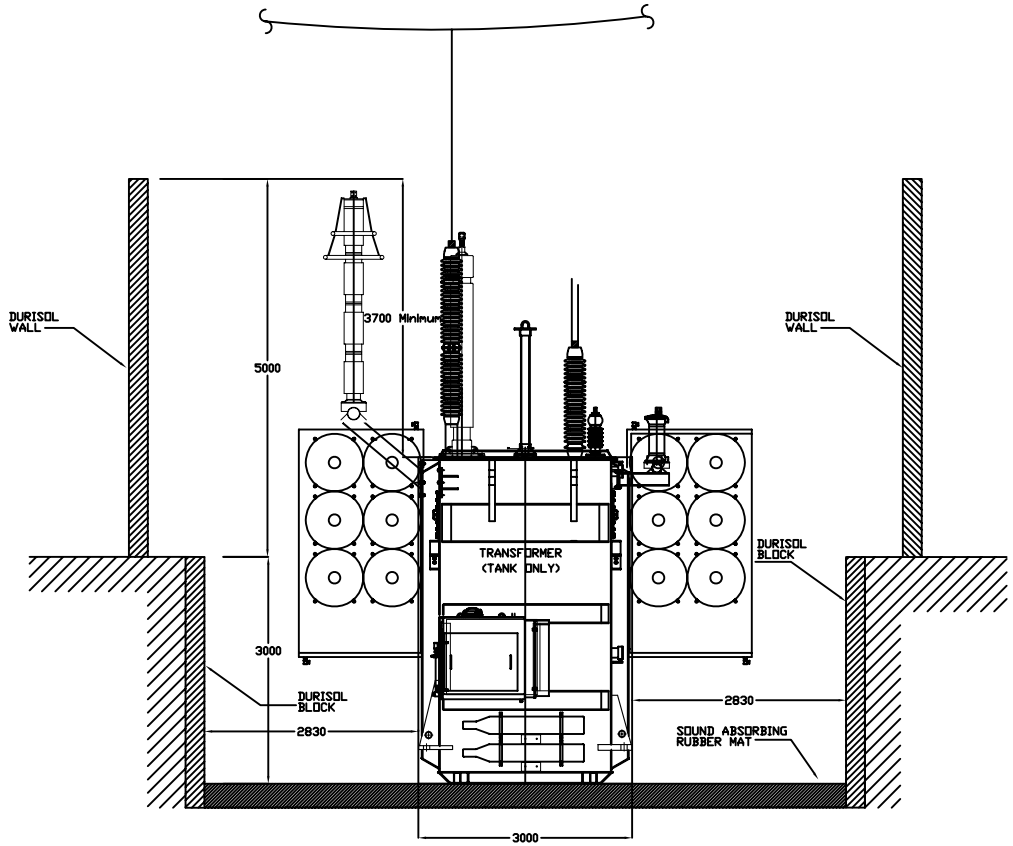


FIGURE : 9C

Transformer - Noise Controls/ Section

The scope of work outlined in this document is limited to the acoustic, noise and/or vibration control aspects of the design. Contractor to verify all dimensions.

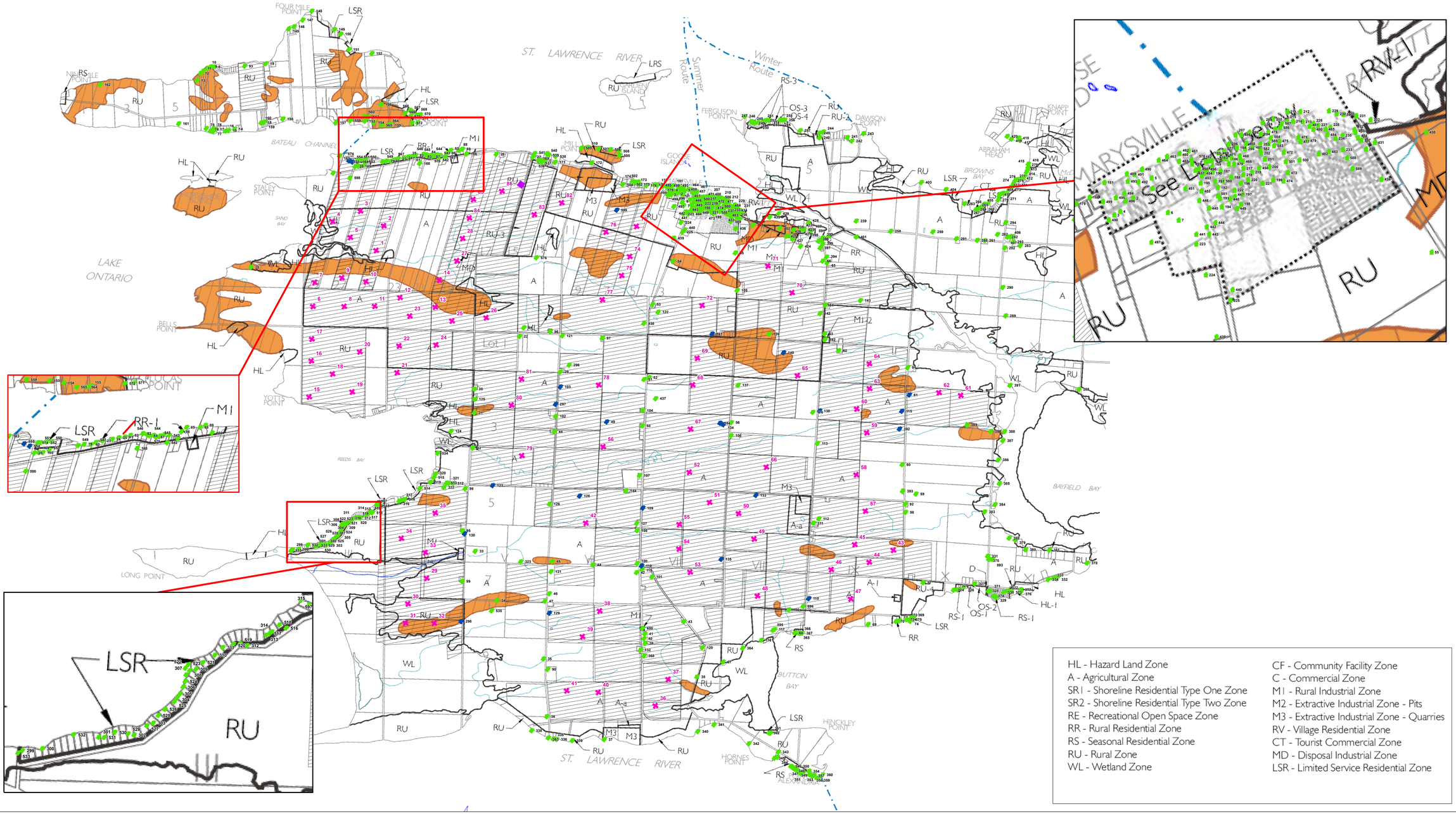
Scale 1:100	Dwg. No. Fig. 9C	PROJECT Wolfe Island Wind Project	AERCOUSTICS ENGINEERING LIMITED
Drawn	Checked ks	DRAWING	50 Ronson Drive Suite 165 Rexdale Ontario M9W 1B3 CANADA Phone: (416)249-3361
Date 12feb2007	File acl-fig2-WI-9002-A		

FIGURE 10A: Ambient Environmental Noise Monitoring Locations



FIGURE 10B: Ambient Environmental Noise Monitoring Locations (street names shown)





HL - Hazard Land Zone
A - Agricultural Zone
SR1 - Shoreline Residential Type One Zone
SR2 - Shoreline Residential Type Two Zone
RE - Recreational Open Space Zone
RR - Rural Residential Zone
RS - Seasonal Residential Zone
RU - Rural Zone
WL - Wetland Zone
CF - Community Facility Zone
C - Commercial Zone
M1 - Rural Industrial Zone
M2 - Extractive Industrial Zone - Pits
M3 - Extractive Industrial Zone - Quarries
RV - Village Residential Zone
CT - Tourist Commercial Zone
MD - Disposal Industrial Zone
LSR - Limited Service Residential Zone

- Non Participating Receptor
- Participating Receptor
- 34.5/ 230 kV Substation
- Land Under License and Option to Lease Agreement with CREC
- Proposed Turbine

CREC
CANADIAN RENEWABLE ENERGY CORPORATION

Wolfe Island Wind Project
Turbine Layout with Zoning Designations

Canadian Renewable Energy Corporation

0 1,000 2,000 3,000 4,000 Meters

Project
WI.08.429

Figure Number
Figure 11

Rev	D	M	Y	Comment
D	06	06	2007	

ATTACHMENT A

REPRINT OF MOE PUBLICATION, JULY 6, 2004

INTERPRETATION FOR APPLYING MOE NPC TECHNICAL PUBLICATIONS TO WIND TURBINE GENERATORS

INTERPRETATION FOR APPLYING MOE NPC TECHNICAL PUBLICATIONS TO WIND TURBINE GENERATORS

Noise impacts of proposed wind turbine generators, i.e. wind turbines, are considered in the course of assessing an application for a Certificate of Approval (Air), in accordance with Section 9 of the Environmental Protection Act. The purpose of this guidance document is to assist proponents of wind turbine installations in determining what information should be submitted when applying for a Certificate of Approval (Air). It has been developed in order to provide consistency in the submissions and to streamline the review and approval process.

As a minimum, the information package must include details of the wind turbine design and operation, location of the wind turbine within the specific site and surrounding area as well as summary of compliance applicable to noise. The following defines a template for reports to be submitted to the MOE. This information is supplementary to the information in MOE Publication NPC-233, Information to be Submitted for Approval of Stationary Sources of Sound.

REFERENCES

[1] NPC-102 - Instrumentation
[2] NPC-103 - Procedures
[3] NPC-104 - Sound Level Adjustments
[4] NPC-205 - Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)
[5] NPC-206 - Sound Levels due to Road Traffic
[6] NPC-232 - Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)
[7] NPC-233 - Information to be Submitted for Approval of Stationary Sources of Sound
[8] IEC 61400-11 - "Wind turbine generator systems - Part 11: Acoustic noise measurement techniques - International Restrictions", Dec. 2002
[9] ISO 9613-2 - "Acoustics-Attenuation of sound during propagation outdoors - Part 2: General method of calculation", Dec. 1996
[10] ETSU-R-97 - "The Assessment and Rating of Noise from Wind Farms", Final Report, September 1996

TECHNICAL DEFINITIONS

"Class 1 Area"

means an area with an acoustical environment typical of a major population centre, where the background noise is dominated by the urban hum.

"Class 2 Area"

means an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 Areas, and in which a low ambient sound level, normally occurring only between 23:00 and 07:00 hours in Class 1 Areas, will typically be realized as early as 19:00 hours.

Other characteristics which may indicate the presence of a Class 2 Area include:

i. absence of urban hum between 19:00 and 23:00 hours;
ii. evening background sound level defined by natural environment and infrequent human activity; and
iii. no clearly audible sound from stationary sources other than from those under consideration.

"Class 3 Area"

means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as the following:

i. a small community with less than 1000 population;
ii. agricultural area;
iii. a rural recreational area such as a cottage or a resort area; or a wilderness area.

Point of Reception

"Point of Reception" means any point on the premises of a person within 30 m of a dwelling or a camping area, where sound or vibration originating from other than those premises is received.

For the purpose of approval of new sources, including verifying compliance with Section 9 of the Act, the Point of Reception may be located on any of the following existing or zoned for future use premises: permanent or seasonal residences, hotels/motels, nursing/retirement homes, rental residences, hospitals, camp grounds, and noise sensitive buildings such as schools and places of worship.

For equipment/facilities proposed on premises such as nursing/retirement homes, rental residences, hospitals, and schools, the Point of Reception may be located on the same premises.

NOISE LIMITS

The noise limits for a wind turbine or an array of such units (referred to as a "wind farm") are set relative to the existing MOE Noise Guidelines in NPC-205/NPC-232 as well as to the wind generated background noise. The proponents are required to demonstrate compliance with the following sound level limits:

Wind turbine installations in Class 1 & 2 Areas (Urban)
Wind speeds below 8 m/s

The lowest sound level limit at a Point of Reception in Class 1 & 2 Areas (Urban), under conditions of average wind speed up to 8 m/s (29 km/h), expressed in terms of the hourly equivalent sound level (Leq) is 45 dBA or the minimum hourly background sound level established in accordance with requirements in Publications NPC-205/NPC-233, whichever is higher.

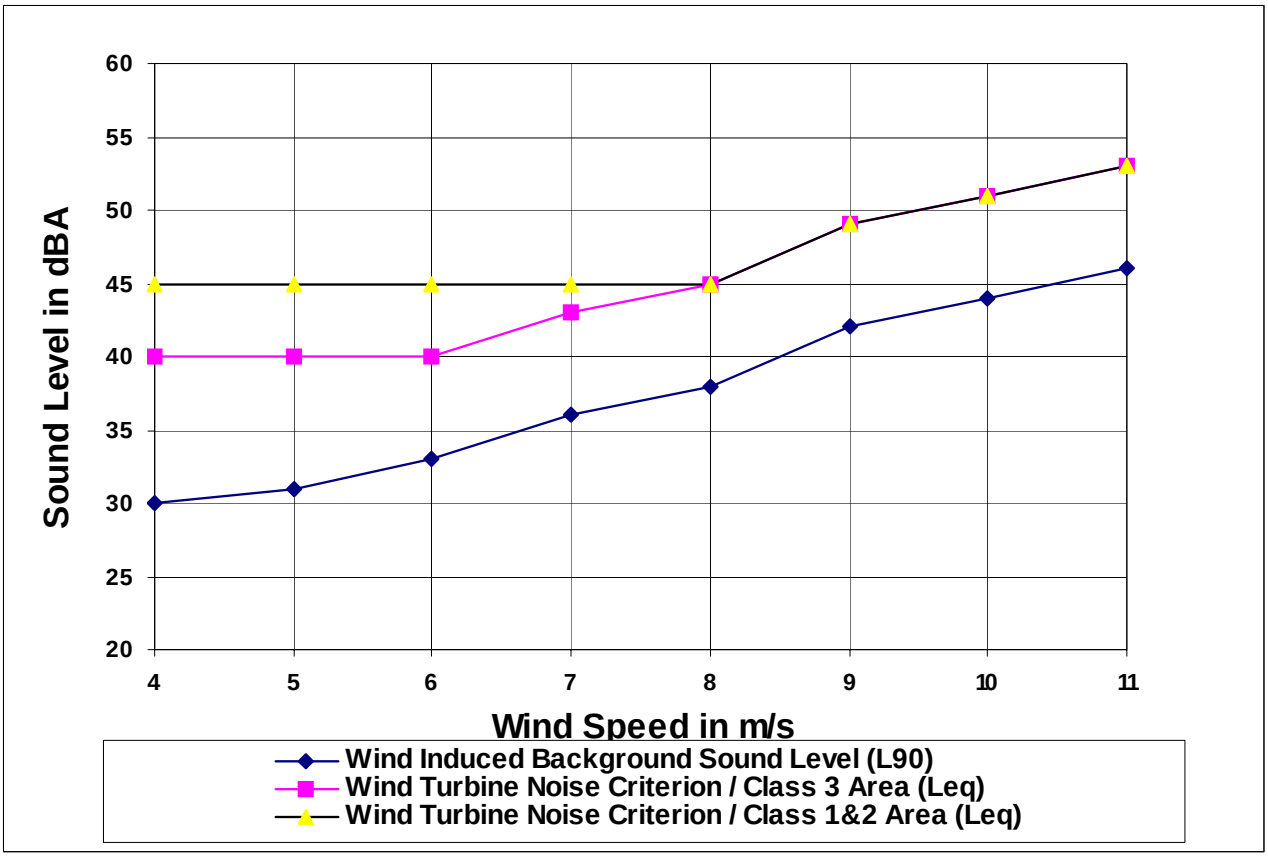
Wind Turbine Installations in Class 3 Areas (Rural)
Wind speeds below 6 m/s

The lowest sound level limit at a Point of Reception in Class 3 Areas (Rural), under conditions of average wind speed up to 6 m/s (22 km/h), expressed in terms of the hourly equivalent energy sound level (Leq) is 40 dBA or the minimum hourly background sound level established in accordance with requirements in Publications NPC-232/NPC-233, whichever is higher.

Wind Turbine Installations in Class 1& 2 and Class 3 Areas
Wind speeds above 8 and 6 m/s respectively

The sound level limit at a Point of Reception in Class Areas 1 & 2 (Urban) or in Class 3 Areas (Rural), under conditions of average wind speed above 8 m/s and 6 m/s respectively, expressed in terms of the hourly equivalent energy sound level (Leq), is the wind induced background sound level, expressed in terms of ninetieth percentile sound level (L_{A90}) plus 7 dB, or the minimum hourly background sound level established in accordance with requirements in Publications NPC-205/NPC-232/NPC-233, whichever is higher.

A summary of the above limits is shown in figure and table below.



Wind Speed (m/s)	4	5	6	7	8	9	10	11
Wind Turbine Noise Criterion NPC-232 (dBA)	40	40	40	43	45	49	51	53
Wind Turbine Noise Criterion NPC-205 (dBA)	45	45	45	45	45	49	51	53

NOTE:

1. The measurement of wind induced background sound level is not required to establish the applicable criterion. The wind induced background sound level reference curve in the figure above was determined by correlating the ninetieth percentile sound level (L_{A90}) with the average wind speed measured at a particularly quiet site.

2. If the existing minimum hourly background sound level, established in accordance with requirements in Publications NPC-205/NPC-232/NPC-233, is selected as the sound level limit, the measurement of wind speed (for the purpose of determination of wind induced background sound level) is not required. The selected limit applies in the entire range of wind speed under consideration from 4 m/s to 11 m/s with exception of the wind turbine noise criterion values higher than the existing minimum hourly background sound level.

3. Wind Turbine Noise Criterion at wind speeds expressed as fractional values of m/s should be interpolated from the above graph.

REPORT CONTENTS AND FORMAT

The noise report must contain the required information, organized in a clear and concise manner. The report should include the following sections in the given sequence:

1. Introduction
Objectives of report

2. General Description of Wind Turbine Installation Site and Surrounds
Description of the site general environment, including: adjacent zoning, sensitive receiver locations (Points of Reception); suitable mapping of the site and surrounding area, providing elevations of source receivers and intervening structures or topography where applicable to the assessment;

3. Description of Receptors
Detailed acoustical description of the area surrounding the facility including: Identification of the closest and/or the critical Points of Reception, identifying noise sensitive residential or institutional uses - (industrial, commercial uses are also desirable information); Determination of the applicable minimum hourly background sound level limit at the critical Points of Reception, in accordance with NPC 205/232 and NPC-233;

4. Description of Sources
Description of the wind turbine (wind farm) including: manufacturer & model number; Design principle & geometric configuration (horizontal, vertical, upwind, downwind, rotor diameter and centre height, blade type, number of blades, tower height); Power train (direct from rotor to generator, indirect through gearbox); Operating details (single, twin or variable speed, power curve, generator rated power output and rotational speed); Park lay-out (for a wind farm);

5. Wind Turbine Noise Emission Rating
Noise emission levels in terms of sound power level of the wind turbine as a function of wind speed (determined in accordance with IEC 61400-11 method), provided by the wind turbine manufacturer;

6. **Impact Assessment**
   Calculation of the sound pressure level at each critical Point of Reception for each wind turbine or an aggregate of units (wind farm) using ISO 9613 method.
   Noise impact assessment under a "worst case scenario" at the critical Points of Reception, up to a distance of 1000 m from the wind turbine (or closest unit in a wind farm); Impact assessment is not required for Points of Reception farther than 1000 m from the wind turbine (or closest unit in a wind farm);
   Comparison with the applicable noise limit;
7. **Wind Turbine Summary Tables**
   Wind Turbine Source Summary Table and Wind Turbine Assessment Summary Table; (samples attached);
8. **Conclusions and Recommendations**
   Summary of impacts and verification of compliance with the noise limits;
9. **Appendices, etc.**
   Details of measurements and calculations, specifications, plans, eng. dwgs, etc.

WIND TURBINE SUMMARY TABLES

The noise report must contain Wind Turbine Summary Tables, summarising the results of the Acoustical Report and demonstrating compliance. The Wind Turbine Summary Tables must address pertinent source(s) and receptors (Points of Reception).
The information in the Wind Turbine Summary Tables must be presented in two tables:

1. Wind Turbine Source Summary Table
2. Wind Turbine Assessment Summary Table

The following examples of summary tables must be incorporated into the report:

Wind Turbine Noise Emission Summary Table
(add rows for additional sources)

	Wind Turbine ID	Max PWL at wind speed <6 m/s	PWL at selected wind speed in m/s				
			7	8	9	10	11
1	WT6000	93	97	99	100	104	106
2							
3							

Note:
1. PWL denotes Sound Power Level in dB re 10^{-12} Watt
2. Noise emissions of a wind farm are represented by a sum of PWL values for individual wind turbine units.

Wind Turbine Noise Impact Assessment Summary Table

Identify all receptors (add rows for additional Points of Reception)

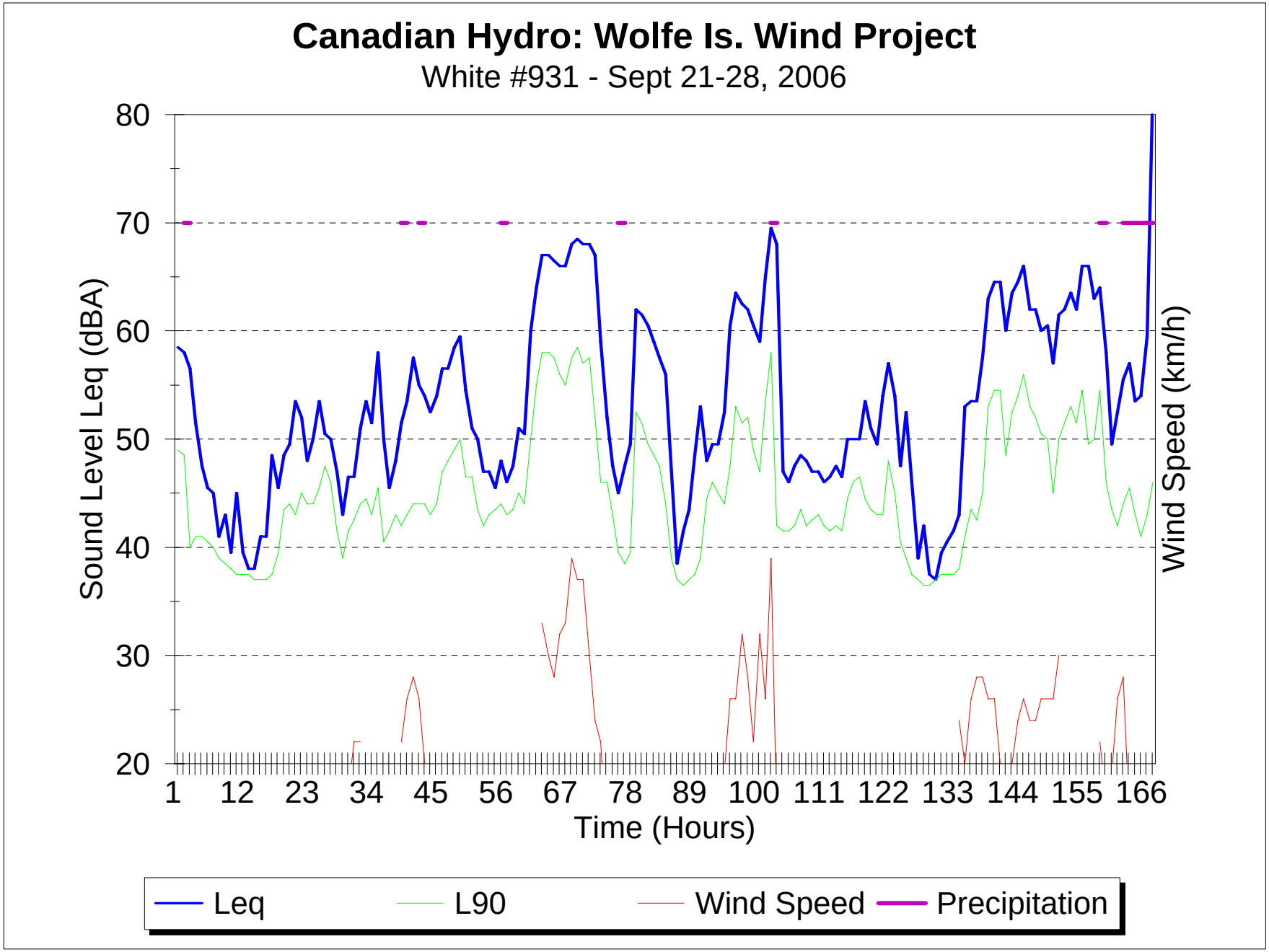
Point of Reception ID	Receptor Description	Distance to closestWind Turbine (m)	Calculated Sound Pressure Level at Receptor (dBA) at selected Wind Speed in m/s						Sound Level Limit (dBA) at selected Wind Speed in m/s						Applicable Background Sound Level		Compliance with Limit (Yes/No)
			6 or <	7	8	9	10	11	6 or <	7	8	9	10	11	NPC 205	NPC 232	
R1	Residence to East	100	43	44	**48**	**50**	**54**	**56**	45	45	45	49	51	53	46		No
R2	Apt. Bldg. to South	150	40	42	45	47	51	**53**	45	45	45	49	51	53	51		No
R3	Nursing Home to West	200	37	39	42	44	48	50	45	45	45	49	51	53	47		Yes
R4	Residence to North	260	35	38	40	42	46	48	40	43	45	49	51	53		44	Yes

Note: Values in the table which are **underlined/bold** denote an excess over the applicable limit.

ATTACHMENT B

LONG TERM COMMUNITY NOISE DATA COLLECTED AT MONITORING LOCATIONS

AERCOUSTICS ENGINEERING LIMITED


Canadian Hydro: Wolfe Is. Wind Project
White #931 - Sept 21-28, 2006
Sound Level Leq (dBA)
Wind Speed (km/h)
80
70
60
50
40
30
20
1
12
23
34
45
56
67
78
89
100
111
122
133
144
155
166
Time (Hours)
Leq
L90
Wind Speed
Precipitation

Site 1: White Property #931







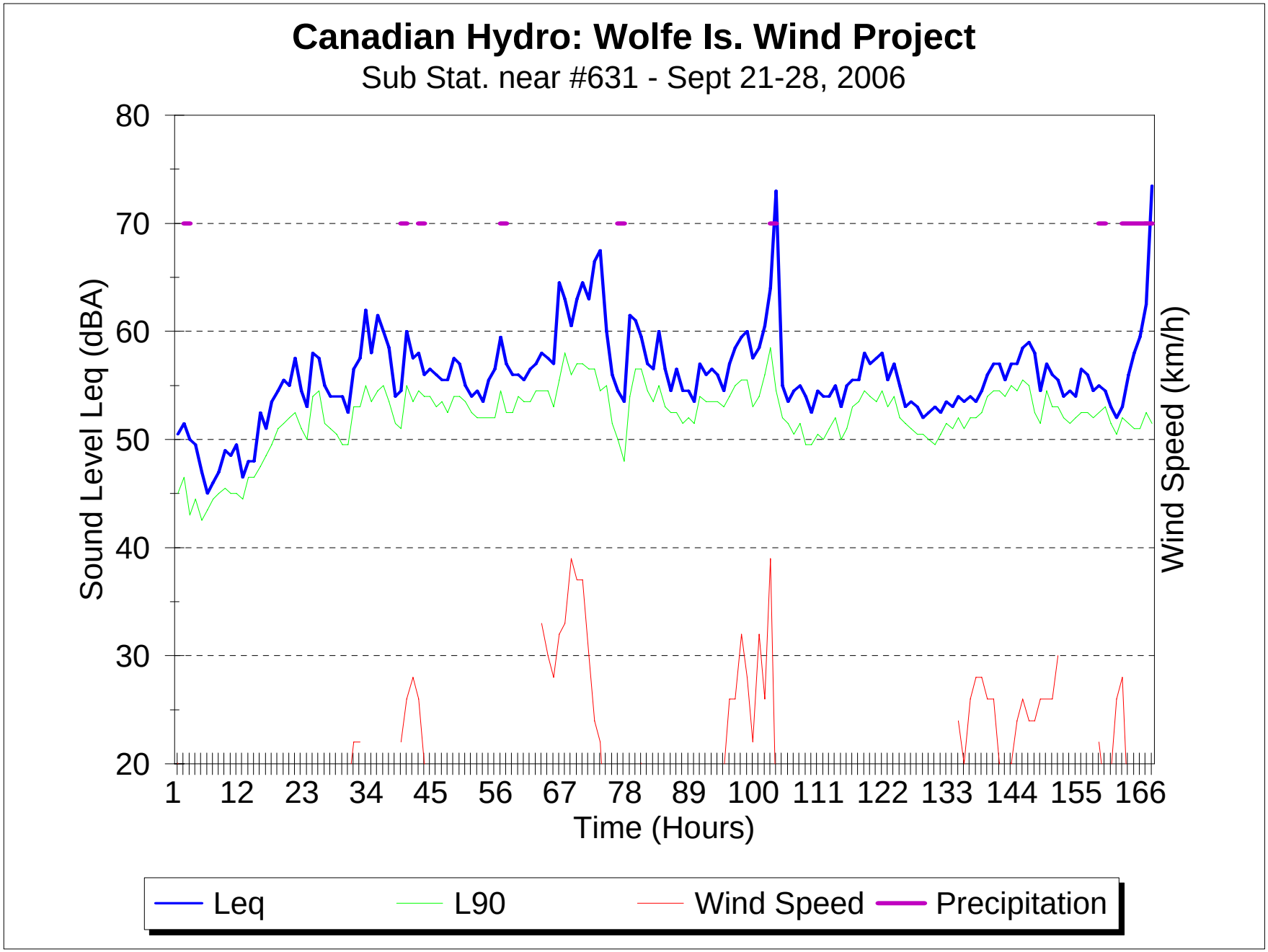
AERCOUSTICS ENGINEERING LIMITED
165-50 RONSON DRIVE, ETOBICOKE, ONTARIO M9W 1B3

	INTERVAL REPORT			LARSON-DAVIS LABORATORIES							MODEL 700 SN B2187				
	DATA FROM: WIWHITE										9 /28/06 13:04:26				
	Date 21 SEP Period 01:00 h:m														
	Date		Time	LVL	SEL	Lmin	Lmax	Lpk	Pk	Ov	Ex	L01	L10	L90	L99
1	21	SEP	15:00:01	58.5	94.0	44.5	72.5	93.0	0	0	0	68.5	62.5	49.0	47.0
2	21	SEP	16:00:01	58.0	94.0	45.5	73.0	87.0	0	0	0	67.5	62.0	48.5	46.5
3	21	SEP	17:00:01	56.5	92.0	38.0	73.0	101.0	0	0	0	67.0	60.5	40.0	38.5
4	21	SEP	18:00:01	51.5	87.0	39.0	76.5	93.5	0	0	0	61.0	53.0	41.0	39.5
5	21	SEP	19:00:01	47.5	83.0	40.0	68.0	86.5	0	0	0	58.5	50.5	41.0	40.0
6	21	SEP	20:00:01	45.5	81.0	39.5	69.0	85.5	0	0	0	56.5	46.0	40.5	40.0
7	21	SEP	21:00:01	45.0	80.5	39.5	69.5	85.0	0	0	0	56.0	43.5	40.0	40.0
8	21	SEP	22:00:01	41.0	76.5	38.0	56.0	79.0	0	0	0	50.0	41.5	39.0	38.5
9	21	SEP	23:00:01	43.0	78.5	38.0	68.5	90.5	0	0	0	54.5	42.0	38.5	38.5
10	22	SEP	0:00:01	39.5	75.0	37.5	47.0	68.0	0	0	0	44.5	41.5	38.0	37.5
11	22	SEP	1:00:01	45.0	80.5	37.5	69.5	82.0	0	0	0	58.5	39.0	37.5	37.5
12	22	SEP	2:00:01	39.5	75.0	37.0	57.5	69.5	0	0	0	51.0	39.0	37.5	37.5
13	22	SEP	3:00:01	38.0	73.5	37.0	43.5	60.5	0	0	0	41.0	39.0	37.5	37.5
14	22	SEP	4:00:01	38.0	73.5	37.0	43.5	62.5	0	0	0	40.0	38.5	37.0	37.0
15	22	SEP	5:00:01	41.0	76.5	36.5	58.5	70.5	0	0	0	55.0	39.0	37.0	36.5
16	22	SEP	6:00:01	41.0	76.5	36.5	58.0	70.5	0	0	0	53.5	42.0	37.0	36.5
17	22	SEP	7:00:01	48.5	84.0	37.0	68.5	82.0	0	0	0	62.5	50.0	37.5	37.5
18	22	SEP	8:00:01	45.5	81.0	37.5	61.0	74.5	0	0	0	54.5	48.5	39.5	38.5
19	22	SEP	9:00:01	48.5	84.0	41.0	63.5	86.0	0	0	0	56.5	51.0	43.5	42.0
20	22	SEP	10:00:01	49.5	85.0	41.5	66.0	78.5	0	0	0	58.5	52.5	44.0	42.0
21	22	SEP	11:00:01	53.5	89.0	41.0	78.0	90.5	0	0	0	64.5	51.5	43.0	42.0
22	22	SEP	12:00:01	52.0	87.5	43.0	71.0	87.0	0	0	0	60.0	54.5	45.0	44.0
23	22	SEP	13:00:01	48.0	83.5	42.5	67.5	86.0	0	0	0	58.0	50.0	44.0	43.0
24	22	SEP	14:00:01	50.0	85.5	42.5	68.0	89.0	0	0	0	59.5	53.5	44.0	43.0
25	22	SEP	15:00:02	53.5	89.0	43.5	66.5	87.5	0	0	0	63.5	57.5	45.5	44.0
26	22	SEP	16:00:02	50.5	86.0	45.5	68.0	90.0	0	0	0	58.0	52.5	47.5	46.5
27	22	SEP	17:00:02	50.0	86.0	43.5	62.5	84.5	0	0	0	58.5	53.0	46.0	45.0
28	22	SEP	18:00:02	47.0	82.5	38.5	67.5	87.0	0	0	0	57.5	48.5	41.5	39.5
29	22	SEP	19:00:02	43.0	78.5	38.0	62.5	87.5	0	0	0	52.0	44.0	39.0	38.5
30	22	SEP	20:00:02	46.5	82.5	40.5	68.0	85.0	0	0	0	59.0	46.5	41.5	41.0
31	22	SEP	21:00:02	46.5	82.0	41.5	65.5	82.5	0	0	0	56.0	48.5	42.5	42.0
32	22	SEP	22:00:02	51.0	86.5	42.0	65.0	80.0	0	0	0	60.0	54.5	44.0	42.5
33	22	SEP	23:00:02	53.5	89.0	42.5	69.5	89.0	0	0	0	64.0	57.0	44.5	43.5
34	23	SEP	0:00:02	51.5	87.0	40.5	68.5	102.0	0	0	0	62.5	55.0	43.0	41.5
35	23	SEP	1:00:02	58.0	93.5	41.5	76.5	108.5	0	0	0	67.5	62.0	45.5	43.0
36	23	SEP	2:00:02	50.0	85.5	39.5	68.5	101.5	0	0	0	61.5	53.5	40.5	39.5
37	23	SEP	3:00:02	45.5	81.0	40.0	60.0	90.0	0	0	0	55.0	48.0	41.5	40.5
38	23	SEP	4:00:02	48.0	83.5	41.5	65.5	79.5	0	0	0	58.5	51.0	43.0	42.5
39	23	SEP	5:00:02	51.5	87.0	40.0	65.0	84.5	0	0	0	62.0	55.0	42.0	41.0
40	23	SEP	6:00:02	53.5	89.0	39.5	77.5	108.0	0	0	0	66.5	54.5	43.0	41.5
41	23	SEP	7:00:02	57.5	93.0	39.0	81.5	109.0	0	0	0	67.0	60.0	44.0	40.5
42	23	SEP	8:00:02	55.0	90.5	39.5	68.5	92.0	0	0	0	65.0	59.0	44.0	41.0
43	23	SEP	9:00:02	54.0	90.0	40.0	68.5	99.0	0	0	0	64.5	57.5	44.0	41.0
44	23	SEP	10:00:02	52.5	88.0	39.5	69.0	99.5	0	0	0	61.5	56.0	43.0	41.0
45	23	SEP	11:00:02	54.0	89.5	40.5	70.5	90.5	0	0	0	64.5	57.5	44.0	41.5
46	23	SEP	12:00:02	56.5	92.0	41.5	73.5	90.5	0	0	0	65.5	60.5	47.0	43.5

47	23	SEP	13:00:02	56.5	92.0	43.5	67.5	83.0	0	0	0	64.5	60.5	48.0	45.5
48	23	SEP	14:00:02	58.5	94.0	43.5	71.5	86.5	0	0	0	67.0	62.5	49.0	46.0
49	23	SEP	15:00:03	59.5	95.5	44.5	71.0	87.0	0	0	0	68.5	63.5	50.0	47.0
50	23	SEP	16:00:03	54.5	90.0	44.0	71.0	84.5	0	0	0	63.5	58.0	46.5	45.0
51	23	SEP	17:00:03	51.0	86.5	44.0	63.5	78.0	0	0	0	59.5	54.0	46.5	45.0
52	23	SEP	18:00:03	50.0	85.5	40.0	63.0	80.5	0	0	0	58.5	53.5	43.5	40.5
53	23	SEP	19:00:03	47.0	82.5	40.0	65.0	85.5	0	0	0	56.0	49.0	42.0	40.5
54	23	SEP	20:00:03	47.0	82.5	42.0	67.5	88.0	0	0	0	58.0	47.5	43.0	42.5
55	23	SEP	21:00:03	45.5	81.0	43.0	58.5	73.5	0	0	0	54.0	47.5	43.5	43.0
56	23	SEP	22:00:03	48.0	83.5	42.0	59.5	80.5	0	0	0	56.5	51.0	44.0	42.5
57	23	SEP	23:00:03	46.0	81.5	42.0	63.0	78.0	0	0	0	53.5	48.5	43.0	42.5
58	24	SEP	0:00:03	47.5	83.0	41.0	60.5	82.0	0	0	0	56.0	50.5	43.5	41.5
59	24	SEP	1:00:03	51.0	86.5	41.5	65.5	96.5	0	0	0	60.5	54.0	45.0	42.5
60	24	SEP	2:00:03	50.5	86.5	41.5	68.5	107.5	0	0	0	61.5	53.5	44.0	42.5
61	24	SEP	3:00:03	60.0	95.5	45.0	73.0	97.5	0	0	0	69.5	64.0	50.0	47.0
62	24	SEP	4:00:03	64.0	100.0	49.0	75.5	94.0	0	0	0	72.5	68.0	55.0	51.5
63	24	SEP	5:00:03	67.0	102.5	51.0	81.0	98.0	0	0	0	75.0	71.0	58.0	54.5
64	24	SEP	6:00:03	67.0	102.5	50.0	80.0	99.0	0	0	0	75.0	70.5	58.0	54.0
65	24	SEP	7:00:03	66.5	102.0	51.0	80.5	106.0	0	0	0	76.0	70.0	57.5	53.5
66	24	SEP	8:00:03	66.0	101.5	50.0	80.0	96.5	0	0	0	74.5	69.5	56.0	52.0
67	24	SEP	9:00:03	66.0	101.5	50.0	80.5	99.0	0	0	0	76.0	70.0	55.0	51.5
68	24	SEP	10:00:03	68.0	104.0	50.5	81.0	98.5	0	0	0	78.0	72.0	57.5	53.0
69	24	SEP	11:00:03	68.5	104.0	52.0	83.0	101.0	0	0	0	77.0	72.5	58.5	55.0
70	24	SEP	12:00:03	68.0	103.5	51.5	82.5	98.0	0	0	0	77.5	71.5	57.0	54.0
71	24	SEP	13:00:03	68.0	103.5	51.0	79.5	95.5	0	0	0	76.5	72.0	57.5	54.5
72	24	SEP	14:00:03	67.0	102.5	47.5	84.0	115.0	0	0	0	77.5	71.5	52.0	48.5
73	24	SEP	15:00:04	59.0	94.5	44.0	78.0	115.0	0	0	0	71.5	62.5	46.0	45.0
74	24	SEP	16:00:04	52.0	87.5	44.5	66.5	104.0	0	0	0	61.5	55.0	46.0	45.5
75	24	SEP	17:00:04	47.5	83.0	40.5	64.5	77.0	0	0	0	55.0	48.5	43.0	41.0
76	24	SEP	18:00:04	45.0	80.5	38.5	63.5	82.5	0	0	0	55.5	47.5	39.5	38.5
77	24	SEP	19:00:04	47.5	83.0	37.5	74.5	107.5	0	0	0	60.0	48.5	38.5	38.0
78	24	SEP	20:00:04	49.5	85.0	38.5	74.0	111.0	0	0	0	63.5	49.0	39.5	38.5
79	24	SEP	21:00:04	62.0	97.5	46.0	72.0	102.0	0	0	0	69.5	66.0	52.5	49.0
80	24	SEP	22:00:04	61.5	97.0	45.5	74.5	88.5	0	0	0	70.0	65.5	51.5	47.5
81	24	SEP	23:00:04	60.5	96.0	44.0	75.0	89.5	0	0	0	71.5	63.5	49.5	46.0
82	25	SEP	0:00:04	59.0	94.5	42.0	69.5	86.0	0	0	0	67.0	63.0	48.5	44.0
83	25	SEP	1:00:04	57.5	93.5	41.5	69.5	84.0	0	0	0	66.0	61.5	47.5	43.0
84	25	SEP	2:00:04	56.0	91.5	39.5	67.5	83.0	0	0	0	65.0	60.5	44.0	40.0
85	25	SEP	3:00:04	47.0	82.5	38.0	61.0	79.0	0	0	0	56.0	51.0	39.0	38.5
86	25	SEP	4:00:04	38.5	74.0	36.5	52.5	66.5	0	0	0	44.5	39.5	37.0	37.0
87	25	SEP	5:00:04	41.5	77.0	36.5	62.0	75.0	0	0	0	55.0	39.5	36.5	36.5
88	25	SEP	6:00:04	43.5	79.5	36.5	66.5	93.5	0	0	0	56.5	45.0	37.0	37.0
89	25	SEP	7:00:04	48.5	84.0	37.0	70.0	85.0	0	0	0	63.0	48.0	37.5	37.0
90	25	SEP	8:00:04	53.0	88.5	38.0	81.5	95.5	0	0	0	61.0	49.0	39.0	38.0
91	25	SEP	9:00:04	48.0	83.5	42.5	62.0	76.5	0	0	0	57.0	50.5	44.5	43.0
92	25	SEP	10:00:04	49.5	85.0	45.0	73.0	90.5	0	0	0	56.5	50.5	46.0	45.5
93	25	SEP	11:00:04	49.5	85.0	43.0	72.5	88.0	0	0	0	60.0	51.0	45.0	44.0
94	25	SEP	12:00:04	52.5	88.0	42.0	72.5	88.5	0	0	0	65.0	55.0	44.0	42.5
95	25	SEP	13:00:04	60.5	96.0	43.0	76.5	105.0	0	0	0	70.5	64.5	47.5	44.5
96	25	SEP	14:00:04	63.5	99.0	46.5	79.5	111.0	0	0	0	72.5	67.5	53.0	49.0
97	25	SEP	15:00:05	62.5	98.0	46.0	78.0	98.5	0	0	0	72.0	66.5	51.5	47.5
98	25	SEP	16:00:05	62.0	97.5	47.0	76.5	96.5	0	0	0	71.5	66.0	52.0	49.0
99	25	SEP	17:00:05	60.5	96.0	43.5	76.5	92.5	0	0	0	71.0	64.5	49.0	45.0
100	25	SEP	18:00:05	59.0	94.5	41.5	75.0	94.5	0	0	0	68.5	63.0	47.0	43.0

101	25	SEP	19:00:05	65.0	101.0	46.0	78.5	94.5	0	0	0	75.0	69.5	53.5	49.0
102	25	SEP	20:00:05	69.5	105.0	48.0	84.0	108.5	0	0	0	79.5	73.5	58.0	52.5
103	25	SEP	21:00:05	68.0	103.5	40.5	83.0	115.5	0	0	0	79.0	73.0	42.0	41.0
104	25	SEP	22:00:05	47.0	82.5	40.5	65.5	97.5	0	0	0	56.5	49.5	41.5	40.5
105	25	SEP	23:00:05	46.0	81.5	40.5	65.5	99.5	0	0	0	54.5	48.5	41.5	40.5
106	26	SEP	0:00:05	47.5	83.0	40.5	66.5	81.5	0	0	0	58.0	50.0	42.0	41.0
107	26	SEP	1:00:05	48.5	84.5	42.0	62.5	78.0	0	0	0	58.5	52.0	43.5	42.5
108	26	SEP	2:00:05	48.0	83.5	40.5	64.5	79.5	0	0	0	58.0	51.0	42.0	41.5
109	26	SEP	3:00:05	47.0	83.0	41.0	61.0	76.5	0	0	0	56.5	50.5	42.5	41.5
110	26	SEP	4:00:05	47.0	82.5	40.5	59.5	75.5	0	0	0	54.5	50.0	43.0	42.0
111	26	SEP	5:00:05	46.0	81.5	40.5	60.0	75.5	0	0	0	54.0	49.0	42.0	41.0
112	26	SEP	6:00:05	46.5	82.0	39.5	61.5	77.5	0	0	0	55.5	49.5	41.5	40.5
113	26	SEP	7:00:05	47.5	83.5	40.5	63.0	80.5	0	0	0	58.0	50.5	42.0	41.0
114	26	SEP	8:00:05	46.5	82.0	40.5	63.0	84.5	0	0	0	56.5	48.5	41.5	41.0
115	26	SEP	9:00:05	50.0	85.5	42.5	71.5	90.0	0	0	0	60.5	51.5	44.5	43.5
116	26	SEP	10:00:05	50.0	86.0	45.0	74.0	91.5	0	0	0	60.5	51.0	46.0	45.5
117	26	SEP	11:00:05	50.0	85.5	45.0	68.5	85.0	0	0	0	59.0	51.5	46.5	45.5
118	26	SEP	12:00:05	53.5	89.0	43.0	78.0	95.5	0	0	0	63.5	51.5	44.5	43.5
119	26	SEP	13:00:05	51.0	86.5	41.5	80.5	99.5	0	0	0	56.5	49.0	43.5	42.5
120	26	SEP	14:00:05	49.5	85.0	41.0	74.5	93.5	0	0	0	62.0	50.0	43.0	41.5
121	26	SEP	15:00:06	54.0	89.5	41.0	68.0	82.0	0	0	0	63.5	58.0	43.0	42.0
122	26	SEP	16:00:06	57.0	92.5	44.5	71.0	92.0	0	0	0	66.5	60.5	48.0	45.5
123	26	SEP	17:00:06	54.0	90.0	42.0	68.0	97.5	0	0	0	63.5	58.5	45.0	43.0
124	26	SEP	18:00:06	47.5	83.5	39.0	65.0	76.5	0	0	0	57.5	51.5	40.5	39.5
125	26	SEP	19:00:06	52.5	88.0	38.0	81.5	96.0	0	0	0	62.5	44.5	39.0	38.5
126	26	SEP	20:00:06	46.0	82.0	37.0	71.5	88.5	0	0	0	59.0	44.0	37.5	37.0
127	26	SEP	21:00:06	39.0	74.5	36.5	58.5	70.5	0	0	0	44.0	38.0	37.0	37.0
128	26	SEP	22:00:06	42.0	77.5	36.5	64.0	76.0	0	0	0	56.0	38.5	36.5	36.5
129	26	SEP	23:00:06	37.5	73.0	36.5	52.0	71.0	0	0	0	39.0	38.0	36.5	36.5
130	27	SEP	0:00:06	37.0	73.0	36.5	41.5	59.5	0	0	0	39.0	37.5	37.0	36.5
131	27	SEP	1:00:06	39.5	75.5	37.0	54.0	67.5	0	0	0	48.0	41.5	37.5	37.0
132	27	SEP	2:00:06	40.5	76.0	37.0	55.0	70.5	0	0	0	49.0	43.0	37.5	37.5
133	27	SEP	3:00:06	41.5	77.0	37.0	62.0	76.0	0	0	0	51.5	43.0	37.5	37.5
134	27	SEP	4:00:06	43.0	78.5	37.5	60.5	73.5	0	0	0	53.0	46.0	38.0	37.5
135	27	SEP	5:00:06	53.0	88.5	38.0	68.5	84.5	0	0	0	63.0	57.0	41.0	38.5
136	27	SEP	6:00:06	53.5	89.0	39.5	66.5	83.5	0	0	0	63.0	57.0	43.5	40.5
137	27	SEP	7:00:06	53.5	89.5	39.0	78.0	92.0	0	0	0	65.0	56.5	42.5	40.0
138	27	SEP	8:00:06	57.5	93.0	39.5	73.0	87.0	0	0	0	67.5	61.5	45.0	41.0
139	27	SEP	9:00:06	63.0	98.5	45.0	75.5	96.0	0	0	0	71.5	67.0	53.0	48.5
140	27	SEP	10:00:06	64.5	100.0	48.5	77.5	99.5	0	0	0	72.5	68.5	54.5	51.0
141	27	SEP	11:00:06	64.5	100.0	46.5	76.5	96.0	0	0	0	73.0	68.0	54.5	49.5
142	27	SEP	12:00:06	60.0	95.5	42.0	75.0	96.5	0	0	0	69.0	63.5	48.5	44.5
143	27	SEP	13:00:06	63.5	99.0	45.0	76.5	95.0	0	0	0	71.5	67.5	52.5	48.0
144	27	SEP	14:00:06	64.5	100.0	46.0	78.0	93.0	0	0	0	74.0	68.5	54.0	49.0
145	27	SEP	15:00:07	66.0	102.0	48.0	78.5	97.0	0	0	0	74.5	70.5	56.0	51.0
146	27	SEP	16:00:07	62.0	97.5	46.5	73.5	91.0	0	0	0	70.5	66.0	53.0	49.0
147	27	SEP	17:00:07	62.0	97.5	45.5	75.5	93.5	0	0	0	71.5	66.0	52.0	48.5
148	27	SEP	18:00:07	60.0	95.5	45.0	75.0	91.5	0	0	0	69.5	63.5	50.5	47.0
149	27	SEP	19:00:07	60.5	96.0	43.5	74.5	94.0	0	0	0	70.5	64.0	50.0	46.0
150	27	SEP	20:00:07	57.0	92.5	42.0	72.5	95.0	0	0	0	68.0	61.0	45.0	43.0
151	27	SEP	21:00:07	61.5	97.0	44.0	76.0	90.0	0	0	0	71.0	65.5	50.0	46.0
152	27	SEP	22:00:07	62.0	98.0	44.0	76.0	90.5	0	0	0	71.0	66.0	51.5	47.5
153	27	SEP	23:00:07	63.5	99.0	47.0	76.5	92.0	0	0	0	72.0	67.5	53.0	49.0
154	28	SEP	0:00:07	62.0	97.5	44.5	75.0	91.0	0	0	0	71.0	66.0	51.5	47.0

155	28	SEP	1:00:07	66.0	101.5	45.5	79.5	97.0	0	0	0	75.5	70.0	54.5	49.5
156	28	SEP	2:00:07	66.0	101.5	44.5	81.0	98.5	0	0	0	75.5	70.5	49.5	46.5
157	28	SEP	3:00:07	63.0	98.5	44.0	76.0	96.0	0	0	0	73.0	67.0	50.0	46.5
158	28	SEP	4:00:07	64.0	99.5	48.0	77.0	95.0	0	0	0	73.0	68.0	54.5	51.0
159	28	SEP	5:00:07	58.0	94.0	42.5	74.5	90.5	0	0	0	69.5	62.0	46.0	44.5
160	28	SEP	6:00:07	49.5	85.0	41.0	65.0	78.5	0	0	0	59.0	52.5	43.5	42.0
161	28	SEP	7:00:07	52.5	88.0	40.0	69.5	83.5	0	0	0	63.5	56.5	42.0	40.5
162	28	SEP	8:00:07	55.5	91.0	40.0	73.0	88.5	0	0	0	65.5	59.0	44.0	41.0
163	28	SEP	9:00:07	57.0	92.5	39.5	71.5	96.5	0	0	0	67.0	61.0	45.5	42.0
164	28	SEP	10:00:07	53.5	89.5	39.0	72.5	108.0	0	0	0	64.0	57.5	43.0	40.0
165	28	SEP	11:00:07	54.0	89.5	37.5	70.0	105.5	0	0	0	64.5	57.5	41.0	38.5
166	28	SEP	12:00:07	59.5	95.0	40.5	73.5	107.5	0	0	0	69.0	63.5	43.0	41.5
167	28	SEP	13:00:07	81.0	104.5	43.5	99.5	132.5	0	0	0	95.5	84.0	46.0	44.5
	OVERALL LEQ: 62.2														


Canadian Hydro: Wolfe Is. Wind Project
Sub Stat. near #631 - Sept 21-28, 2006
Sound Level Leq (dBA)
Wind Speed (km/h)
80
70
60
50
40
30
20
1
12
23
34
45
56
67
78
89
100
111
122
133
144
155
166
Time (Hours)
Leq
L90
Wind Speed
Precipitation

Site 2: Transformer Substation







AERCOUSTICS ENGINEERING LIMTED
165-50 RONSON DRIVE, ETOBICOKE, ONTARIO M9W 1B3

AERCOUSTICS ENGINEERING LIMITED

Site 2: Transformer Substation (4th Line)

INTERVAL	REPORT	LARSON-DAVIS	LABORATORIES	MODEL 700 SN	B3116
DATA FROM: WISUBST				9 /28/06 13:19:50	

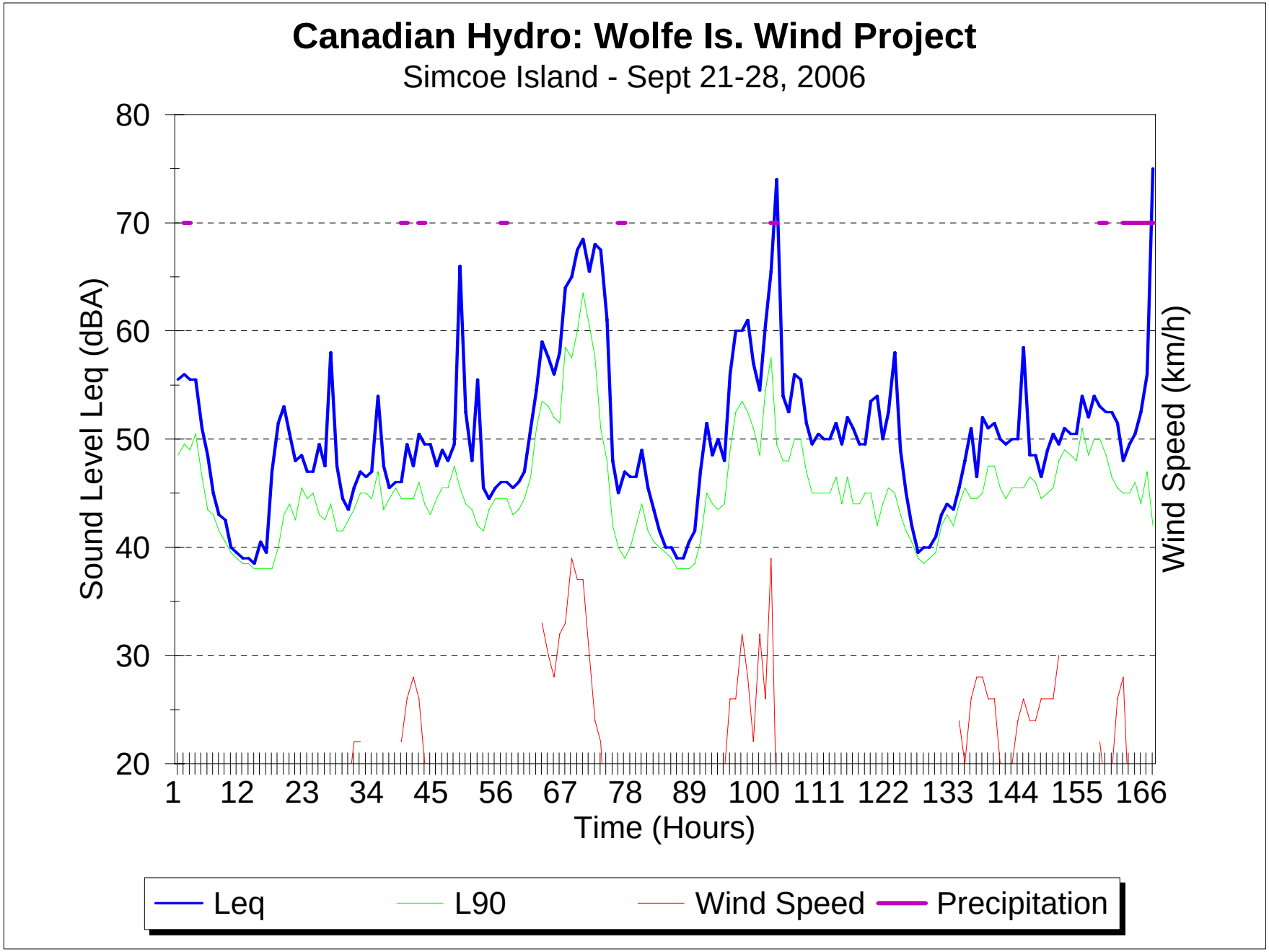
Date 21 SEP Period 01:00 h:m

	Date		Time	LVL	SEL	Lmin	Lmax	Lpk	Pk	Ov	Ex	L01	L10	L90	L99
1	21	SEP	15:00:01	50.5	86.0	33.0	63.0	103.5	0	0	0	58.0	53.5	45.0	43.5
2	21	SEP	16:00:01	51.5	87.0	43.5	62.5	97.0	0	0	0	58.5	55.0	46.5	44.5
3	21	SEP	17:00:01	50.0	85.5	40.5	66.0	101.0	0	0	0	57.5	53.5	43.0	41.0
4	21	SEP	18:00:01	49.5	85.0	41.5	60.5	84.0	0	0	0	57.5	52.5	44.5	42.5
5	21	SEP	19:00:01	47.0	82.5	41.0	60.0	92.0	0	0	0	54.5	49.5	42.5	41.5
6	21	SEP	20:00:01	45.0	80.5	42.5	51.0	72.0	0	0	0	47.5	46.0	43.5	43.0
7	21	SEP	21:00:01	46.0	81.5	43.5	52.5	69.5	0	0	0	49.5	47.0	44.5	44.0
8	21	SEP	22:00:01	47.0	82.5	44.0	54.5	71.5	0	0	0	50.5	48.5	45.0	44.5
9	21	SEP	23:00:01	49.0	84.5	44.0	59.0	76.5	0	0	0	55.0	51.0	45.5	44.5
10	22	SEP	0:00:01	48.5	84.0	43.5	59.5	76.0	0	0	0	55.5	51.5	45.0	44.5
11	22	SEP	1:00:01	49.5	85.0	44.0	78.5	91.0	0	0	0	51.0	47.5	45.0	44.5
12	22	SEP	2:00:01	46.5	82.0	43.0	55.5	72.5	0	0	0	52.0	48.0	44.5	43.5
13	22	SEP	3:00:01	48.0	84.0	45.0	56.0	72.5	0	0	0	52.0	49.5	46.5	45.5
14	22	SEP	4:00:01	48.0	83.5	45.5	55.5	74.5	0	0	0	52.0	49.5	46.5	46.0
15	22	SEP	5:00:01	52.5	88.0	46.0	63.0	80.0	0	0	0	60.5	55.5	47.5	46.5
16	22	SEP	6:00:01	51.0	86.5	47.0	61.0	81.0	0	0	0	57.0	53.0	48.5	47.5
17	22	SEP	7:00:01	53.5	89.0	48.0	66.5	79.5	0	0	0	58.5	55.5	49.5	48.5
18	22	SEP	8:00:01	54.5	90.0	49.0	65.5	83.5	0	0	0	61.5	57.5	51.0	50.0
19	22	SEP	9:00:01	55.5	91.5	49.5	72.5	102.0	0	0	0	64.5	58.0	51.5	50.5
20	22	SEP	10:00:01	55.0	90.5	49.5	73.5	88.5	0	0	0	60.5	56.5	52.0	51.0
21	22	SEP	11:00:01	57.5	93.0	49.5	67.0	85.5	0	0	0	63.5	60.5	52.5	51.0
22	22	SEP	12:00:01	54.5	90.0	49.5	67.0	86.5	0	0	0	61.0	57.0	51.0	50.0
23	22	SEP	13:00:01	53.0	88.5	47.5	63.0	90.0	0	0	0	59.0	55.0	50.0	49.0
24	22	SEP	14:00:01	58.0	93.5	50.0	71.0	86.5	0	0	0	64.0	61.0	54.0	51.5
25	22	SEP	15:00:02	57.5	93.0	52.0	68.5	85.0	0	0	0	63.5	59.5	54.5	53.5
26	22	SEP	16:00:02	55.0	90.5	49.5	74.5	90.0	0	0	0	60.5	57.0	51.5	50.5
27	22	SEP	17:00:02	54.0	89.5	49.0	65.0	87.0	0	0	0	60.0	56.0	51.0	50.0
28	22	SEP	18:00:02	54.0	89.5	47.5	67.0	89.5	0	0	0	61.5	56.0	50.5	49.5
29	22	SEP	19:00:02	54.0	89.5	46.5	68.0	87.0	0	0	0	63.0	56.5	49.5	48.0
30	22	SEP	20:00:02	52.5	88.0	47.5	63.5	83.5	0	0	0	59.5	55.0	49.5	48.5
31	22	SEP	21:00:02	56.5	92.0	50.0	68.0	85.5	0	0	0	62.5	58.5	53.0	51.5
32	22	SEP	22:00:02	57.5	93.0	50.5	69.5	88.0	0	0	0	64.5	60.0	53.0	51.5
33	22	SEP	23:00:02	62.0	97.5	51.0	74.0	91.5	0	0	0	69.5	65.5	55.0	53.0
34	23	SEP	0:00:02	58.0	94.0	50.0	68.0	102.0	0	0	0	65.0	61.0	53.5	52.0
35	23	SEP	1:00:02	61.5	97.5	50.5	78.5	116.0	0	0	0	70.5	65.0	54.5	52.5
36	23	SEP	2:00:02	60.0	95.5	51.0	70.0	105.5	0	0	0	67.0	63.0	55.0	53.0
37	23	SEP	3:00:02	58.5	94.0	50.5	71.0	88.5	0	0	0	67.0	62.0	53.5	52.0
38	23	SEP	4:00:02	54.0	89.5	50.0	67.0	86.5	0	0	0	61.0	56.0	51.5	51.0
39	23	SEP	5:00:02	54.5	90.0	49.5	65.5	97.5	0	0	0	61.5	57.0	51.0	50.0
40	23	SEP	6:00:02	60.0	95.5	51.5	70.0	108.0	0	0	0	67.5	63.5	55.0	53.5
41	23	SEP	7:00:02	57.5	93.0	51.0	69.0	98.0	0	0	0	63.0	60.0	53.5	52.5
42	23	SEP	8:00:02	58.0	94.0	51.0	66.5	94.5	0	0	0	64.0	61.0	54.5	53.0
43	23	SEP	9:00:02	56.0	91.5	52.0	68.0	92.5	0	0	0	62.5	57.5	54.0	53.0
44	23	SEP	10:00:02	56.5	92.0	51.5	66.0	82.0	0	0	0	60.5	58.0	54.0	53.0
45	23	SEP	11:00:02	56.0	91.5	51.0	68.5	86.5	0	0	0	63.0	59.0	53.0	52.0
46	23	SEP	12:00:02	55.5	91.0	51.0	68.0	85.5	0	0	0	59.5	57.0	53.5	52.5

47	23	SEP	13:00:02	55.5	91.0	50.5	64.0	84.0	0	0	0	60.5	57.5	52.5	51.5
48	23	SEP	14:00:02	57.5	93.0	51.5	67.5	86.0	0	0	0	64.5	60.0	54.0	52.5
49	23	SEP	15:00:03	57.0	92.5	52.0	70.5	86.5	0	0	0	65.0	59.0	54.0	53.5
50	23	SEP	16:00:03	55.0	90.5	50.5	62.0	80.5	0	0	0	59.5	56.5	53.5	52.5
51	23	SEP	17:00:03	54.0	89.5	51.0	64.5	80.5	0	0	0	57.5	55.0	52.5	51.5
52	23	SEP	18:00:03	54.5	90.0	49.5	71.0	85.5	0	0	0	63.5	55.5	52.0	51.0
53	23	SEP	19:00:03	53.5	89.5	49.5	61.5	81.0	0	0	0	58.5	55.5	52.0	51.0
54	23	SEP	20:00:03	55.5	91.0	49.5	70.5	87.5	0	0	0	65.0	57.0	52.0	50.5
55	23	SEP	21:00:03	56.5	92.0	51.0	68.0	88.0	0	0	0	63.5	59.5	52.0	51.0
56	23	SEP	22:00:03	59.5	95.0	51.0	68.5	93.5	0	0	0	65.5	62.5	54.5	52.5
57	23	SEP	23:00:03	57.0	92.5	51.0	68.0	95.0	0	0	0	64.5	60.0	52.5	51.5
58	24	SEP	0:00:03	56.0	91.5	50.5	70.0	98.0	0	0	0	64.0	58.5	52.5	52.0
59	24	SEP	1:00:03	56.0	92.0	52.0	69.0	100.0	0	0	0	62.0	58.0	54.0	53.0
60	24	SEP	2:00:03	55.5	91.0	52.0	70.5	106.5	0	0	0	63.0	57.0	53.5	52.5
61	24	SEP	3:00:03	56.5	92.0	51.5	68.0	85.5	0	0	0	63.0	58.5	53.5	52.5
62	24	SEP	4:00:03	57.0	92.5	53.0	67.0	88.5	0	0	0	62.5	59.0	54.5	53.5
63	24	SEP	5:00:03	58.0	93.5	52.5	69.5	96.0	0	0	0	64.5	60.5	54.5	53.5
64	24	SEP	6:00:03	57.5	93.5	51.5	67.5	89.0	0	0	0	64.5	60.0	54.5	53.0
65	24	SEP	7:00:03	57.0	92.5	50.5	68.5	92.0	0	0	0	63.5	60.0	53.0	51.5
66	24	SEP	8:00:03	64.5	100.0	52.0	75.0	94.5	0	0	0	72.0	68.0	55.5	53.0
67	24	SEP	9:00:03	63.0	99.0	54.0	74.0	88.5	0	0	0	71.5	66.0	58.0	56.0
68	24	SEP	10:00:03	60.5	96.5	53.5	71.0	88.5	0	0	0	67.5	63.5	56.0	55.0
69	24	SEP	11:00:03	63.0	98.5	52.0	75.0	94.5	0	0	0	70.5	66.0	57.0	54.5
70	24	SEP	12:00:03	64.5	100.0	52.5	77.0	93.5	0	0	0	72.5	67.5	57.0	54.0
71	24	SEP	13:00:03	63.0	98.5	52.0	75.0	92.0	0	0	0	71.0	66.0	56.5	54.0
72	24	SEP	14:00:03	66.5	102.5	53.0	83.0	115.0	0	0	0	79.5	69.0	56.5	55.0
73	24	SEP	15:00:04	67.5	103.0	49.5	88.0	118.5	0	0	0	82.5	69.0	54.5	52.0
74	24	SEP	16:00:04	60.0	95.5	51.0	72.0	90.0	0	0	0	66.5	63.0	55.0	53.0
75	24	SEP	17:00:04	56.0	91.5	48.0	74.5	90.0	0	0	0	61.5	58.0	51.5	49.5
76	24	SEP	18:00:04	54.5	90.0	48.0	64.0	81.5	0	0	0	61.0	57.0	50.0	48.5
77	24	SEP	19:00:04	53.5	89.0	45.0	64.0	94.0	0	0	0	61.0	56.5	48.0	46.5
78	24	SEP	20:00:04	61.5	97.0	49.5	72.0	104.0	0	0	0	68.5	65.0	54.0	51.0
79	24	SEP	21:00:04	61.0	96.5	51.0	73.5	89.0	0	0	0	67.5	64.0	56.5	53.5
80	24	SEP	22:00:04	59.5	95.5	53.5	66.0	90.5	0	0	0	64.0	62.0	56.5	55.0
81	24	SEP	23:00:04	57.0	92.5	50.5	63.0	82.0	0	0	0	61.0	58.5	54.5	53.0
82	25	SEP	0:00:04	56.5	92.0	50.5	69.5	86.5	0	0	0	66.5	58.0	53.5	52.5
83	25	SEP	1:00:04	60.0	96.0	49.5	71.5	87.0	0	0	0	67.5	63.5	55.0	52.5
84	25	SEP	2:00:04	56.5	92.0	50.5	69.5	84.0	0	0	0	64.0	59.0	53.0	52.0
85	25	SEP	3:00:04	54.5	90.0	50.0	60.5	81.0	0	0	0	57.5	56.0	52.5	51.5
86	25	SEP	4:00:04	56.5	92.0	48.5	70.0	82.5	0	0	0	61.0	58.0	52.5	50.5
87	25	SEP	5:00:04	54.5	90.0	49.0	60.0	79.0	0	0	0	59.0	56.5	51.5	50.5
88	25	SEP	6:00:04	54.5	90.0	49.5	64.0	79.5	0	0	0	58.0	56.0	52.0	50.5
89	25	SEP	7:00:04	53.5	89.0	49.0	59.5	77.0	0	0	0	57.0	55.5	51.5	50.5
90	25	SEP	8:00:04	57.0	92.5	51.0	70.0	87.0	0	0	0	63.0	59.5	54.0	52.5
91	25	SEP	9:00:04	56.0	91.5	50.5	64.5	81.5	0	0	0	60.0	57.5	53.5	52.0
92	25	SEP	10:00:04	56.5	92.0	50.0	71.0	89.0	0	0	0	63.0	58.0	53.5	52.5
93	25	SEP	11:00:04	56.0	92.0	50.5	68.0	86.5	0	0	0	62.5	58.0	53.5	52.0
94	25	SEP	12:00:04	54.5	90.5	50.0	70.5	91.0	0	0	0	58.5	56.0	53.0	51.5
95	25	SEP	13:00:04	57.0	92.5	51.0	66.5	88.0	0	0	0	61.5	59.0	54.0	53.0
96	25	SEP	14:00:04	58.5	94.0	52.0	67.5	84.5	0	0	0	63.5	61.0	55.0	53.5
97	25	SEP	15:00:05	59.5	95.0	52.0	69.5	85.0	0	0	0	65.5	62.0	55.5	53.5
98	25	SEP	16:00:05	60.0	95.5	51.5	68.5	83.0	0	0	0	65.0	62.5	55.5	53.5
99	25	SEP	17:00:05	57.5	93.0	50.5	69.5	84.0	0	0	0	64.0	60.0	53.0	52.0
100	25	SEP	18:00:05	58.5	94.5	50.0	67.5	87.0	0	0	0	65.0	62.5	54.0	52.5

101	25	SEP	19:00:05	60.5	96.0	52.0	69.0	89.0	0	0	0	66.0	63.5	56.0	53.5
102	25	SEP	20:00:05	64.0	99.5	53.0	77.0	111.0	0	0	0	71.5	67.0	58.5	56.0
103	25	SEP	21:00:05	73.0	108.5	50.5	89.0	125.0	0	0	0	84.0	78.0	54.5	52.0
104	25	SEP	22:00:05	55.0	90.5	49.5	64.0	76.5	0	0	0	61.5	57.0	52.0	51.0
105	25	SEP	23:00:05	53.5	89.0	49.5	64.5	81.0	0	0	0	57.5	54.5	51.5	50.5
106	26	SEP	0:00:05	54.5	90.0	49.0	72.5	87.0	0	0	0	65.5	56.0	50.5	49.5
107	26	SEP	1:00:05	55.0	90.5	48.5	62.5	82.5	0	0	0	60.0	57.5	51.5	50.0
108	26	SEP	2:00:05	54.0	89.5	47.0	66.0	82.0	0	0	0	62.0	57.0	49.5	48.5
109	26	SEP	3:00:05	52.5	88.0	47.0	63.0	82.5	0	0	0	59.0	55.0	49.5	48.0
110	26	SEP	4:00:05	54.5	90.0	48.0	63.0	81.5	0	0	0	60.5	57.5	50.5	49.5
111	26	SEP	5:00:05	54.0	89.5	47.5	65.5	82.5	0	0	0	60.0	57.0	50.0	48.5
112	26	SEP	6:00:05	54.0	89.5	47.0	62.5	80.0	0	0	0	58.5	56.5	51.0	49.5
113	26	SEP	7:00:05	55.0	90.5	49.5	63.0	82.0	0	0	0	59.5	57.5	52.0	50.5
114	26	SEP	8:00:05	53.0	88.5	47.5	72.0	89.0	0	0	0	58.5	55.5	50.0	48.5
115	26	SEP	9:00:05	55.0	91.0	48.0	72.5	101.0	0	0	0	63.0	57.5	51.0	49.5
116	26	SEP	10:00:05	55.5	91.0	50.0	69.0	81.0	0	0	0	61.0	57.0	53.0	51.5
117	26	SEP	11:00:05	55.5	91.0	51.0	71.0	88.0	0	0	0	60.5	57.0	53.5	52.5
118	26	SEP	12:00:05	58.0	94.0	50.0	66.5	85.5	0	0	0	64.5	60.5	54.5	52.0
119	26	SEP	13:00:05	57.0	93.0	51.5	68.0	85.5	0	0	0	63.0	59.5	54.0	53.0
120	26	SEP	14:00:05	57.5	93.0	49.5	69.0	90.0	0	0	0	65.0	59.5	53.5	51.5
121	26	SEP	15:00:06	58.0	93.5	52.0	70.0	88.5	0	0	0	66.5	60.0	54.5	53.5
122	26	SEP	16:00:06	55.5	91.0	50.5	73.5	85.5	0	0	0	60.5	57.0	53.0	51.5
123	26	SEP	17:00:06	57.0	92.5	50.5	72.5	90.0	0	0	0	63.0	58.5	54.0	52.5
124	26	SEP	18:00:06	55.0	90.5	49.0	61.0	77.5	0	0	0	59.0	57.0	52.0	51.0
125	26	SEP	19:00:06	53.0	88.5	49.5	59.5	75.0	0	0	0	56.5	54.5	51.5	50.5
126	26	SEP	20:00:06	53.5	89.0	48.5	67.0	80.0	0	0	0	60.5	54.5	51.0	50.0
127	26	SEP	21:00:06	53.0	88.5	48.0	58.5	73.5	0	0	0	56.5	55.0	50.5	49.5
128	26	SEP	22:00:06	52.0	88.0	48.0	58.0	75.0	0	0	0	56.0	54.0	50.5	49.0
129	26	SEP	23:00:06	52.5	88.0	47.5	65.5	79.0	0	0	0	57.5	55.0	50.0	48.5
130	27	SEP	0:00:06	53.0	88.5	47.5	59.0	75.5	0	0	0	57.0	55.5	49.5	49.0
131	27	SEP	1:00:06	52.5	88.0	48.0	60.0	74.5	0	0	0	56.0	54.0	50.5	49.0
132	27	SEP	2:00:06	53.5	89.0	49.5	65.5	75.0	0	0	0	57.5	55.5	51.5	50.5
133	27	SEP	3:00:06	53.0	88.5	48.5	63.0	79.0	0	0	0	58.5	54.5	51.0	50.0
134	27	SEP	4:00:06	54.0	89.5	49.0	62.5	78.0	0	0	0	58.0	55.5	52.0	51.0
135	27	SEP	5:00:06	53.5	89.0	48.5	60.0	75.5	0	0	0	57.5	55.5	51.0	50.0
136	27	SEP	6:00:06	54.0	89.5	49.0	59.0	76.0	0	0	0	57.0	55.5	52.0	50.5
137	27	SEP	7:00:06	53.5	89.5	50.0	59.0	77.0	0	0	0	56.5	55.0	52.0	51.0
138	27	SEP	8:00:06	54.5	90.0	50.0	64.0	82.5	0	0	0	58.5	56.0	52.5	51.0
139	27	SEP	9:00:06	56.0	91.5	50.0	62.5	83.0	0	0	0	59.5	57.5	54.0	52.5
140	27	SEP	10:00:06	57.0	92.5	52.5	68.5	85.0	0	0	0	61.5	58.5	54.5	53.5
141	27	SEP	11:00:06	57.0	92.5	51.5	64.5	82.5	0	0	0	61.0	58.5	54.5	53.5
142	27	SEP	12:00:06	55.5	91.0	52.0	62.0	84.5	0	0	0	59.0	56.5	54.0	53.0
143	27	SEP	13:00:06	57.0	92.5	53.0	67.5	89.5	0	0	0	62.5	58.5	55.0	54.0
144	27	SEP	14:00:06	57.0	92.5	52.0	70.0	101.0	0	0	0	62.0	59.0	54.5	53.0
145	27	SEP	15:00:07	58.5	94.0	53.0	68.0	88.0	0	0	0	64.0	61.0	55.5	54.0
146	27	SEP	16:00:07	59.0	94.5	52.5	68.5	86.5	0	0	0	66.0	61.5	55.0	53.5
147	27	SEP	17:00:07	58.0	93.5	50.5	69.0	86.0	0	0	0	67.0	60.5	52.5	51.5
148	27	SEP	18:00:07	54.5	90.0	49.5	67.5	87.5	0	0	0	60.5	57.0	51.5	50.5
149	27	SEP	19:00:07	57.0	92.5	51.5	67.5	80.0	0	0	0	62.0	59.0	54.5	53.0
150	27	SEP	20:00:07	56.0	92.0	50.0	70.0	83.0	0	0	0	64.0	58.5	53.0	51.5
151	27	SEP	21:00:07	55.5	91.0	51.0	64.0	80.0	0	0	0	60.5	57.5	53.0	51.5
152	27	SEP	22:00:07	54.0	89.5	49.5	65.0	88.5	0	0	0	59.0	56.0	52.0	51.0
153	27	SEP	23:00:07	54.5	90.0	50.0	63.5	84.0	0	0	0	60.0	56.5	51.5	51.0
154	28	SEP	0:00:07	54.0	89.5	50.5	64.0	80.0	0	0	0	59.0	56.0	52.0	51.5

155	28	SEP	1:00:07	56.5	92.0	51.0	71.5	91.0	0	0	0	64.5	59.0	52.5	51.5
156	28	SEP	2:00:07	56.0	91.5	50.5	67.0	91.0	0	0	0	64.0	58.5	52.5	51.5
157	28	SEP	3:00:07	54.5	90.0	50.5	63.0	81.0	0	0	0	60.0	56.0	52.0	51.5
158	28	SEP	4:00:07	55.0	90.5	51.0	64.5	81.5	0	0	0	60.0	57.0	52.5	51.5
159	28	SEP	5:00:07	54.5	90.0	51.0	61.5	84.0	0	0	0	58.5	56.0	53.0	52.0
160	28	SEP	6:00:07	53.0	88.5	49.5	59.0	76.0	0	0	0	55.0	54.0	51.5	50.5
161	28	SEP	7:00:07	52.0	87.5	49.0	56.0	75.5	0	0	0	54.5	53.0	50.5	50.0
162	28	SEP	8:00:07	53.0	88.5	50.5	57.5	87.0	0	0	0	56.0	54.0	52.0	51.0
163	28	SEP	9:00:07	56.0	91.5	49.5	79.5	105.5	0	0	0	63.0	58.0	51.5	50.5
164	28	SEP	10:00:07	58.0	93.5	49.0	68.0	106.5	0	0	0	65.5	62.5	51.0	50.0
165	28	SEP	11:00:07	59.5	95.0	48.0	71.5	105.5	0	0	0	68.0	63.5	51.0	49.5
166	28	SEP	12:00:07	62.5	98.5	49.0	76.5	112.5	0	0	0	71.0	66.0	52.5	50.5
167	28	SEP	13:00:07	73.5	104.0	49.5	99.0	130.5	0	0	0	89.0	57.0	51.5	50.5
	OVERALL LEQ: 59														


Canadian Hydro: Wolfe Is. Wind Project
Simcoe Island - Sept 21-28, 2006
Sound Level Leq (dBA)
Wind Speed (km/h)
80
70
60
50
40
30
20
1
12
23
34
45
56
67
78
89
100
111
122
133
144
155
166
Time (Hours)
Leq
L90
Wind Speed
Precipitation

Site 3: Simcoe Island







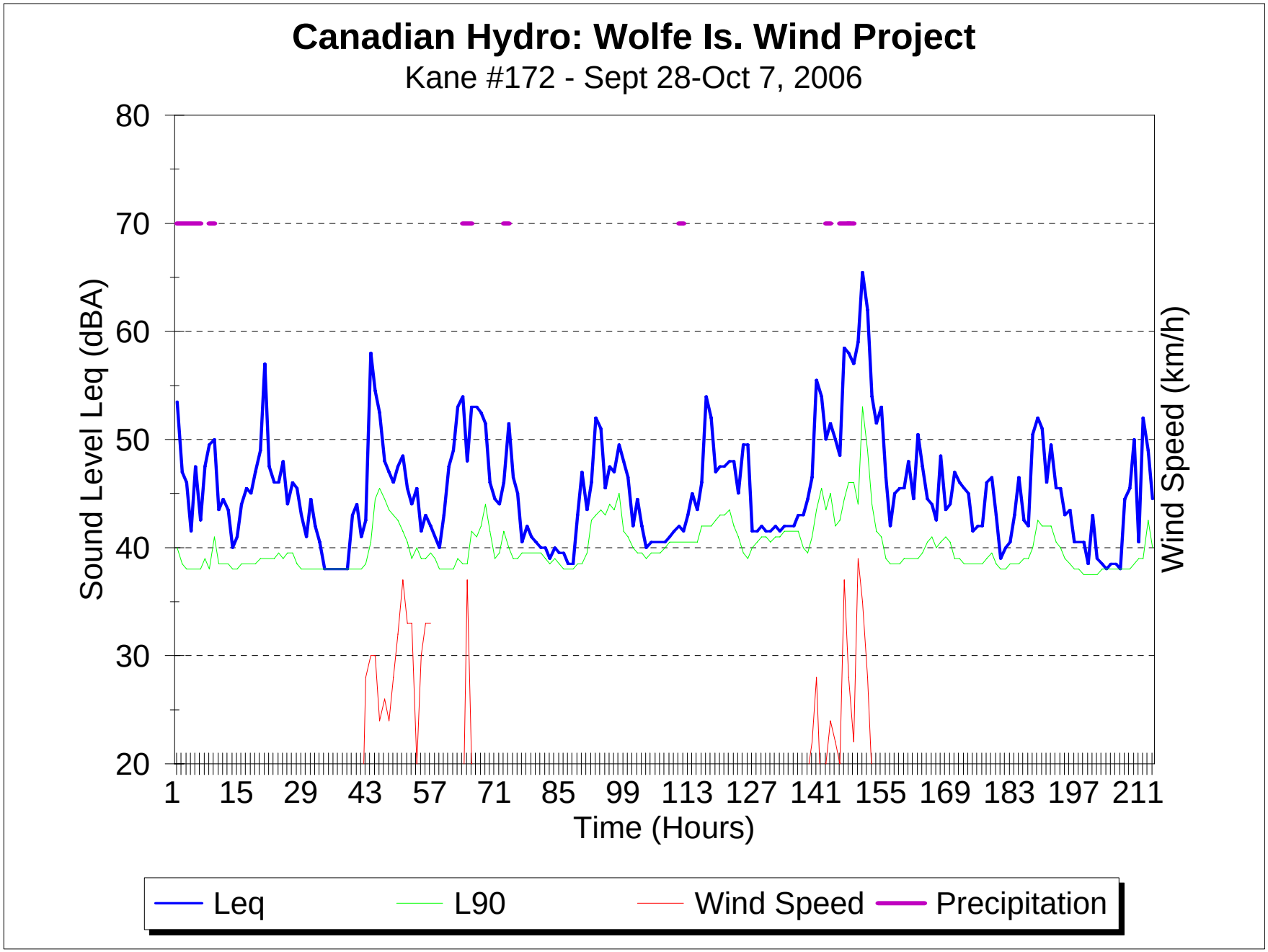


	INTERVAL REPORT		LARSON-DAVIS LABORATORIES					MODEL 700 SN B3480						
	DATA FROM: WISIMCOE							9 /28/06 13:51:34						
	Date 21 SEP Period 01:00 h:m													
	Date	Time	LVL	SEL	Lmin	Lmax	Lpk	Pk	Ov	Ex	L01	L10	L90	L99
1	21 SEP	15:00:01	55.5	91.0	36.0	77.5	94.0	0	0	0	63.5	58.5	48.5	46.0
2	21 SEP	16:00:01	56.0	91.5	45.5	71.5	90.5	0	0	0	63.0	59.0	49.5	47.0
3	21 SEP	17:00:01	55.5	91.0	46.0	70.5	88.0	0	0	0	63.0	58.5	49.0	47.0
4	21 SEP	18:00:01	55.5	91.0	47.0	68.0	87.5	0	0	0	62.0	58.0	50.5	48.5
5	21 SEP	19:00:01	51.0	86.5	44.0	61.5	85.0	0	0	0	58.0	54.0	46.5	45.0
6	21 SEP	20:00:01	48.5	84.0	42.0	69.5	85.0	0	0	0	59.0	48.5	43.5	43.0
7	21 SEP	21:00:01	45.0	81.0	41.5	55.0	66.5	0	0	0	51.5	47.5	43.0	42.0
8	21 SEP	22:00:01	43.0	78.5	41.0	47.5	62.0	0	0	0	45.5	44.0	41.5	41.5
9	21 SEP	23:00:01	42.5	78.5	39.5	63.0	80.0	0	0	0	52.0	43.5	40.5	40.0
10	22 SEP	0:00:01	40.0	75.5	38.5	48.0	65.5	0	0	0	41.5	40.5	39.5	39.0
11	22 SEP	1:00:01	39.5	75.0	38.5	52.5	67.0	0	0	0	43.5	40.0	39.0	38.5
12	22 SEP	2:00:01	39.0	74.5	38.5	45.5	63.0	0	0	0	40.5	39.5	38.5	38.5
13	22 SEP	3:00:01	39.0	74.5	38.0	51.0	64.0	0	0	0	41.0	39.5	38.5	38.5
14	22 SEP	4:00:01	38.5	74.0	38.0	42.0	76.5	0	0	0	39.5	39.0	38.0	38.0
15	22 SEP	5:00:01	40.5	76.0	38.0	60.0	83.0	0	0	0	52.5	38.5	38.0	38.0
16	22 SEP	6:00:01	39.5	75.0	38.0	57.0	75.5	0	0	0	46.5	39.5	38.0	38.0
17	22 SEP	7:00:01	47.0	83.0	38.0	74.0	89.5	0	0	0	57.5	41.5	38.0	38.0
18	22 SEP	8:00:01	51.5	87.0	39.0	77.0	93.0	0	0	0	63.0	43.5	40.0	39.5
19	22 SEP	9:00:01	53.0	88.5	41.5	78.5	92.0	0	0	0	65.5	46.0	43.0	42.0
20	22 SEP	10:00:01	50.5	86.0	43.0	81.0	101.5	0	0	0	61.5	46.0	44.0	43.5
21	22 SEP	11:00:01	48.0	83.5	41.0	69.5	87.5	0	0	0	60.5	47.0	42.5	42.0
22	22 SEP	12:00:01	48.5	84.0	44.5	68.5	86.0	0	0	0	59.0	47.5	45.5	45.0
23	22 SEP	13:00:01	47.0	82.5	43.5	66.5	85.0	0	0	0	57.0	46.5	44.5	43.5
24	22 SEP	14:00:01	47.0	83.0	44.0	63.5	86.0	0	0	0	55.5	47.5	45.0	44.5
25	22 SEP	15:00:02	49.5	85.0	42.0	70.5	88.0	0	0	0	62.5	49.5	43.0	42.5
26	22 SEP	16:00:02	47.5	83.0	41.5	70.5	89.5	0	0	0	58.5	45.0	42.5	42.0
27	22 SEP	17:00:02	58.0	94.0	41.5	81.5	95.0	0	0	0	70.5	48.5	44.0	43.0
28	22 SEP	18:00:02	47.5	83.0	39.5	68.5	90.0	0	0	0	61.0	46.0	41.5	40.0
29	22 SEP	19:00:02	44.5	80.5	40.0	66.5	88.0	0	0	0	53.5	44.5	41.5	41.0
30	22 SEP	20:00:02	43.5	79.0	42.0	52.0	69.0	0	0	0	48.5	44.0	42.5	42.5
31	22 SEP	21:00:02	45.5	81.0	43.0	63.5	81.0	0	0	0	53.0	46.0	43.5	43.0
32	22 SEP	22:00:02	47.0	82.5	44.5	65.5	83.5	0	0	0	54.5	47.5	45.0	44.5
33	22 SEP	23:00:02	46.5	82.0	44.5	53.5	65.5	0	0	0	50.5	47.5	45.0	45.0
34	23 SEP	0:00:02	47.0	82.5	43.5	68.0	87.5	0	0	0	53.0	48.0	44.5	44.0
35	23 SEP	1:00:02	54.0	90.0	44.5	78.5	109.0	0	0	0	62.5	57.5	47.0	45.0
36	23 SEP	2:00:02	47.5	83.0	43.0	67.0	104.0	0	0	0	56.5	49.5	43.5	43.5
37	23 SEP	3:00:02	45.5	81.0	44.0	49.5	79.5	0	0	0	47.5	46.5	44.5	44.5
38	23 SEP	4:00:02	46.0	81.5	44.5	48.5	67.5	0	0	0	47.5	47.0	45.5	45.0
39	23 SEP	5:00:02	46.0	81.5	43.5	73.5	103.5	0	0	0	47.5	46.5	44.5	44.0
40	23 SEP	6:00:02	49.5	85.0	43.5	74.0	103.0	0	0	0	59.5	49.5	44.5	44.0
41	23 SEP	7:00:02	47.5	83.0	43.5	66.5	96.5	0	0	0	56.5	48.0	44.5	44.0
42	23 SEP	8:00:02	50.5	86.0	44.0	68.5	100.0	0	0	0	58.5	52.5	46.0	45.0
43	23 SEP	9:00:02	49.5	85.0	42.5	66.5	84.5	0	0	0	61.5	52.0	44.0	43.0
44	23 SEP	10:00:02	49.5	85.0	42.5	70.5	85.0	0	0	0	62.5	48.5	43.0	42.5
45	23 SEP	11:00:02	47.5	83.0	43.0	66.5	96.0	0	0	0	55.0	48.0	44.5	43.5
46	23 SEP	12:00:02	49.0	84.5	44.0	69.0	85.0	0	0	0	59.5	49.0	45.5	44.5

47	23	SEP	13:00:02	48.0	83.5	44.0	64.5	90.0	0	0	0	56.5	49.0	45.5	44.5
48	23	SEP	14:00:02	49.5	85.5	46.0	66.0	87.0	0	0	0	59.0	50.5	47.5	47.0
49	23	SEP	15:00:03	66.0	101.5	43.5	92.5	106.0	0	0	0	80.0	64.5	45.5	44.0
50	23	SEP	16:00:03	52.5	88.0	43.0	78.5	95.5	0	0	0	58.5	47.5	44.0	43.5
51	23	SEP	17:00:03	48.0	83.5	42.0	69.5	83.5	0	0	0	60.0	47.5	43.5	43.0
52	23	SEP	18:00:03	55.5	91.0	41.0	84.0	110.0	0	0	0	65.5	46.0	42.0	41.5
53	23	SEP	19:00:03	45.5	81.0	40.5	63.5	86.5	0	0	0	58.0	46.0	41.5	41.0
54	23	SEP	20:00:03	44.5	80.0	42.5	49.5	66.5	0	0	0	45.5	45.0	43.5	43.5
55	23	SEP	21:00:03	45.5	81.0	43.5	59.0	80.5	0	0	0	49.5	46.0	44.5	43.5
56	23	SEP	22:00:03	46.0	81.5	43.5	48.5	66.0	0	0	0	47.5	47.0	44.5	44.0
57	23	SEP	23:00:03	46.0	81.5	43.5	60.0	82.0	0	0	0	50.0	47.0	44.5	44.0
58	24	SEP	0:00:03	45.5	81.0	41.5	63.0	91.5	0	0	0	47.5	46.5	43.0	42.5
59	24	SEP	1:00:03	46.0	81.5	42.0	70.5	102.0	0	0	0	49.0	47.0	43.5	43.0
60	24	SEP	2:00:03	47.0	82.5	43.0	72.5	102.5	0	0	0	52.0	47.0	44.5	43.5
61	24	SEP	3:00:03	51.0	87.0	45.5	76.0	107.5	0	0	0	58.5	54.0	46.5	46.0
62	24	SEP	4:00:03	54.5	90.0	49.5	63.0	77.5	0	0	0	60.0	56.5	51.0	50.0
63	24	SEP	5:00:03	59.0	94.5	50.5	72.0	84.5	0	0	0	66.5	62.5	53.5	51.5
64	24	SEP	6:00:03	57.5	93.5	50.5	71.0	88.0	0	0	0	65.0	61.0	53.0	51.5
65	24	SEP	7:00:03	56.0	91.5	49.5	66.5	79.5	0	0	0	62.0	58.5	52.0	50.5
66	24	SEP	8:00:03	58.0	93.5	49.0	70.5	86.0	0	0	0	66.5	61.5	51.5	50.0
67	24	SEP	9:00:03	64.0	99.5	53.0	76.5	92.0	0	0	0	73.0	67.0	58.5	56.0
68	24	SEP	10:00:03	65.0	100.5	52.5	82.0	113.0	0	0	0	73.0	68.5	57.5	54.0
69	24	SEP	11:00:03	67.5	103.0	52.5	76.5	95.0	0	0	0	74.5	71.0	60.0	55.5
70	24	SEP	12:00:03	68.5	104.0	59.0	77.5	90.0	0	0	0	75.0	71.5	63.5	61.0
71	24	SEP	13:00:03	65.5	101.0	56.5	74.5	89.5	0	0	0	72.0	69.0	60.5	58.0
72	24	SEP	14:00:03	68.0	103.5	53.0	83.0	112.5	0	0	0	79.0	71.5	57.5	55.0
73	24	SEP	15:00:04	67.5	103.0	48.0	86.5	120.0	0	0	0	80.5	71.0	51.0	49.5
74	24	SEP	16:00:04	61.0	96.5	45.5	80.0	93.5	0	0	0	73.5	61.5	48.0	46.5
75	24	SEP	17:00:04	48.0	83.5	41.0	63.5	88.0	0	0	0	56.5	50.5	42.0	41.5
76	24	SEP	18:00:04	45.0	80.5	39.0	70.5	100.0	0	0	0	56.5	45.5	40.0	39.0
77	24	SEP	19:00:04	47.0	82.5	38.5	71.0	99.5	0	0	0	59.0	47.5	39.0	38.5
78	24	SEP	20:00:04	46.5	82.0	39.0	72.5	102.0	0	0	0	57.0	47.5	40.0	39.5
79	24	SEP	21:00:04	46.5	82.0	39.0	74.5	103.5	0	0	0	54.5	48.0	42.0	40.0
80	24	SEP	22:00:04	49.0	85.0	42.0	64.5	84.0	0	0	0	58.5	52.0	44.0	42.5
81	24	SEP	23:00:04	45.5	81.0	40.5	62.5	73.5	0	0	0	53.0	47.5	41.5	41.0
82	25	SEP	0:00:04	43.5	79.0	40.0	54.5	75.0	0	0	0	50.0	46.0	40.5	40.5
83	25	SEP	1:00:04	41.5	77.0	39.5	50.0	69.0	0	0	0	46.0	43.5	40.0	40.0
84	25	SEP	2:00:04	40.0	75.5	39.0	57.0	83.0	0	0	0	43.0	41.0	39.5	39.0
85	25	SEP	3:00:04	40.0	75.5	38.5	48.0	67.5	0	0	0	43.5	41.0	39.0	39.0
86	25	SEP	4:00:04	39.0	75.0	38.0	52.0	66.5	0	0	0	47.5	40.0	38.0	38.0
87	25	SEP	5:00:04	39.0	74.5	38.0	60.5	81.0	0	0	0	45.0	38.5	38.0	38.0
88	25	SEP	6:00:04	40.5	76.0	38.0	57.0	72.0	0	0	0	50.5	41.0	38.0	38.0
89	25	SEP	7:00:04	41.5	77.0	38.0	63.5	84.0	0	0	0	52.0	42.0	38.5	38.5
90	25	SEP	8:00:04	47.0	82.5	38.5	65.0	81.5	0	0	0	55.0	50.0	40.5	39.0
91	25	SEP	9:00:04	51.5	87.0	43.0	71.0	86.5	0	0	0	63.5	52.0	45.0	43.5
92	25	SEP	10:00:04	48.5	84.0	42.5	72.5	87.5	0	0	0	58.0	49.5	44.0	43.0
93	25	SEP	11:00:04	50.0	85.5	42.0	73.5	91.0	0	0	0	62.5	49.0	43.5	42.5
94	25	SEP	12:00:04	48.0	83.5	42.0	65.5	83.5	0	0	0	57.0	50.5	44.0	42.5
95	25	SEP	13:00:04	56.0	91.5	44.5	66.5	84.5	0	0	0	63.0	60.0	49.0	46.5
96	25	SEP	14:00:04	60.0	95.5	48.5	71.0	85.0	0	0	0	67.5	63.5	52.5	50.0
97	25	SEP	15:00:05	60.0	95.5	48.5	71.0	85.0	0	0	0	66.0	63.0	53.5	51.0
98	25	SEP	16:00:05	61.0	96.5	47.5	81.5	108.0	0	0	0	71.0	62.0	52.5	49.5
99	25	SEP	17:00:05	57.0	92.5	46.5	68.0	88.5	0	0	0	64.5	60.5	51.0	48.0
100	25	SEP	18:00:05	54.5	90.0	45.5	65.0	84.5	0	0	0	62.5	58.0	48.5	47.0

101	25	SEP	19:00:05	60.5	96.5	51.0	72.5	94.0	0	0	0	68.5	64.0	54.5	52.5
102	25	SEP	20:00:05	65.5	101.0	52.5	78.0	104.5	0	0	0	74.5	69.0	57.5	55.5
103	25	SEP	21:00:05	74.0	109.5	46.5	90.5	120.5	0	0	0	87.0	78.0	49.5	47.5
104	25	SEP	22:00:05	54.0	89.5	46.0	64.5	82.0	0	0	0	62.0	57.5	48.0	46.5
105	25	SEP	23:00:05	52.5	88.5	46.5	66.5	89.0	0	0	0	60.5	56.0	48.0	47.0
106	26	SEP	0:00:05	56.0	91.5	46.0	72.5	86.5	0	0	0	63.5	59.0	50.0	48.0
107	26	SEP	1:00:05	55.5	91.0	46.5	65.5	83.0	0	0	0	63.0	58.5	50.0	48.5
108	26	SEP	2:00:05	51.5	87.5	44.5	63.5	83.5	0	0	0	59.5	55.0	47.0	45.5
109	26	SEP	3:00:05	49.5	85.0	43.0	60.5	76.0	0	0	0	57.0	52.0	45.0	43.5
110	26	SEP	4:00:05	50.5	86.0	43.0	64.0	83.0	0	0	0	59.0	53.5	45.0	44.0
111	26	SEP	5:00:05	50.0	86.0	42.0	66.0	87.0	0	0	0	57.0	53.0	45.0	43.0
112	26	SEP	6:00:05	50.0	86.0	42.0	63.5	86.5	0	0	0	57.5	53.0	45.0	43.5
113	26	SEP	7:00:05	51.5	87.0	44.0	71.5	86.5	0	0	0	58.0	54.0	46.5	45.0
114	26	SEP	8:00:05	49.5	85.0	41.0	66.5	85.0	0	0	0	56.5	52.0	44.0	42.0
115	26	SEP	9:00:05	52.0	87.5	44.0	71.5	88.0	0	0	0	62.0	54.0	46.5	45.0
116	26	SEP	10:00:05	51.0	87.0	42.5	76.0	90.0	0	0	0	61.5	51.0	44.0	43.0
117	26	SEP	11:00:05	49.5	85.0	42.5	73.0	91.0	0	0	0	60.5	50.5	44.0	43.0
118	26	SEP	12:00:05	49.5	85.0	42.5	68.5	84.5	0	0	0	58.0	52.5	45.0	44.0
119	26	SEP	13:00:05	53.5	89.0	43.0	71.0	94.5	0	0	0	62.5	57.5	45.0	43.5
120	26	SEP	14:00:05	54.0	89.5	41.0	69.0	91.5	0	0	0	62.5	58.0	42.0	41.5
121	26	SEP	15:00:06	50.0	86.0	42.0	71.0	86.0	0	0	0	62.0	51.5	44.0	42.5
122	26	SEP	16:00:06	52.5	88.0	42.0	72.0	92.5	0	0	0	62.5	55.5	45.5	43.5
123	26	SEP	17:00:06	58.0	93.5	43.0	79.0	96.5	0	0	0	72.0	54.5	45.0	43.5
124	26	SEP	18:00:06	49.0	84.5	41.5	70.5	90.5	0	0	0	60.5	49.0	43.0	42.0
125	26	SEP	19:00:06	45.0	81.0	40.5	63.5	86.0	0	0	0	54.0	46.5	41.5	41.0
126	26	SEP	20:00:06	42.0	77.5	39.5	61.5	84.5	0	0	0	46.5	42.0	40.5	40.0
127	26	SEP	21:00:06	39.5	75.0	38.5	43.0	73.0	0	0	0	41.0	40.5	39.0	39.0
128	26	SEP	22:00:06	40.0	75.5	38.0	61.5	82.5	0	0	0	45.0	40.0	38.5	38.5
129	26	SEP	23:00:06	40.0	75.5	38.5	44.0	65.0	0	0	0	42.0	41.0	39.0	39.0
130	27	SEP	0:00:06	41.0	77.0	38.5	45.5	66.5	0	0	0	44.5	42.5	39.5	39.5
131	27	SEP	1:00:06	43.0	78.5	41.0	46.5	65.0	0	0	0	45.5	44.0	42.0	41.0
132	27	SEP	2:00:06	44.0	79.5	41.0	49.5	63.0	0	0	0	47.5	45.5	43.0	42.5
133	27	SEP	3:00:06	43.5	79.0	41.0	47.0	70.5	0	0	0	46.0	44.5	42.0	41.5
134	27	SEP	4:00:06	45.5	81.5	42.0	53.5	75.5	0	0	0	49.5	47.0	44.0	43.0
135	27	SEP	5:00:06	48.0	83.5	43.0	55.5	75.0	0	0	0	51.5	49.5	45.5	44.5
136	27	SEP	6:00:06	51.0	86.5	42.5	73.5	90.5	0	0	0	63.5	48.0	44.5	43.5
137	27	SEP	7:00:06	46.5	82.0	43.5	55.5	79.0	0	0	0	50.5	48.0	44.5	44.0
138	27	SEP	8:00:06	52.0	87.5	43.5	81.5	109.5	0	0	0	59.0	50.5	45.0	44.0
139	27	SEP	9:00:06	51.0	86.5	46.5	70.0	84.5	0	0	0	59.5	52.0	47.5	46.5
140	27	SEP	10:00:06	51.5	87.0	46.0	70.5	82.5	0	0	0	63.0	51.5	47.5	46.5
141	27	SEP	11:00:06	50.0	85.5	43.0	69.5	88.0	0	0	0	61.5	50.0	45.5	43.5
142	27	SEP	12:00:06	49.5	85.0	43.0	69.5	90.0	0	0	0	63.0	47.0	44.5	44.0
143	27	SEP	13:00:06	50.0	85.5	44.5	72.5	92.0	0	0	0	62.5	47.0	45.5	45.0
144	27	SEP	14:00:06	50.0	85.5	44.5	74.0	88.5	0	0	0	61.5	48.0	45.5	45.0
145	27	SEP	15:00:07	58.5	94.0	44.5	84.0	103.5	0	0	0	72.0	50.0	45.5	45.0
146	27	SEP	16:00:07	48.5	84.0	45.0	68.5	92.0	0	0	0	53.5	49.5	46.5	46.0
147	27	SEP	17:00:07	48.5	84.5	44.0	68.5	82.0	0	0	0	54.0	50.0	46.0	45.0
148	27	SEP	18:00:07	46.5	82.0	43.5	61.5	82.5	0	0	0	50.5	48.0	44.5	44.0
149	27	SEP	19:00:07	49.0	85.0	44.0	75.0	89.0	0	0	0	58.0	46.5	45.0	44.5
150	27	SEP	20:00:07	50.5	86.0	45.0	74.5	89.5	0	0	0	61.5	47.5	45.5	45.5
151	27	SEP	21:00:07	49.5	85.0	46.5	56.5	80.5	0	0	0	52.5	50.5	48.0	47.0
152	27	SEP	22:00:07	51.0	86.5	47.5	61.5	87.5	0	0	0	54.5	52.5	49.0	48.5
153	27	SEP	23:00:07	50.5	86.0	47.5	56.5	89.5	0	0	0	53.5	52.0	48.5	48.0
154	28	SEP	0:00:07	50.5	86.0	47.0	62.5	79.5	0	0	0	55.5	52.0	48.0	47.5

155	28	SEP	1:00:07	54.0	89.5	48.0	64.5	91.0	0	0	0	59.5	56.5	51.0	49.5
156	28	SEP	2:00:07	52.0	87.5	47.0	64.5	91.0	0	0	0	61.5	55.0	48.5	47.5
157	28	SEP	3:00:07	54.0	89.5	47.0	65.0	94.0	0	0	0	61.0	56.5	50.0	48.5
158	28	SEP	4:00:07	53.0	88.5	48.0	64.5	84.0	0	0	0	59.5	55.5	50.0	49.0
159	28	SEP	5:00:07	52.5	88.0	46.5	60.5	82.5	0	0	0	58.0	55.0	48.5	47.5
160	28	SEP	6:00:07	52.5	88.0	45.0	76.0	92.5	0	0	0	64.0	51.0	46.5	45.5
161	28	SEP	7:00:07	51.5	87.0	44.0	75.5	96.5	0	0	0	64.0	50.5	45.5	44.5
162	28	SEP	8:00:07	48.0	84.0	43.5	69.5	83.0	0	0	0	55.0	49.5	45.0	44.0
163	28	SEP	9:00:07	49.5	85.0	43.5	70.5	85.0	0	0	0	61.0	50.0	45.0	44.0
164	28	SEP	10:00:07	50.5	86.0	42.5	64.0	92.0	0	0	0	58.0	53.5	46.0	43.5
165	28	SEP	11:00:07	52.5	88.0	42.0	73.5	102.5	0	0	0	65.0	54.0	44.0	42.5
166	28	SEP	12:00:07	56.0	91.5	43.0	75.5	101.5	0	0	0	67.0	59.0	47.0	44.0
167	28	SEP	13:00:07	75.0	110.0	40.5	106.5	133.0	0	0	0	81.0	52.5	42.0	41.0
	OVERALL LEQ: 58.6														


Canadian Hydro: Wolfe Is. Wind Project
Kane #172 - Sept 28-Oct 7, 2006
Sound Level Leq (dBA)
Wind Speed (km/h)
80
70
60
50
40
30
20
1
15
29
43
57
71
85
99
113
127
141
155
169
183
197
211
Time (Hours)
Leq
L90
Wind Speed
Precipitation

Site 4: Kane Property #172









INTERVAL	REPORT	LARSON-DAVIS	LABORATORIES	MODEL 700 SN	B3480
DATA FROM: WI-KANE				10 /08/06 14:38:44	

Date 28 SEP Period 01:00 h:m

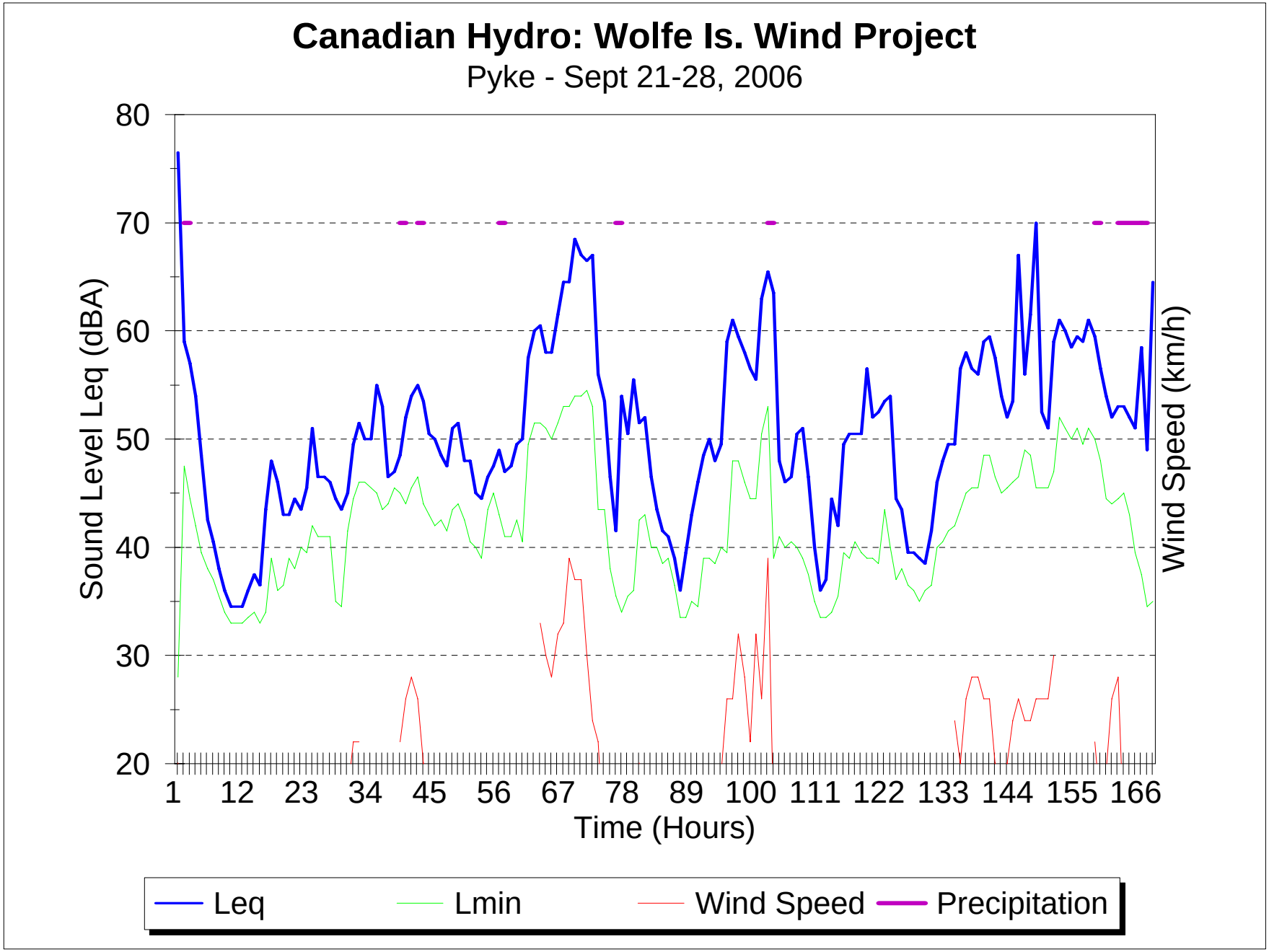
	Date		Time	LVL	SEL	Lmin	Lmax	Lpk	Pk	Ov	Ex	L01	L10	L90	L99
1	28	SEP	15:00:01	53.5	89.0	34.5	82.0	114.5	0	0	0	62.0	53.0	40.0	39.0
2	28	SEP	16:00:01	47.0	82.5	37.5	76.5	94.0	0	0	0	55.5	44.5	38.5	38.0
3	28	SEP	17:00:01	46.0	81.5	37.5	77.5	92.0	0	0	0	51.0	41.5	38.0	38.0
4	28	SEP	18:00:01	41.5	77.0	37.5	60.0	90.0	0	0	0	52.0	42.5	38.0	37.5
5	28	SEP	19:00:01	47.5	83.0	37.5	64.5	102.5	0	0	0	57.0	51.0	38.0	37.5
6	28	SEP	20:00:01	42.5	78.5	37.5	59.5	97.0	0	0	0	53.5	45.0	38.0	37.5
7	28	SEP	21:00:01	47.5	83.5	37.5	64.5	101.0	0	0	0	58.0	51.0	39.0	38.0
8	28	SEP	22:00:01	49.5	85.0	37.5	75.5	110.5	0	0	0	61.5	52.5	38.0	37.5
9	28	SEP	23:00:01	50.0	85.5	38.5	71.0	112.0	0	0	0	61.5	53.0	41.0	39.5
10	29	SEP	0:00:01	43.5	79.0	38.0	62.5	89.0	0	0	0	53.0	46.0	38.5	38.0
11	29	SEP	1:00:01	44.5	80.5	38.0	70.0	104.0	0	0	0	56.0	46.5	38.5	38.0
12	29	SEP	2:00:01	43.5	79.0	38.0	68.0	106.0	0	0	0	54.0	45.0	38.5	38.5
13	29	SEP	3:00:01	40.0	75.5	38.0	56.5	95.0	0	0	0	47.5	41.0	38.0	38.0
14	29	SEP	4:00:01	41.0	76.5	38.0	61.0	72.5	0	0	0	52.0	40.0	38.0	38.0
15	29	SEP	5:00:01	44.0	79.5	38.0	71.0	83.5	0	0	0	53.0	44.0	38.5	38.0
16	29	SEP	6:00:01	45.5	81.0	38.0	74.0	88.5	0	0	0	55.0	45.0	38.5	38.0
17	29	SEP	7:00:01	45.0	80.5	38.0	59.0	87.5	0	0	0	56.0	47.5	38.5	38.5
18	29	SEP	8:00:01	47.0	82.5	38.0	75.0	90.0	0	0	0	57.0	47.5	38.5	38.5
19	29	SEP	9:00:01	49.0	85.0	38.0	76.0	92.5	0	0	0	58.5	48.5	39.0	38.5
20	29	SEP	10:00:01	57.0	92.5	38.5	86.0	99.0	0	0	0	65.0	49.0	39.0	38.5
21	29	SEP	11:00:01	47.5	83.0	38.5	76.0	96.5	0	0	0	55.5	48.5	39.0	39.0
22	29	SEP	12:00:01	46.0	81.5	38.5	71.0	86.0	0	0	0	54.5	48.5	39.0	39.0
23	29	SEP	13:00:01	46.0	81.5	38.5	72.0	89.0	0	0	0	55.0	48.0	39.5	39.0
24	29	SEP	14:00:01	48.0	83.5	38.5	78.0	91.0	0	0	0	56.0	47.5	39.0	39.0
25	29	SEP	15:00:02	44.0	79.5	38.5	58.5	78.0	0	0	0	54.5	46.5	39.5	39.0
26	29	SEP	16:00:02	46.0	81.5	38.5	70.0	91.0	0	0	0	56.5	47.0	39.5	39.0
27	29	SEP	17:00:02	45.5	81.0	38.0	73.5	91.0	0	0	0	55.5	46.0	38.5	38.5
28	29	SEP	18:00:02	43.0	79.0	37.5	64.5	75.5	0	0	0	54.0	43.0	38.0	37.5
29	29	SEP	19:00:02	41.0	76.5	37.5	61.0	84.5	0	0	0	54.5	39.5	38.0	37.5
30	29	SEP	20:00:02	44.5	80.0	37.5	63.0	77.5	0	0	0	58.0	43.0	38.0	38.0
31	29	SEP	21:00:02	42.0	77.5	38.0	60.5	77.5	0	0	0	54.5	40.0	38.0	38.0
32	29	SEP	22:00:02	40.5	76.0	37.5	58.0	72.5	0	0	0	53.5	38.5	38.0	38.0
33	29	SEP	23:00:02	38.0	73.5	37.5	42.5	59.5	0	0	0	40.0	38.0	38.0	38.0
34	30	SEP	0:00:02	38.0	73.5	38.0	40.0	59.5	0	0	0	38.5	38.0	38.0	38.0
35	30	SEP	1:00:02	38.0	73.5	38.0	39.5	59.5	0	0	0	38.5	38.0	38.0	38.0
36	30	SEP	2:00:02	38.0	73.5	38.0	39.0	60.0	0	0	0	38.5	38.0	38.0	38.0
37	30	SEP	3:00:02	38.0	73.5	38.0	40.0	60.0	0	0	0	38.5	38.0	38.0	38.0
38	30	SEP	4:00:02	38.0	73.5	38.0	42.0	81.0	0	0	0	38.0	38.0	38.0	38.0
39	30	SEP	5:00:02	43.0	78.5	38.0	70.5	85.0	0	0	0	51.5	38.5	38.0	38.0
40	30	SEP	6:00:02	44.0	79.5	38.0	74.0	97.0	0	0	0	52.0	40.0	38.0	38.0
41	30	SEP	7:00:02	41.0	76.5	38.0	61.0	76.5	0	0	0	50.5	42.0	38.0	38.0
42	30	SEP	8:00:02	42.5	78.0	38.0	63.0	97.0	0	0	0	52.5	44.0	38.5	38.0
43	30	SEP	9:00:02	58.0	93.5	38.5	87.5	101.5	0	0	0	63.5	48.5	40.5	39.5
44	30	SEP	10:00:02	54.5	90.0	42.0	83.0	96.5	0	0	0	59.0	50.5	44.5	43.0
45	30	SEP	11:00:02	52.5	88.0	43.0	82.5	99.0	0	0	0	56.0	51.5	45.5	44.0
46	30	SEP	12:00:02	48.0	84.0	42.5	57.0	83.5	0	0	0	54.5	51.0	44.5	43.0

47	30	SEP	13:00:02	47.0	82.5	42.0	57.5	80.0	0	0	0	53.5	49.0	43.5	42.5
48	30	SEP	14:00:02	46.0	81.5	40.5	58.5	80.5	0	0	0	53.0	48.5	43.0	41.5
49	30	SEP	15:00:03	47.5	83.5	40.5	74.5	95.0	0	0	0	55.0	49.0	42.5	41.5
50	30	SEP	16:00:03	48.5	84.0	39.5	63.5	96.0	0	0	0	58.0	51.5	41.5	40.0
51	30	SEP	17:00:03	45.5	81.5	39.0	59.0	79.5	0	0	0	53.5	49.0	40.5	40.0
52	30	SEP	18:00:03	44.0	79.5	38.5	63.5	79.5	0	0	0	53.5	46.5	39.0	38.5
53	30	SEP	19:00:03	45.5	81.5	39.0	62.0	97.0	0	0	0	55.5	49.0	40.0	39.5
54	30	SEP	20:00:03	41.5	77.5	38.5	53.5	80.5	0	0	0	50.0	43.5	39.0	38.5
55	30	SEP	21:00:03	43.0	78.5	38.5	60.0	94.5	0	0	0	52.5	45.5	39.0	38.5
56	30	SEP	22:00:03	42.0	77.5	38.5	62.0	93.5	0	0	0	50.0	44.0	39.5	39.0
57	30	SEP	23:00:03	41.0	76.5	38.0	52.0	85.5	0	0	0	48.0	42.5	39.0	38.5
58	1	OCT	0:00:02	40.0	75.5	38.0	55.5	86.0	0	0	0	47.5	41.0	38.0	38.0
59	1	OCT	1:00:02	43.0	78.5	38.0	61.0	94.5	0	0	0	53.5	47.0	38.0	38.0
60	1	OCT	2:00:02	47.5	83.0	37.5	64.5	98.0	0	0	0	58.0	52.0	38.0	38.0
61	1	OCT	3:00:02	49.0	84.5	37.5	65.0	98.5	0	0	0	59.0	53.5	38.0	37.5
62	1	OCT	4:00:02	53.0	88.5	37.5	73.0	110.0	0	0	0	64.0	57.0	39.0	38.0
63	1	OCT	5:00:02	54.0	89.5	38.0	76.5	109.0	0	0	0	65.5	57.5	38.5	38.0
64	1	OCT	6:00:02	48.0	83.5	38.0	76.0	102.0	0	0	0	59.0	48.5	38.5	38.0
65	1	OCT	7:00:02	53.0	88.5	38.5	72.5	107.5	0	0	0	63.0	56.5	41.5	39.5
66	1	OCT	8:00:02	53.0	89.0	38.0	69.5	107.0	0	0	0	62.5	58.0	41.0	39.0
67	1	OCT	9:00:02	52.5	88.0	38.5	77.5	97.0	0	0	0	62.0	55.5	42.0	40.0
68	1	OCT	10:00:02	51.5	87.0	40.0	63.0	78.5	0	0	0	59.5	55.5	44.0	41.5
69	1	OCT	11:00:02	46.0	81.5	40.0	62.5	76.0	0	0	0	56.0	48.5	41.5	40.5
70	1	OCT	12:00:02	44.5	80.0	38.5	60.5	90.0	0	0	0	54.5	47.5	39.0	38.5
71	1	OCT	13:00:02	44.0	79.5	39.0	59.5	77.0	0	0	0	54.0	45.5	39.5	39.0
72	1	OCT	14:00:02	46.0	81.5	39.0	71.5	85.0	0	0	0	54.0	47.0	41.5	40.0
73	1	OCT	15:00:03	51.5	87.0	38.5	71.0	109.0	0	0	0	64.5	54.5	40.0	39.0
74	1	OCT	16:00:03	46.5	82.0	38.5	76.5	92.0	0	0	0	53.5	44.0	39.0	38.5
75	1	OCT	17:00:03	45.0	80.5	38.5	74.5	91.5	0	0	0	53.5	42.5	39.0	39.0
76	1	OCT	18:00:03	40.5	76.0	39.0	56.0	69.5	0	0	0	45.5	41.0	39.5	39.0
77	1	OCT	19:00:03	42.0	77.5	39.0	57.0	72.0	0	0	0	51.5	42.5	39.5	39.0
78	1	OCT	20:00:03	41.0	77.0	39.0	57.0	68.5	0	0	0	50.0	41.0	39.5	39.5
79	1	OCT	21:00:03	40.5	76.0	39.0	54.5	68.0	0	0	0	48.5	40.5	39.5	39.0
80	1	OCT	22:00:03	40.0	75.5	38.5	53.5	67.5	0	0	0	42.0	40.5	39.5	39.0
81	1	OCT	23:00:03	40.0	75.5	38.5	50.0	66.0	0	0	0	43.5	40.5	39.0	38.5
82	2	OCT	0:00:02	39.0	74.5	38.0	43.0	59.0	0	0	0	40.5	39.5	38.5	38.5
83	2	OCT	1:00:02	40.0	76.0	38.5	48.5	62.5	0	0	0	46.0	41.5	39.0	38.5
84	2	OCT	2:00:02	39.5	75.0	38.0	47.0	64.5	0	0	0	43.5	40.5	38.5	38.5
85	2	OCT	3:00:02	39.5	75.0	38.0	55.0	64.5	0	0	0	49.0	39.5	38.0	38.0
86	2	OCT	4:00:02	38.5	74.0	37.5	50.0	68.5	0	0	0	44.0	38.5	38.0	38.0
87	2	OCT	5:00:02	38.5	74.0	37.5	52.0	67.0	0	0	0	42.5	39.5	38.0	38.0
88	2	OCT	6:00:02	43.0	78.5	38.0	59.5	72.5	0	0	0	54.0	45.5	38.5	38.0
89	2	OCT	7:00:02	47.0	82.5	38.0	77.0	88.5	0	0	0	56.0	46.0	38.5	38.5
90	2	OCT	8:00:02	43.5	79.5	38.5	63.5	77.0	0	0	0	54.5	44.0	39.5	39.0
91	2	OCT	9:00:02	46.0	81.5	40.5	73.5	93.5	0	0	0	50.0	45.0	42.5	41.5
92	2	OCT	10:00:02	52.0	87.5	39.0	82.5	95.0	0	0	0	52.5	47.0	43.0	39.5
93	2	OCT	11:00:02	51.0	86.5	42.5	81.5	94.0	0	0	0	54.0	46.5	43.5	43.0
94	2	OCT	12:00:02	45.5	81.0	42.0	63.0	82.0	0	0	0	52.5	47.0	43.0	42.5
95	2	OCT	13:00:02	47.5	83.0	41.0	71.0	92.0	0	0	0	54.5	48.0	44.0	42.5
96	2	OCT	14:00:02	47.0	82.5	41.5	60.0	79.5	0	0	0	54.5	49.5	43.5	42.5
97	2	OCT	15:00:03	49.5	85.0	42.5	61.0	83.0	0	0	0	57.0	52.5	45.0	43.5
98	2	OCT	16:00:03	48.0	84.0	40.0	71.5	86.0	0	0	0	57.0	51.0	41.5	40.5
99	2	OCT	17:00:03	46.5	82.5	40.0	75.0	92.5	0	0	0	55.5	46.5	41.0	40.5
100	2	OCT	18:00:03	42.0	77.5	39.0	61.0	78.0	0	0	0	51.0	41.5	40.0	39.5

101	2	OCT	19:00:03	44.5	80.0	39.0	71.5	89.5	0	0	0	55.0	43.5	39.5	39.5
102	2	OCT	20:00:03	42.0	77.5	38.5	57.5	76.0	0	0	0	53.0	41.5	39.5	39.5
103	2	OCT	21:00:03	40.0	75.5	38.5	45.5	62.0	0	0	0	43.0	41.0	39.0	38.5
104	2	OCT	22:00:03	40.5	76.0	38.5	53.0	67.0	0	0	0	44.0	41.0	39.5	39.0
105	2	OCT	23:00:03	40.5	76.0	39.0	51.5	63.5	0	0	0	45.5	41.0	39.5	39.0
106	3	OCT	0:00:02	40.5	76.0	39.0	54.5	66.5	0	0	0	42.5	41.0	39.5	39.0
107	3	OCT	1:00:02	40.5	76.0	39.0	45.5	62.5	0	0	0	42.0	41.0	40.0	39.5
108	3	OCT	2:00:02	41.0	76.5	39.5	46.5	62.0	0	0	0	43.0	41.5	40.5	40.0
109	3	OCT	3:00:02	41.5	77.0	40.0	47.5	75.0	0	0	0	45.0	42.0	40.5	40.5
110	3	OCT	4:00:02	42.0	77.5	40.0	58.0	76.5	0	0	0	48.0	42.5	40.5	40.5
111	3	OCT	5:00:02	41.5	77.0	40.0	54.0	77.5	0	0	0	45.5	42.0	40.5	40.0
112	3	OCT	6:00:02	43.0	78.5	40.0	60.5	73.0	0	0	0	52.5	44.0	40.5	40.5
113	3	OCT	7:00:02	45.0	80.5	39.5	61.0	75.5	0	0	0	56.5	46.5	40.5	40.0
114	3	OCT	8:00:02	43.5	79.0	40.0	58.0	73.0	0	0	0	53.5	45.0	40.5	40.0
115	3	OCT	9:00:02	46.0	82.0	40.5	74.0	95.5	0	0	0	54.5	46.5	42.0	41.0
116	3	OCT	10:00:02	54.0	89.5	41.5	85.0	97.5	0	0	0	59.0	48.0	42.0	41.5
117	3	OCT	11:00:02	52.0	87.5	41.0	82.0	95.5	0	0	0	61.0	49.0	42.0	41.5
118	3	OCT	12:00:02	47.0	83.0	41.0	65.5	78.5	0	0	0	57.5	49.0	42.5	41.5
119	3	OCT	13:00:02	47.5	83.0	41.0	59.5	98.5	0	0	0	54.5	50.5	43.0	42.0
120	3	OCT	14:00:02	47.5	83.0	41.0	68.5	92.0	0	0	0	56.0	50.0	43.0	42.0
121	3	OCT	15:00:03	48.0	83.5	41.5	75.0	91.0	0	0	0	56.0	48.5	43.5	42.5
122	3	OCT	16:00:03	48.0	84.0	41.0	78.5	92.5	0	0	0	54.0	45.0	42.0	41.5
123	3	OCT	17:00:03	45.0	80.5	40.0	61.5	84.5	0	0	0	54.5	46.5	41.0	40.5
124	3	OCT	18:00:03	49.5	85.5	38.5	78.0	94.5	0	0	0	56.5	48.5	39.5	39.0
125	3	OCT	19:00:03	49.5	85.0	38.5	80.0	92.5	0	0	0	55.0	46.0	39.0	39.0
126	3	OCT	20:00:03	41.5	77.0	39.0	53.0	65.5	0	0	0	48.0	41.5	40.0	39.5
127	3	OCT	21:00:03	41.5	77.0	40.0	54.0	69.5	0	0	0	49.0	41.5	40.5	40.5
128	3	OCT	22:00:03	42.0	77.5	40.5	55.5	67.5	0	0	0	49.0	42.5	41.0	40.5
129	3	OCT	23:00:03	41.5	77.5	40.5	43.0	61.0	0	0	0	42.5	42.5	41.0	40.5
130	4	OCT	0:00:02	41.5	77.0	40.0	43.0	60.5	0	0	0	42.5	42.0	40.5	40.5
131	4	OCT	1:00:02	42.0	77.5	40.5	43.5	61.0	0	0	0	43.0	42.5	41.0	40.5
132	4	OCT	2:00:02	41.5	77.0	40.5	44.5	60.0	0	0	0	42.5	42.0	41.0	40.5
133	4	OCT	3:00:02	42.0	77.5	40.5	45.0	61.0	0	0	0	43.5	42.5	41.5	41.0
134	4	OCT	4:00:02	42.0	77.5	40.5	54.0	68.5	0	0	0	46.0	42.5	41.5	41.0
135	4	OCT	5:00:02	42.0	77.5	41.0	54.0	67.5	0	0	0	47.0	42.5	41.5	41.0
136	4	OCT	6:00:02	43.0	78.5	40.5	55.0	70.5	0	0	0	51.5	43.5	41.5	41.0
137	4	OCT	7:00:02	43.0	78.5	39.5	57.0	72.0	0	0	0	51.5	44.5	40.0	39.5
138	4	OCT	8:00:02	44.5	80.5	39.0	69.5	87.0	0	0	0	54.5	46.0	39.5	39.5
139	4	OCT	9:00:02	46.5	82.0	39.5	60.5	98.0	0	0	0	55.5	50.0	41.0	40.0
140	4	OCT	10:00:02	55.5	91.0	40.5	83.5	97.0	0	0	0	63.5	55.5	43.5	41.5
141	4	OCT	11:00:02	54.0	89.5	42.0	81.5	94.5	0	0	0	60.5	56.0	45.5	43.0
142	4	OCT	12:00:02	50.0	85.5	41.0	60.5	82.5	0	0	0	58.0	53.5	43.5	42.0
143	4	OCT	13:00:02	51.5	87.0	42.5	75.5	89.5	0	0	0	59.0	54.0	45.0	43.5
144	4	OCT	14:00:02	50.0	85.5	40.0	75.5	94.0	0	0	0	58.0	52.0	42.0	40.5
145	4	OCT	15:00:03	48.5	84.0	40.0	61.0	94.0	0	0	0	56.5	52.0	42.5	40.5
146	4	OCT	16:00:03	58.5	94.0	40.5	82.0	115.5	0	0	0	72.0	57.0	44.5	42.5
147	4	OCT	17:00:03	58.0	93.5	40.5	75.5	103.0	0	0	0	68.5	62.0	46.0	42.5
148	4	OCT	18:00:03	57.0	92.5	40.0	70.5	112.5	0	0	0	66.0	61.0	46.0	41.5
149	4	OCT	19:00:03	59.0	94.5	39.5	77.5	104.5	0	0	0	69.5	63.0	44.0	41.0
150	4	OCT	20:00:03	65.5	101.0	43.5	80.0	97.5	0	0	0	75.0	70.0	53.0	48.0
151	4	OCT	21:00:03	62.0	98.0	42.5	76.0	93.5	0	0	0	72.5	66.5	49.0	45.0
152	4	OCT	22:00:03	54.0	89.5	40.0	67.0	88.5	0	0	0	63.0	58.0	44.0	41.5
153	4	OCT	23:00:03	51.5	87.0	39.0	68.5	87.0	0	0	0	62.0	55.0	41.5	39.5
154	5	OCT	0:00:02	53.0	88.5	39.0	68.0	90.0	0	0	0	63.0	57.0	41.0	40.0

155	5	OCT	1:00:02	46.5	82.0	38.5	63.0	85.5	0	0	0	56.0	50.5	39.0	38.5
156	5	OCT	2:00:02	42.0	78.0	38.0	56.5	85.0	0	0	0	51.5	45.0	38.5	38.0
157	5	OCT	3:00:02	45.0	81.0	38.5	60.0	88.0	0	0	0	55.5	49.0	38.5	38.5
158	5	OCT	4:00:02	45.5	81.0	38.0	70.0	91.5	0	0	0	57.0	46.5	38.5	38.0
159	5	OCT	5:00:02	45.5	81.5	38.5	67.0	91.5	0	0	0	56.5	48.0	39.0	38.5
160	5	OCT	6:00:02	48.0	83.5	38.5	72.5	89.5	0	0	0	57.5	51.0	39.0	38.5
161	5	OCT	7:00:02	44.5	80.5	38.5	58.0	85.5	0	0	0	53.0	48.5	39.0	38.5
162	5	OCT	8:00:02	50.5	86.0	38.5	78.5	91.0	0	0	0	61.5	47.5	39.0	38.5
163	5	OCT	9:00:02	47.5	83.0	38.5	73.5	90.5	0	0	0	55.0	48.5	39.5	38.5
164	5	OCT	10:00:02	44.5	80.0	39.0	58.0	80.0	0	0	0	53.0	47.0	40.5	39.5
165	5	OCT	11:00:02	44.0	79.5	38.5	64.0	79.5	0	0	0	50.5	45.5	41.0	39.5
166	5	OCT	12:00:02	42.5	78.0	38.0	51.0	78.5	0	0	0	48.0	45.0	40.0	38.5
167	5	OCT	13:00:02	48.5	84.0	38.5	76.5	92.5	0	0	0	55.0	47.5	40.5	39.5
168	5	OCT	14:00:02	43.5	79.0	39.5	52.5	78.0	0	0	0	50.0	45.5	41.0	40.0
169	5	OCT	15:00:03	44.0	79.5	39.0	55.5	84.5	0	0	0	51.0	46.5	40.5	39.5
170	5	OCT	16:00:03	47.0	82.5	38.5	74.5	88.5	0	0	0	54.0	45.0	39.0	38.5
171	5	OCT	17:00:03	46.0	81.5	38.5	75.0	90.5	0	0	0	53.5	47.0	39.0	38.5
172	5	OCT	18:00:03	45.5	81.0	38.0	74.0	88.0	0	0	0	53.0	46.0	38.5	38.0
173	5	OCT	19:00:03	45.0	80.5	38.0	71.5	87.5	0	0	0	53.0	46.5	38.5	38.0
174	5	OCT	20:00:03	41.5	77.0	38.0	55.5	68.0	0	0	0	50.0	44.5	38.5	38.0
175	5	OCT	21:00:03	42.0	78.0	38.0	56.0	70.5	0	0	0	51.0	45.0	38.5	38.0
176	5	OCT	22:00:03	42.0	77.5	38.0	57.0	88.0	0	0	0	51.5	44.0	38.5	38.0
177	5	OCT	23:00:03	46.0	81.5	38.0	60.0	85.0	0	0	0	55.0	50.0	39.0	38.5
178	6	OCT	0:00:02	46.5	82.0	38.5	59.5	87.0	0	0	0	55.5	50.5	39.5	38.5
179	6	OCT	1:00:02	43.0	78.5	38.0	58.5	82.0	0	0	0	52.5	46.0	38.5	38.5
180	6	OCT	2:00:02	39.0	74.5	38.0	48.0	62.0	0	0	0	45.5	40.0	38.0	38.0
181	6	OCT	3:00:02	40.0	76.0	38.0	52.0	67.0	0	0	0	48.0	42.5	38.0	38.0
182	6	OCT	4:00:02	40.5	76.5	38.0	53.5	66.5	0	0	0	48.5	43.0	38.5	38.0
183	6	OCT	5:00:02	43.0	78.5	38.0	70.5	89.0	0	0	0	50.0	43.0	38.5	38.0
184	6	OCT	6:00:02	46.5	82.0	38.0	73.5	89.5	0	0	0	53.0	45.5	38.5	38.5
185	6	OCT	7:00:02	42.5	78.0	38.5	61.0	86.0	0	0	0	51.5	45.0	39.0	38.5
186	6	OCT	8:00:02	42.0	77.5	38.5	60.5	87.5	0	0	0	50.0	44.0	39.0	38.5
187	6	OCT	9:00:02	50.5	86.0	38.5	77.5	96.5	0	0	0	58.5	48.0	40.0	39.0
188	6	OCT	10:00:02	52.0	87.5	40.0	81.5	94.0	0	0	0	55.5	49.0	42.5	41.0
189	6	OCT	11:00:02	51.0	86.5	41.0	82.0	96.5	0	0	0	54.0	48.0	42.0	41.5
190	6	OCT	12:00:02	46.0	81.5	40.5	72.0	87.5	0	0	0	50.5	47.5	42.0	41.0
191	6	OCT	13:00:02	49.5	85.0	39.5	75.5	94.5	0	0	0	55.5	48.0	42.0	40.5
192	6	OCT	14:00:02	45.5	81.5	39.0	73.5	87.5	0	0	0	50.5	46.0	40.5	39.5
193	6	OCT	15:00:03	45.5	81.0	39.0	70.5	87.0	0	0	0	49.5	44.5	40.0	39.5
194	6	OCT	16:00:03	43.0	78.5	38.5	60.5	71.0	0	0	0	54.0	44.5	39.0	39.0
195	6	OCT	17:00:03	43.5	79.5	37.5	73.5	87.5	0	0	0	50.0	40.5	38.5	38.0
196	6	OCT	18:00:03	40.5	76.0	37.5	55.5	70.0	0	0	0	50.5	42.0	38.0	38.0
197	6	OCT	19:00:03	40.5	76.0	37.5	55.0	68.5	0	0	0	52.0	40.0	38.0	37.5
198	6	OCT	20:00:03	40.5	76.0	37.5	55.5	75.5	0	0	0	51.5	40.5	37.5	37.5
199	6	OCT	21:00:03	38.5	74.0	37.5	52.5	65.0	0	0	0	46.0	39.0	37.5	37.5
200	6	OCT	22:00:03	43.0	78.5	37.5	71.0	86.0	0	0	0	53.5	40.0	37.5	37.5
201	6	OCT	23:00:03	39.0	74.5	37.5	55.0	66.5	0	0	0	47.0	39.5	37.5	37.5
202	7	OCT	0:00:02	38.5	74.5	37.5	51.5	62.5	0	0	0	45.0	40.0	38.0	37.5
203	7	OCT	1:00:02	38.0	73.5	38.0	43.0	59.5	0	0	0	39.0	38.0	38.0	38.0
204	7	OCT	2:00:02	38.5	74.0	38.0	50.0	64.5	0	0	0	44.5	38.0	38.0	38.0
205	7	OCT	3:00:02	38.5	74.0	38.0	52.5	64.0	0	0	0	43.0	39.0	38.0	38.0
206	7	OCT	4:00:02	38.0	73.5	38.0	39.0	59.5	0	0	0	38.5	38.0	38.0	38.0
207	7	OCT	5:00:02	44.5	80.0	38.0	73.0	88.0	0	0	0	51.5	40.0	38.0	38.0
208	7	OCT	6:00:02	45.5	81.0	38.0	75.5	91.5	0	0	0	52.0	40.0	38.0	38.0

209	7	OCT	7:00:02	50.0	85.5	38.0	79.0	91.0	0	0	0	58.0	43.0	38.5	38.5
210	7	OCT	8:00:02	40.5	76.5	38.5	53.0	71.0	0	0	0	47.5	42.5	39.0	38.5
211	7	OCT	9:00:02	52.0	87.5	38.5	80.5	107.5	0	0	0	57.5	46.5	39.0	38.5
212	7	OCT	10:00:02	49.0	84.5	40.5	73.5	88.0	0	0	0	62.0	47.0	42.5	41.5
213	7	OCT	11:00:02	44.5	80.0	38.5	57.0	68.5	0	0	0	50.0	46.5	40.0	38.5
OVERALL LEQ: 49.5															


Canadian Hydro: Wolfe Is. Wind Project
Pyke - Sept 21-28, 2006
Sound Level Leq (dBA)
Wind Speed (km/h)
80
70
60
50
40
30
20
1
12
23
34
45
56
67
78
89
100
111
122
133
144
155
166
Time (Hours)
Leq
Lmin
Wind Speed
Precipitation

Site 5: Pyke Property

AERCOUSTICS ENGINEERING LIMITED
165-50 RONSON DRIVE, ETOBICOKE, ONTARIO M9W 1B3





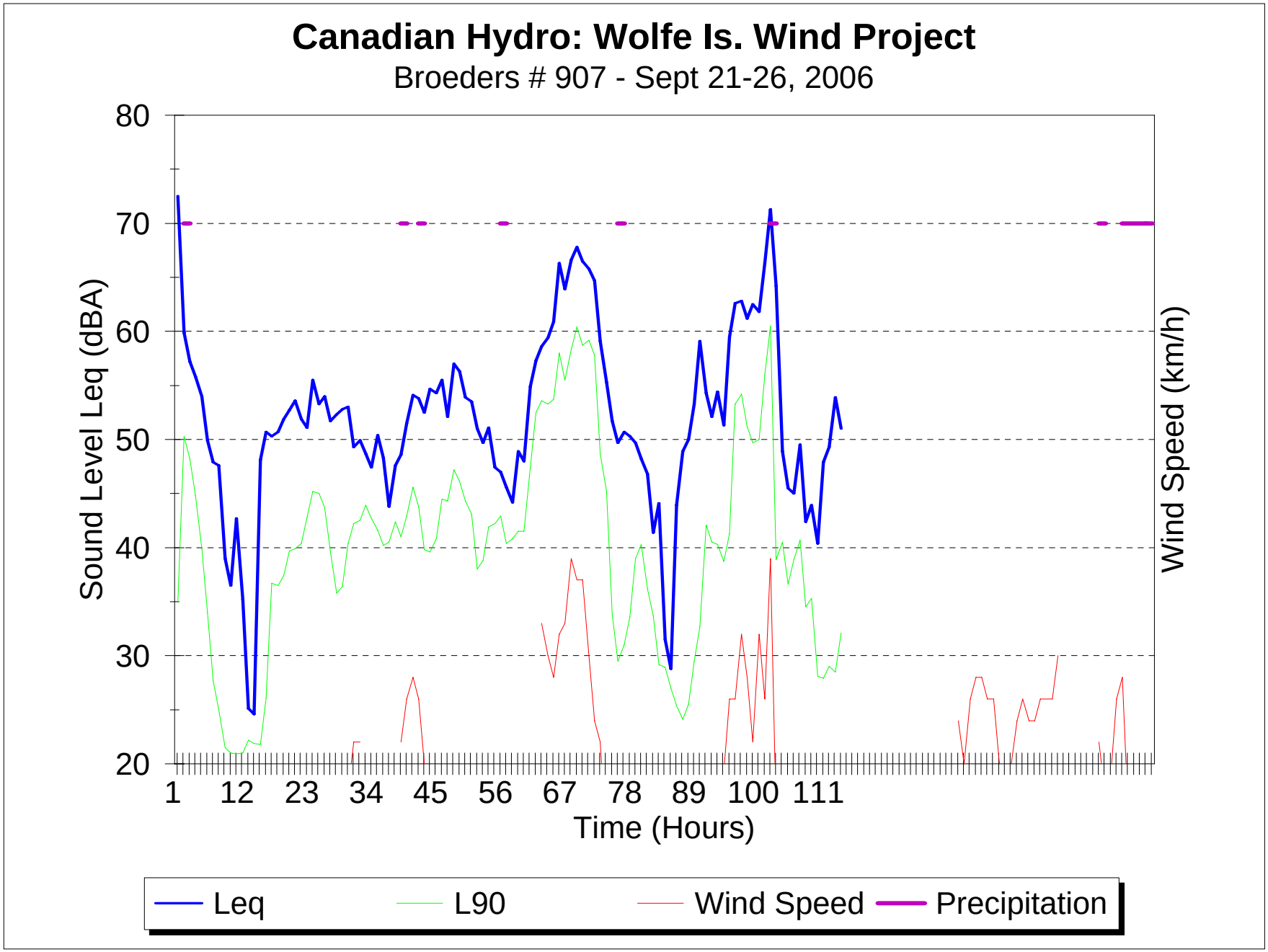


INTERVAL REPORT LARSON-DAVIS LABORATORIES											MODEL 700 SN B2186			
DATA FROM: WIPYKE											09/28/06 14:45:44			
Date 21 SEP Period 01:00 h:m														
Date			Time	LVL	SEL	Lmin	Lmax	Lpk	Pk	Ov	Ex			
1	21	SEP	15:00:01	76.5	112.0	28.0	108.0	134.5	0	0	0			
2	21	SEP	16:00:00	59.0	95.0	47.5	69.5	84.0	0	0	0			
3	21	SEP	17:00:00	57.0	92.5	44.5	67.5	83.0	0	0	0			
4	21	SEP	18:00:00	54.0	89.5	42.0	67.0	79.0	0	0	0			
5	21	SEP	19:00:00	48.5	84.0	39.5	62.5	76.0	0	0	0			
6	21	SEP	20:00:00	42.5	78.0	38.0	56.5	71.0	0	0	0			
7	21	SEP	21:00:00	40.5	76.0	37.0	60.5	72.5	0	0	0			
8	21	SEP	22:00:00	38.0	73.5	35.5	56.0	66.5	0	0	0			
9	21	SEP	23:00:00	36.0	71.5	34.0	46.5	79.5	0	0	0			
10	22	SEP	0:00:00	34.5	70.0	33.0	51.5	67.0	0	0	0			
11	22	SEP	1:00:00	34.5	70.0	33.0	52.5	63.0	0	0	0			
12	22	SEP	2:00:00	34.5	70.0	33.0	50.0	60.0	0	0	0			
13	22	SEP	3:00:00	36.0	71.5	33.5	59.5	92.5	0	0	0			
14	22	SEP	4:00:00	37.5	73.0	34.0	44.0	64.5	0	0	0			
15	22	SEP	5:00:00	36.5	72.0	33.0	56.0	70.5	0	0	0			
16	22	SEP	6:00:00	43.5	79.0	34.0	70.0	83.0	0	0	0			
17	22	SEP	7:00:00	48.0	83.5	39.0	64.0	77.0	0	0	0			
18	22	SEP	8:00:00	46.0	81.5	36.0	65.0	75.5	0	0	0			
19	22	SEP	9:00:00	43.0	78.5	36.5	60.0	72.0	0	0	0			
20	22	SEP	10:00:00	43.0	78.5	39.0	59.5	75.5	0	0	0			
21	22	SEP	11:00:00	44.5	80.0	38.0	61.5	73.0	0	0	0			
22	22	SEP	12:00:00	43.5	79.0	40.0	59.0	83.5	0	0	0			
23	22	SEP	13:00:00	45.5	81.5	39.5	65.5	79.0	0	0	0			
24	22	SEP	14:00:00	51.0	87.0	42.0	80.0	93.0	0	0	0			
25	22	SEP	15:00:01	46.5	82.5	41.0	63.0	79.5	0	0	0			
26	22	SEP	16:00:01	46.5	82.0	41.0	59.5	70.5	0	0	0			
27	22	SEP	17:00:01	46.0	81.5	41.0	60.5	71.5	0	0	0			
28	22	SEP	18:00:01	44.5	80.0	35.0	60.0	88.5	0	0	0			
29	22	SEP	19:00:01	43.5	79.0	34.5	59.5	70.0	0	0	0			
30	22	SEP	20:00:01	45.0	80.5	41.5	59.0	72.0	0	0	0			
31	22	SEP	21:00:01	49.5	85.5	44.5	60.5	78.5	0	0	0			
32	22	SEP	22:00:01	51.5	87.0	46.0	63.0	80.5	0	0	0			
33	22	SEP	23:00:01	50.0	85.5	46.0	61.0	73.0	0	0	0			
34	23	SEP	0:00:01	50.0	85.5	45.5	61.0	76.0	0	0	0			
35	23	SEP	1:00:01	55.0	91.0	45.0	72.0	110.5	0	0	0			
36	23	SEP	2:00:01	53.0	88.5	43.5	68.5	108.0	0	0	0			
37	23	SEP	3:00:01	46.5	82.0	44.0	57.5	71.5	0	0	0			
38	23	SEP	4:00:01	47.0	83.0	45.5	56.0	71.0	0	0	0			
39	23	SEP	5:00:01	48.5	84.5	45.0	59.5	73.5	0	0	0			
40	23	SEP	6:00:01	52.0	87.5	44.0	66.0	101.5	0	0	0			
41	23	SEP	7:00:01	54.0	89.5	45.5	65.0	103.0	0	0	0			
42	23	SEP	8:00:01	55.0	90.5	46.5	67.0	82.0	0	0	0			
43	23	SEP	9:00:01	53.5	89.0	44.0	65.0	95.5	0	0	0			
44	23	SEP	10:00:01	50.5	86.0	43.0	78.5	104.5	0	0	0			
45	23	SEP	11:00:01	50.0	85.5	42.0	67.5	84.0	0	0	0			
46	23	SEP	12:00:01	48.5	84.0	42.5	60.5	74.5	0	0	0			

47	23	SEP	13:00:01	47.5	83.5	41.5	63.0	74.0	0	0	0		
48	23	SEP	14:00:01	51.0	86.5	43.5	62.5	77.0	0	0	0		
49	23	SEP	15:00:02	51.5	87.0	44.0	66.5	80.0	0	0	0		
50	23	SEP	16:00:02	48.0	84.0	42.5	62.5	75.0	0	0	0		
51	23	SEP	17:00:02	48.0	83.5	40.5	61.5	74.0	0	0	0		
52	23	SEP	18:00:02	45.0	80.5	40.0	65.0	78.5	0	0	0		
53	23	SEP	19:00:02	44.5	80.0	39.0	57.5	70.5	0	0	0		
54	23	SEP	20:00:02	46.5	82.0	43.5	59.5	71.5	0	0	0		
55	23	SEP	21:00:02	47.5	83.0	45.0	60.5	72.5	0	0	0		
56	23	SEP	22:00:02	49.0	84.5	43.0	59.0	92.0	0	0	0		
57	23	SEP	23:00:02	47.0	82.5	41.0	58.5	90.5	0	0	0		
58	24	SEP	0:00:02	47.5	83.0	41.0	63.0	94.0	0	0	0		
59	24	SEP	1:00:02	49.5	85.0	42.5	61.5	103.5	0	0	0		
60	24	SEP	2:00:02	50.0	86.0	40.5	63.5	94.0	0	0	0		
61	24	SEP	3:00:02	57.5	93.0	49.5	67.0	81.0	0	0	0		
62	24	SEP	4:00:02	60.0	95.5	51.5	71.0	102.5	0	0	0		
63	24	SEP	5:00:02	60.5	96.5	51.5	73.0	93.0	0	0	0		
64	24	SEP	6:00:02	58.0	93.5	51.0	69.5	87.0	0	0	0		
65	24	SEP	7:00:02	58.0	94.0	50.0	70.5	101.5	0	0	0		
66	24	SEP	8:00:02	61.5	97.5	51.5	72.5	86.0	0	0	0		
67	24	SEP	9:00:02	64.5	100.5	53.0	75.0	88.5	0	0	0		
68	24	SEP	10:00:02	64.5	100.0	53.0	76.0	87.0	0	0	0		
69	24	SEP	11:00:02	68.5	104.0	54.0	78.5	92.0	0	0	0		
70	24	SEP	12:00:02	67.0	102.5	54.0	78.0	92.0	0	0	0		
71	24	SEP	13:00:02	66.5	102.5	54.5	78.0	94.0	0	0	0		
72	24	SEP	14:00:02	67.0	102.5	53.0	78.0	90.5	0	0	0		
73	24	SEP	15:00:03	56.0	91.5	43.5	68.5	104.0	0	0	0		
74	24	SEP	16:00:03	53.5	89.0	43.5	68.0	80.0	0	0	0		
75	24	SEP	17:00:03	46.5	82.0	38.0	60.5	91.5	0	0	0		
76	24	SEP	18:00:03	41.5	77.0	35.5	59.5	70.5	0	0	0		
77	24	SEP	19:00:03	54.0	89.5	34.0	69.0	108.0	0	0	0		
78	24	SEP	20:00:03	50.5	86.0	35.5	70.5	107.0	0	0	0		
79	24	SEP	21:00:03	55.5	91.0	36.0	70.0	109.5	0	0	0		
80	24	SEP	22:00:03	51.5	87.0	42.5	61.0	86.5	0	0	0		
81	24	SEP	23:00:03	52.0	87.5	43.0	62.0	75.5	0	0	0		
82	25	SEP	0:00:03	46.5	82.0	40.0	57.0	71.0	0	0	0		
83	25	SEP	1:00:03	43.5	79.0	40.0	54.0	75.5	0	0	0		
84	25	SEP	2:00:03	41.5	77.0	38.5	47.0	69.0	0	0	0		
85	25	SEP	3:00:03	41.0	77.0	39.0	56.0	69.0	0	0	0		
86	25	SEP	4:00:03	39.0	75.0	36.5	43.0	70.0	0	0	0		
87	25	SEP	5:00:03	36.0	71.5	33.5	50.5	65.0	0	0	0		
88	25	SEP	6:00:03	39.5	75.0	33.5	62.0	72.5	0	0	0		
89	25	SEP	7:00:03	43.0	78.5	35.0	66.5	92.5	0	0	0		
90	25	SEP	8:00:03	46.0	81.5	34.5	72.5	102.0	0	0	0		
91	25	SEP	9:00:03	48.5	84.0	39.0	60.0	74.0	0	0	0		
92	25	SEP	10:00:03	50.0	85.5	39.0	61.0	75.0	0	0	0		
93	25	SEP	11:00:03	48.0	84.0	38.5	60.0	80.5	0	0	0		
94	25	SEP	12:00:03	49.5	85.0	40.0	61.0	73.5	0	0	0		
95	25	SEP	13:00:03	59.0	94.5	39.5	72.5	85.0	0	0	0		
96	25	SEP	14:00:03	61.0	97.0	48.0	70.0	83.5	0	0	0		
97	25	SEP	15:00:04	59.5	95.0	48.0	70.0	82.5	0	0	0		
98	25	SEP	16:00:04	58.0	93.5	46.0	68.5	81.0	0	0	0		
99	25	SEP	17:00:04	56.5	92.0	44.5	68.0	81.5	0	0	0		
100	25	SEP	18:00:04	55.5	91.0	44.5	68.5	81.5	0	0	0		

101	25	SEP	19:00:04	63.0	98.5	50.5	73.0	86.5	0	0	0		
102	25	SEP	20:00:04	65.5	101.0	53.0	78.0	99.0	0	0	0		
103	25	SEP	21:00:04	63.5	99.0	39.0	83.0	115.5	0	0	0		
104	25	SEP	22:00:04	48.0	83.5	41.0	62.5	90.0	0	0	0		
105	25	SEP	23:00:04	46.0	81.5	40.0	57.0	70.5	0	0	0		
106	26	SEP	0:00:04	46.5	82.0	40.5	57.0	71.0	0	0	0		
107	26	SEP	1:00:04	50.5	86.0	40.0	64.5	78.5	0	0	0		
108	26	SEP	2:00:04	51.0	86.5	39.0	66.0	79.5	0	0	0		
109	26	SEP	3:00:04	46.5	82.0	37.5	58.0	75.0	0	0	0		
110	26	SEP	4:00:04	40.0	75.5	35.0	57.5	71.5	0	0	0		
111	26	SEP	5:00:04	36.0	71.5	33.5	44.0	58.0	0	0	0		
112	26	SEP	6:00:04	37.0	72.5	33.5	57.0	73.5	0	0	0		
113	26	SEP	7:00:04	44.5	80.0	34.0	61.0	73.0	0	0	0		
114	26	SEP	8:00:04	42.0	78.0	35.5	56.5	70.5	0	0	0		
115	26	SEP	9:00:04	49.5	85.0	39.5	61.0	76.5	0	0	0		
116	26	SEP	10:00:04	50.5	86.0	39.0	63.0	76.0	0	0	0		
117	26	SEP	11:00:04	50.5	86.0	40.5	64.5	76.5	0	0	0		
118	26	SEP	12:00:04	50.5	86.0	39.5	61.0	80.0	0	0	0		
119	26	SEP	13:00:04	56.5	92.5	39.0	76.0	86.5	0	0	0		
120	26	SEP	14:00:04	52.0	87.5	39.0	69.0	79.0	0	0	0		
121	26	SEP	15:00:05	52.5	88.5	38.5	65.5	77.0	0	0	0		
122	26	SEP	16:00:05	53.5	89.0	43.5	64.5	76.0	0	0	0		
123	26	SEP	17:00:05	54.0	89.5	40.0	73.0	84.0	0	0	0		
124	26	SEP	18:00:05	44.5	80.0	37.0	64.5	76.0	0	0	0		
125	26	SEP	19:00:05	43.5	79.0	38.0	63.5	76.5	0	0	0		
126	26	SEP	20:00:05	39.5	75.5	36.5	53.0	64.0	0	0	0		
127	26	SEP	21:00:05	39.5	75.0	36.0	60.5	71.5	0	0	0		
128	26	SEP	22:00:05	39.0	74.5	35.0	55.5	71.0	0	0	0		
129	26	SEP	23:00:05	38.5	74.0	36.0	51.0	73.5	0	0	0		
130	27	SEP	0:00:05	41.5	77.0	36.5	58.5	71.5	0	0	0		
131	27	SEP	1:00:05	46.0	81.5	40.0	58.0	72.0	0	0	0		
132	27	SEP	2:00:05	48.0	83.5	40.5	62.0	75.5	0	0	0		
133	27	SEP	3:00:05	49.5	85.0	41.5	63.0	75.5	0	0	0		
134	27	SEP	4:00:05	49.5	85.5	42.0	64.0	76.5	0	0	0		
135	27	SEP	5:00:05	56.5	92.0	43.5	72.0	87.0	0	0	0		
136	27	SEP	6:00:05	58.0	93.5	45.0	71.0	86.5	0	0	0		
137	27	SEP	7:00:05	56.5	92.0	45.5	70.5	84.0	0	0	0		
138	27	SEP	8:00:05	56.0	91.5	45.5	78.0	89.0	0	0	0		
139	27	SEP	9:00:05	59.0	94.5	48.5	72.5	86.5	0	0	0		
140	27	SEP	10:00:05	59.5	95.0	48.5	70.5	87.0	0	0	0		
141	27	SEP	11:00:05	57.5	93.0	46.5	69.0	85.0	0	0	0		
142	27	SEP	12:00:05	54.0	89.5	45.0	68.0	81.0	0	0	0		
143	27	SEP	13:00:05	52.0	87.5	45.5	64.5	80.5	0	0	0		
144	27	SEP	14:00:05	53.5	89.0	46.0	66.5	81.0	0	0	0		
145	27	SEP	15:00:06	67.0	102.5	46.5	86.5	98.0	0	0	0		
146	27	SEP	16:00:06	56.0	91.5	49.0	65.0	79.0	0	0	0		
147	27	SEP	17:00:06	61.5	97.0	48.5	77.0	89.5	0	0	0		
148	27	SEP	18:00:06	70.0	106.0	45.5	88.0	101.0	0	0	0		
149	27	SEP	19:00:06	52.5	88.0	45.5	63.5	77.5	0	0	0		
150	27	SEP	20:00:06	51.0	86.5	45.5	62.0	75.0	0	0	0		
151	27	SEP	21:00:06	59.0	94.5	47.0	72.5	85.0	0	0	0		
152	27	SEP	22:00:06	61.0	96.5	52.0	74.5	87.5	0	0	0		
153	27	SEP	23:00:06	60.0	95.5	51.0	72.5	87.5	0	0	0		
154	28	SEP	0:00:06	58.5	94.0	50.0	70.0	85.5	0	0	0		

155	28	SEP	1:00:06	59.5	95.0	51.0	73.0	88.0	0	0	0		
156	28	SEP	2:00:06	59.0	94.5	49.5	70.0	85.5	0	0	0		
157	28	SEP	3:00:06	61.0	96.5	51.0	71.5	87.5	0	0	0		
158	28	SEP	4:00:06	59.5	95.5	50.0	70.0	88.0	0	0	0		
159	28	SEP	5:00:06	56.5	92.0	48.0	70.5	88.0	0	0	0		
160	28	SEP	6:00:06	54.0	89.5	44.5	65.0	78.0	0	0	0		
161	28	SEP	7:00:06	52.0	87.5	44.0	66.5	81.5	0	0	0		
162	28	SEP	8:00:06	53.0	88.5	44.5	66.0	80.0	0	0	0		
163	28	SEP	9:00:06	53.0	88.5	45.0	62.5	91.5	0	0	0		
164	28	SEP	10:00:06	52.0	88.0	43.0	65.0	95.5	0	0	0		
165	28	SEP	11:00:06	51.0	86.5	39.5	64.5	101.0	0	0	0		
166	28	SEP	12:00:06	58.5	94.0	37.5	71.5	106.5	0	0	0		
167	28	SEP	13:00:06	49.0	84.5	34.5	69.5	109.0	0	0	0		
168	28	SEP	14:00:06	64.5	99.0	35.0	94.5	118.5	0	0	0		
	OVERALL LEQ: 59												


Canadian Hydro: Wolfe Is. Wind Project
Broeders # 907 - Sept 21-26, 2006
Sound Level Leq (dBA)
Wind Speed (km/h)
80
70
60
50
40
30
20
1
12
23
34
45
56
67
78
89
100
111
Time (Hours)
Leq
L90
Wind Speed
Precipitation

Site 6: Broeders Property #902









BROEDERS														
Address	Time	Measurme	Time	LAeq	LAE	LAmax	LAmin	LA01	LA10	LA90	LA95	LA99	LCpeak	Over
1	21-Sep-2006	15:00:00	01:00:00	72.5	108	86.9	21.3	82.6	78.1	34.9	31.5	26.3	124	Over
2	21-Sep-2006	16:00:00	01:00:00	59.9	95.4	78.1	45.9	69.8	63.3	50.3	49	47.2	103.6	-
3	21-Sep-2006	17:00:00	01:00:00	57.2	92.8	74.5	44.5	66.8	60.6	48.2	47.1	45.9	100.9	-
4	21-Sep-2006	18:00:00	01:00:00	55.8	91.4	73.8	39.1	66.8	58.7	44.8	43.1	40.8	100.7	-
5	21-Sep-2006	19:00:00	01:00:00	54	89.5	74.8	36.5	66.4	55.4	39.9	38.9	37.5	95.3	-
6	21-Sep-2006	20:00:00	01:00:00	49.9	85.5	72.9	32.1	63.3	45.8	34	33.4	32.9	96.6	-
7	21-Sep-2006	21:00:00	01:00:00	47.9	83.5	70.5	26.1	62.1	42.1	27.7	27.1	26.5	87	-
8	21-Sep-2006	22:00:00	01:00:00	47.6	83.2	70.1	22.5	62.2	38.7	25	24.1	23.1	85	-
9	21-Sep-2006	23:00:00	01:00:00	39	74.6	68	20.6	41.5	25.4	21.5	21.4	21	81.5	-
10	22-Sep-2006	00:00:00	01:00:00	36.5	72.1	65.3	20.2	40.5	24.1	21	20.9	20.6	80.8	-
11	22-Sep-2006	01:00:00	01:00:00	42.7	78.3	67.5	19.9	56.1	29.3	20.9	20.6	20.5	82.5	-
12	22-Sep-2006	02:00:00	01:00:00	35.2	70.7	63.5	20.2	34.4	25.8	21	20.9	20.6	79.1	-
13	22-Sep-2006	03:00:00	01:00:00	25.1	60.7	33.8	21	31.8	27	22.2	21.8	21.4	63.2	-
14	22-Sep-2006	04:00:00	01:00:00	24.6	60.2	37.7	20.5	29.7	26.4	21.9	21.7	21	64	-
15	22-Sep-2006	05:00:00	01:00:00	48.1	83.7	71.8	20.7	62.7	40	21.8	21.5	21.1	86.6	-
16	22-Sep-2006	06:00:00	01:00:00	50.7	86.2	70.8	22.3	64.8	48.7	26.1	24.2	23.3	90	-
17	22-Sep-2006	07:00:00	01:00:00	50.3	85.9	71.8	30.6	63.9	47.6	36.7	35.6	33.6	92.8	-
18	22-Sep-2006	08:00:00	01:00:00	50.7	86.2	73.9	32.6	64.4	47.6	36.5	35.7	34.6	91.7	-
19	22-Sep-2006	09:00:00	01:00:00	51.9	87.5	70.6	34.6	65.3	52.7	37.4	36.6	35.8	97.4	-
20	22-Sep-2006	10:00:00	01:00:00	52.7	88.3	76.4	37.5	66.4	51	39.7	39.3	38.5	93.7	-
21	22-Sep-2006	11:00:00	01:00:00	53.6	89.1	76.4	38	65.8	53.8	39.9	39.4	38.9	94.5	-
22	22-Sep-2006	12:00:00	01:00:00	51.9	87.4	75.2	37.7	65	50.1	40.4	39.4	38.6	93.4	-
23	22-Sep-2006	13:00:00	01:00:00	51.1	86.7	70.2	40.3	64.1	51.4	42.8	42.3	41.5	89.5	-
24	22-Sep-2006	14:00:00	01:00:00	55.5	91	81.5	43	66.4	54.4	45.2	44.7	43.8	103.7	-
25	22-Sep-2006	15:00:00	01:00:00	53.3	88.8	74.8	43.4	65.6	53	45	44.6	44	94.1	-
26	22-Sep-2006	16:00:00	01:00:00	54	89.6	73.7	41.5	66.9	54	43.7	43.1	42.5	93.6	-
27	22-Sep-2006	17:00:00	01:00:00	51.7	87.3	70.1	36.5	65.1	50.9	39.6	38.7	37.5	87.3	-
28	22-Sep-2006	18:00:00	01:00:00	52.3	87.8	71.3	31.3	65.3	54.8	35.8	35	33.8	91.7	-
29	22-Sep-2006	19:00:00	01:00:00	52.8	88.4	75	32.1	65.7	54.1	36.4	35	33.4	93.9	-
30	22-Sep-2006	20:00:00	01:00:00	53	88.6	83.4	38.6	64	47.6	40.4	40.1	39.7	101.2	-
31	22-Sep-2006	21:00:00	01:00:00	49.3	84.9	69.5	40.7	63	46.6	42.2	41.9	41.4	87.3	-
32	22-Sep-2006	22:00:00	01:00:00	49.9	85.5	68.9	41.2	63.7	48.2	42.5	42.3	41.8	88.8	-
33	22-Sep-2006	23:00:00	01:00:00	48.7	84.3	69.8	42.3	61.2	47.7	43.9	43.6	43.2	85.9	-
34	23-Sep-2006	00:00:00	01:00:00	47.4	83	69.1	41.3	56.1	47.2	42.7	42.2	41.7	90.9	-
35	23-Sep-2006	01:00:00	01:00:00	50.4	86	70.7	38.3	61	53.3	41.6	40.3	39.1	98.9	-
36	23-Sep-2006	02:00:00	01:00:00	48.3	83.9	70.3	35.5	57.2	50	40.2	38.9	36.8	99.6	-
37	23-Sep-2006	03:00:00	01:00:00	43.8	79.4	54.4	37.7	50.7	46.2	40.5	40.1	39.3	93.2	-
38	23-Sep-2006	04:00:00	01:00:00	47.6	83.2	59.2	39.3	55	50.6	42.4	41.7	40.3	95.6	-
39	23-Sep-2006	05:00:00	01:00:00	48.6	84.2	69.4	38.7	57.9	50.4	41	40.4	39.6	92.7	-
40	23-Sep-2006	06:00:00	01:00:00	51.5	87.1	76	39.9	63.1	52	42.9	42.1	40.8	101.1	-
41	23-Sep-2006	07:00:00	01:00:00	54.1	89.7	71.9	41.5	65.9	55.8	45.6	44.5	43	101.2	-
42	23-Sep-2006	08:00:00	01:00:00	53.8	89.3	73.4	38.3	66	55.4	43.8	41.9	40.3	98.3	-
43	23-Sep-2006	09:00:00	01:00:00	52.5	88	71	36	66.1	51.2	39.8	39	37	96.7	-
44	23-Sep-2006	10:00:00	01:00:00	54.7	90.3	72.4	36	67.6	56.5	39.6	38.9	37	93.1	-
45	23-Sep-2006	11:00:00	01:00:00	54.3	89.9	71.2	38.4	66.7	56.8	40.8	40	39.2	92.9	-
46	23-Sep-2006	12:00:00	01:00:00	55.5	91	71.2	39.8	67.4	58.7	44.5	43.5	42.1	99	-
47	23-Sep-2006	13:00:00	01:00:00	52.1	87.7	70.7	42.3	63.6	53.7	44.3	43.9	43.3	95.6	-
48	23-Sep-2006	14:00:00	01:00:00	57	92.6	71.8	43.7	66.9	61.1	47.2	46.3	45	102	-
49	23-Sep-2006	15:00:00	01:00:00	56.3	91.8	70.8	43	66.5	59.8	46.1	45.4	44	103.7	-
50	23-Sep-2006	16:00:00	01:00:00	53.9	89.5	72.2	41.7	65.3	56.7	44.3	43.5	42.7	98.9	-
51	23-Sep-2006	17:00:00	01:00:00	53.5	89.1	70.8	41	65.6	56.4	43.1	42.5	41.6	96.9	-
52	23-Sep-2006	18:00:00	01:00:00	51	86.6	72.1	35.1	64.2	50.8	38	37.1	36.3	99.6	-

53	23-Sep-2006	19:00:00	01:00:00	49.7	85.2	69.7	36	63.3	46.8	38.8	38.1	37	86	-
54	23-Sep-2006	20:00:00	01:00:00	51.1	86.7	71.4	40.3	64.6	50.8	41.9	41.4	40.8	88.9	-
55	23-Sep-2006	21:00:00	01:00:00	47.4	82.9	69.8	41	59.4	44.5	42.2	41.9	41.5	84.5	-
56	23-Sep-2006	22:00:00	01:00:00	47	82.5	67.4	40.8	58.6	46.2	42.9	42	41.4	85.2	-
57	23-Sep-2006	23:00:00	01:00:00	45.6	81.2	67.9	38.5	56.1	44.7	40.4	40	39.2	89.7	-
58	24-Sep-2006	00:00:00	01:00:00	44.2	79.8	65.8	39.6	49.8	44.1	40.8	40.6	40.1	93.9	-
59	24-Sep-2006	01:00:00	01:00:00	48.9	84.5	70.4	38.9	60.5	48.2	41.5	41	40	100.5	-
60	24-Sep-2006	02:00:00	01:00:00	48	83.5	67.9	39.6	59.1	48.2	41.5	40.9	40.2	100.6	-
61	24-Sep-2006	03:00:00	01:00:00	54.9	90.4	68.7	45.7	62.9	58.5	47.4	46.9	46.2	99.6	-
62	24-Sep-2006	04:00:00	01:00:00	57.3	92.9	66.8	48.8	63.4	60.3	52.5	51.6	49.6	102.1	-
63	24-Sep-2006	05:00:00	01:00:00	58.6	94.1	72.9	50	65.9	61.2	53.6	53	51.8	109.2	-
64	24-Sep-2006	06:00:00	01:00:00	59.4	94.9	72.2	49.1	66.6	62.8	53.3	52.2	51	104.3	-
65	24-Sep-2006	07:00:00	01:00:00	60.9	96.4	76.4	49.9	70.4	63.8	53.7	52.7	51	110.6	-
66	24-Sep-2006	08:00:00	01:00:00	66.3	101.9	79.8	52.8	74.5	70.2	58	56.5	54.6	114.3	-
67	24-Sep-2006	09:00:00	01:00:00	63.9	99.4	82.3	51.7	73.1	67.4	55.5	54.5	53.1	110.3	-
68	24-Sep-2006	10:00:00	01:00:00	66.6	102.1	81.1	51.3	75.6	69.9	58.3	56.8	54.4	112.4	-
69	24-Sep-2006	11:00:00	01:00:00	67.8	103.3	80.4	53.5	75.7	71.3	60.4	59	57.2	113.8	-
70	24-Sep-2006	12:00:00	01:00:00	66.5	102.1	83.6	53.9	75.5	69.7	58.7	57.5	55.6	115.6	-
71	24-Sep-2006	13:00:00	01:00:00	65.8	101.4	80.5	53.6	73.8	69	59.2	58.2	56.7	113.6	Over
72	24-Sep-2006	14:00:00	01:00:00	64.7	100.3	82.3	46.7	72.6	67.6	57.8	55.8	51.7	113.5	-
73	24-Sep-2006	15:00:00	01:00:00	59.1	94.6	75	43.6	69.1	63.2	48.7	47.5	46	108.6	-
74	24-Sep-2006	16:00:00	01:00:00	55.3	90.8	71.8	40.1	66.6	57.9	45.2	44	41.9	100.7	-
75	24-Sep-2006	17:00:00	01:00:00	51.7	87.3	74	31.1	65.2	50.3	33.8	32.6	31.8	91.1	-
76	24-Sep-2006	18:00:00	01:00:00	49.7	85.2	72.7	27.6	64.2	44.6	29.5	29	28.6	98.3	-
77	24-Sep-2006	19:00:00	01:00:00	50.7	86.2	71.9	27.8	64.8	49.7	31	29.1	28.5	91	-
78	24-Sep-2006	20:00:00	01:00:00	50.3	85.9	71.8	31.9	64.7	44.8	33.6	33.2	32.5	91.5	-
79	24-Sep-2006	21:00:00	01:00:00	49.7	85.3	72	35	61.7	51.5	39	37.7	36.3	97.1	-
80	24-Sep-2006	22:00:00	01:00:00	48.2	83.8	67.8	36.5	56.8	50.5	40.3	39	37.4	98.9	-
81	24-Sep-2006	23:00:00	01:00:00	46.8	82.4	66.2	32.8	55.6	49.3	36.2	35.3	33.6	102	-
82	25-Sep-2006	00:00:00	01:00:00	41.4	77	53.2	30.6	50.1	45	33.7	32.8	31.2	93.4	-
83	25-Sep-2006	01:00:00	01:00:00	44.1	79.7	72.7	28.1	44.5	34.8	29.2	29	28.7	88.5	-
84	25-Sep-2006	02:00:00	01:00:00	31.5	67.1	41.5	27.4	37.6	33.3	28.9	28.6	28.1	81.5	-
85	25-Sep-2006	03:00:00	01:00:00	28.8	64.4	38.4	26	32.3	30.3	27	26.7	26.4	81.2	-
86	25-Sep-2006	04:00:00	01:00:00	43.9	79.5	73.2	24.3	48.6	30.7	25.4	25.3	24.9	88.1	-
87	25-Sep-2006	05:00:00	01:00:00	48.9	84.5	73.6	23	63.1	43.7	24.1	24	23.6	91.6	-
88	25-Sep-2006	06:00:00	01:00:00	50	85.5	71.9	24.5	64.3	48.1	25.5	25.2	24.9	87.3	-
89	25-Sep-2006	07:00:00	01:00:00	53.3	88.8	75.6	25.5	66.8	53.1	29.5	28.4	27	92.7	-
90	25-Sep-2006	08:00:00	01:00:00	59.1	94.7	87.6	27.1	67.7	63.7	32.7	30.4	28.2	105.2	-
91	25-Sep-2006	09:00:00	01:00:00	54.3	89.9	74	36.9	67.2	54.4	42.1	41.3	39.6	97.9	-
92	25-Sep-2006	10:00:00	01:00:00	52.1	87.7	72.3	35.7	65.2	52.4	40.5	39	36.7	102.2	-
93	25-Sep-2006	11:00:00	01:00:00	54.4	89.9	74	34.9	66.3	57.2	40.3	38.8	37.1	94.5	-
94	25-Sep-2006	12:00:00	01:00:00	51.3	86.9	68.5	34	63.7	53.9	38.7	37.6	35.7	96	-
95	25-Sep-2006	13:00:00	01:00:00	59.5	95.1	77.1	36.1	69.2	63.4	41.3	39.6	37.3	106.7	-
96	25-Sep-2006	14:00:00	01:00:00	62.6	98.1	75.8	50	71.6	66.2	53.3	52.2	50.9	109.9	-
97	25-Sep-2006	15:00:00	01:00:00	62.8	98.3	78.9	49.1	71.7	66.4	54.2	52.9	51.1	111	-
98	25-Sep-2006	16:00:00	01:00:00	61.2	96.8	75.8	46.8	70.8	64.7	51.2	50.1	48.5	105.1	-
99	25-Sep-2006	17:00:00	01:00:00	62.5	98.1	77.5	43.3	72.6	66.2	49.7	48	45.7	104.5	-
100	25-Sep-2006	18:00:00	01:00:00	61.8	97.3	78.3	44.5	70.9	65.4	50	49	47.3	103	-
101	25-Sep-2006	19:00:00	01:00:00	66.3	101.9	79.9	45.6	75.3	70.3	56	53.2	48	115.6	-
102	25-Sep-2006	20:00:00	01:00:00	71.3	106.8	84.4	53.9	80.1	75	60.5	58.9	56.4	115.4	Over
103	25-Sep-2006	21:00:00	01:00:00	64.2	99.8	81.2	33.3	74.7	68.4	38.9	37.1	35.6	114.2	-
104	25-Sep-2006	22:00:00	01:00:00	48.9	84.5	70.7	34.7	58.9	50.6	40.5	39.2	36.7	99	-
105	25-Sep-2006	23:00:00	01:00:00	45.5	81.1	68.2	33.6	55.9	46.5	36.6	36	34.6	93.3	-
106	26-Sep-2006	00:00:00	01:00:00	45	80.5	57	35.7	52.4	48.2	38.9	38	36.8	94.5	-

107	26-Sep-2006	01:00:00	01:00:00	49.5	85.1	69.8	36.7	59.5	51.8	40.7	39.6	37.9	100.1	-
108	26-Sep-2006	02:00:00	01:00:00	42.4	78	61.4	31.6	51.5	45.6	34.5	33.8	32.9	96.9	-
109	26-Sep-2006	03:00:00	01:00:00	43.9	79.5	69.1	31.7	52	45.9	35.3	34.5	33	93.3	-
110	26-Sep-2006	04:00:00	01:00:00	40.4	75.9	64.8	24.4	48.9	43.5	28.1	27.2	25.4	91.8	-
111	26-Sep-2006	05:00:00	01:00:00	47.9	83.5	73.4	25.4	62.1	40.8	27.9	27.3	26.3	89.1	-
112	26-Sep-2006	06:00:00	01:00:00	49.3	84.9	71	26.2	64.1	43.2	29	28.1	27.1	91.6	-
113	26-Sep-2006	07:00:00	01:00:00	53.9	89.5	75.6	24.4	68	49.7	28.5	27.7	26.3	95.4	-
114	26-Sep-2006	08:00:00	01:00:00	51	86.6	73.2	27.3	64.6	48.7	32.1	30.8	28.9	91.9	-

Station Name	**KINGSTON A**											
Province	**ONTARIO**											
Latitude	**44.22**											
Longitude	**-76.6**											
Elevation	**93**											
Climate Identifier	**6104146**											
WMO Identifier	**71620**											
TC Identifier	**YGK**											
All times are specified in Local Standard Time (LST). Add 1 hour to adjust for Daylight Saving Time where and when it is observed.												
Date/Time	Year	Month	Day	Time	Temp (°C)	Dew Point Temp (°C)	Rel Hum (%)	Wind Dir (10's deg)	Wind Spd (km/h)	Visibility (km)	Stn Press (kPa)	Weather ()
9/21/2006 15:00	2006	9	21	15:00	17.1	7.9	55	24	20	24.1	100.58	Mostly Cloudy
9/21/2006 16:00	2006	9	21	16:00	16	7.4	57	23	19	24.1	100.58	Mostly Cloudy
9/21/2006 17:00	2006	9	21	17:00	14.2	8.7	69	31	11	24.1	100.62	Rain Showers
9/21/2006 18:00	2006	9	21	18:00	14.3	7.9	65	27	11	24.1	100.65	Mainly Clear
9/21/2006 19:00	2006	9	21	19:00	13.9	8	68	26	9	24.1	100.7	Mainly Clear
9/21/2006 20:00	2006	9	21	20:00	13.5	7.7	68	26	9	24.1	100.77	Mainly Clear
9/21/2006 21:00	2006	9	21	21:00	12.5	7.5	72	24	9	24.1	100.82	Clear
9/21/2006 22:00	2006	9	21	22:00	12	7.4	73	27	7	24.1	100.84	Clear
9/22/2006 5:00	2006	9	22	5:00	8.3	6.5	88	4	6	24.1	100.95	Mainly Clear
9/22/2006 6:00	2006	9	22	6:00	7	5.3	89	2	6	24.1	100.97	Mostly Cloudy
9/22/2006 7:00	2006	9	22	7:00	7.7	6.2	90	2	4	24.1	100.98	Mostly Cloudy
9/22/2006 8:00	2006	9	22	8:00	14.4	11	80	0	0	24.1	100.98	Mostly Cloudy
9/22/2006 9:00	2006	9	22	9:00	14.5	9.9	74	17	15	24.1	101.03	Cloudy
9/22/2006 10:00	2006	9	22	10:00	14.2	10.2	77	15	15	24.1	100.98	Cloudy
9/22/2006 11:00	2006	9	22	11:00	15.2	8.9	66	15	15	24.1	100.94	Mostly Cloudy
9/22/2006 12:00	2006	9	22	12:00	16.3	8.2	59	14	15	24.1	100.88	Mostly Cloudy
9/22/2006 13:00	2006	9	22	13:00	16.6	8.4	58	14	13	24.1	100.79	Mostly Cloudy
9/22/2006 14:00	2006	9	22	14:00	17	9.7	62	15	17	24.1	100.71	Mostly Cloudy
9/22/2006 15:00	2006	9	22	15:00	17.4	9.9	61	14	13	24.1	100.62	Cloudy
9/22/2006 16:00	2006	9	22	16:00	17.6	10.2	62	14	15	24.1	100.54	Cloudy
9/22/2006 17:00	2006	9	22	17:00	17.5	12.8	74	15	15	24.1	100.51	Mostly Cloudy
9/22/2006 18:00	2006	9	22	18:00	17.4	12.5	73	14	15	24.1	100.44	Cloudy
9/22/2006 19:00	2006	9	22	19:00	17.3	11.6	69	14	13	24.1	100.42	Cloudy
9/22/2006 20:00	2006	9	22	20:00	17.5	12	70	17	17	24.1	100.37	Cloudy
9/22/2006 21:00	2006	9	22	21:00	17.2	12.4	73	17	22	24.1	100.28	Cloudy
9/22/2006 22:00	2006	9	22	22:00	16.9	12.4	75	18	22	24.1	100.27	Cloudy
9/23/2006 5:00	2006	9	23	5:00	15.6	13.2	86	16	22	6.4	99.73	Rain
9/23/2006 6:00	2006	9	23	6:00	15.3	13.4	88	16	26	4.8	99.66	Moderate Rain Showers
9/23/2006 7:00	2006	9	23	7:00	15.6	13.7	88	17	28	12.9	99.62	Cloudy
9/23/2006 8:00	2006	9	23	8:00	15.6	14	90	18	26	4	99.6	Drizzle
9/23/2006 9:00	2006	9	23	9:00	15.8	14.5	92	18	20	3.6	99.55	Drizzle
9/23/2006 10:00	2006	9	23	10:00	16.6	15	90	21	13	9.7	99.59	Fog

9/23/2006 11:00	2006	9	23	11:00	16.7	15.2	91	21	11	9.7	99.54	Fog
9/23/2006 12:00	2006	9	23	12:00	17.6	15.8	89	21	13	8	99.53	Fog
9/23/2006 13:00	2006	9	23	13:00	17.9	16.1	89	20	19	8	99.49	Fog
9/23/2006 14:00	2006	9	23	14:00	17.8	16	89	19	17	8	99.49	Fog
9/23/2006 15:00	2006	9	23	15:00	18.4	16.4	88	19	19	8	99.48	Fog
9/23/2006 16:00	2006	9	23	16:00	18.2	16.4	89	21	13	8	99.49	Fog
9/23/2006 17:00	2006	9	23	17:00	19.4	16.7	84	22	15	16.1	99.46	Mostly Cloudy
9/23/2006 18:00	2006	9	23	18:00	18.4	16.4	88	20	7	16.1	99.46	Cloudy
9/23/2006 19:00	2006	9	23	19:00	17.3	16	92	18	7	16.1	99.45	Mostly Cloudy
9/23/2006 20:00	2006	9	23	20:00	17.4	16.1	92	17	9	16.1	99.41	Mostly Cloudy
9/23/2006 21:00	2006	9	23	21:00	17.1	15.8	92	18	9	11.3	99.4	Cloudy
9/23/2006 22:00	2006	9	23	22:00	17.8	16.5	92	18	9	8	99.31	Rain Showers
9/24/2006 5:00	2006	9	24	5:00	19.3	16.1	82	20	33	24.1	98.61	Cloudy
9/24/2006 6:00	2006	9	24	6:00	18.9	16.2	84	20	30	24.1	98.58	Cloudy
9/24/2006 7:00	2006	9	24	7:00	19.9	16.5	81	21	28	24.1	98.62	Mostly Cloudy
9/24/2006 8:00	2006	9	24	8:00	20.2	15.6	75	23	32	24.1	98.61	Mainly Clear
9/24/2006 9:00	2006	9	24	9:00	20.3	13.3	64	24	33	24.1	98.63	Mainly Clear
9/24/2006 10:00	2006	9	24	10:00	20.1	12.9	63	24	39	24.1	98.61	Mainly Clear
9/24/2006 11:00	2006	9	24	11:00	20.1	13.4	65	23	37	24.1	98.68	Mainly Clear
9/24/2006 12:00	2006	9	24	12:00	20.6	12.5	60	23	37	24.1	98.71	Mainly Clear
9/24/2006 13:00	2006	9	24	13:00	20.6	12.7	61	24	30	24.1	98.72	Mainly Clear
9/24/2006 14:00	2006	9	24	14:00	16.1	12.9	81	27	24	24.1	98.85	Mostly Cloudy
9/24/2006 15:00	2006	9	24	15:00	17.8	13.4	75	24	22	24.1	98.92	Mostly Cloudy
9/24/2006 16:00	2006	9	24	16:00	17.5	13.1	75	25	15	24.1	99	Mostly Cloudy
9/24/2006 17:00	2006	9	24	17:00	16.4	12.6	78	31	9	24.1	99.11	Mostly Cloudy
9/24/2006 18:00	2006	9	24	18:00	15.5	13.2	86	25	7	24.1	99.17	Rain Showers
9/24/2006 19:00	2006	9	24	19:00	15.4	13.1	86	0	0	24.1	99.21	Mostly Cloudy
9/24/2006 20:00	2006	9	24	20:00	14.6	10.4	76	36	15	24.1	99.29	Mostly Cloudy
9/24/2006 21:00	2006	9	24	21:00	12.8	8.8	77	36	17	24.1	99.39	Cloudy
9/24/2006 22:00	2006	9	24	22:00	11.9	7.7	75	1	20	24.1	99.47	Cloudy
9/25/2006 5:00	2006	9	25	5:00	8.8	6.6	86	0	0	24.1	99.81	Mostly Cloudy
9/25/2006 6:00	2006	9	25	6:00	7.4	5.1	85	28	6	24.1	99.86	Mainly Clear
9/25/2006 7:00	2006	9	25	7:00	9.2	6.1	81	26	6	24.1	99.91	Mainly Clear
9/25/2006 8:00	2006	9	25	8:00	10.7	5.5	70	27	15	24.1	99.92	Mainly Clear
9/25/2006 9:00	2006	9	25	9:00	12	4.4	60	26	15	24.1	99.95	Mainly Clear
9/25/2006 10:00	2006	9	25	10:00	13.3	4.6	56	24	19	24.1	99.94	Mainly Clear
9/25/2006 11:00	2006	9	25	11:00	14.1	5.8	57	25	17	24.1	99.89	Mostly Cloudy
9/25/2006 12:00	2006	9	25	12:00	15.5	6.2	54	24	19	24.1	99.8	Mostly Cloudy
9/25/2006 13:00	2006	9	25	13:00	16.3	5.5	49	22	26	24.1	99.73	Mostly Cloudy
9/25/2006 14:00	2006	9	25	14:00	15.3	4.8	49	22	26	24.1	99.71	Mostly Cloudy
9/25/2006 15:00	2006	9	25	15:00	15.6	6.6	55	23	32	24.1	99.69	Mostly Cloudy
9/25/2006 16:00	2006	9	25	16:00	15.7	7.5	58	22	28	24.1	99.65	Mainly Clear
9/25/2006 17:00	2006	9	25	17:00	15.3	7.7	60	22	22	24.1	99.63	Mostly Cloudy
9/25/2006 18:00	2006	9	25	18:00	15.8	8.8	63	22	32	24.1	99.59	Mostly Cloudy
9/25/2006 19:00	2006	9	25	19:00	16	9.4	65	21	26	24.1	99.54	Cloudy

9/25/2006 20:00	2006	9	25	20:00	11.4	8.2	81	29	39	4.8	99.68	Thunderstorms
9/25/2006 21:00	2006	9	25	21:00	11.6	9.1	85	24	15	24.1	99.62	Cloudy
9/25/2006 22:00	2006	9	25	22:00	12.4	9.6	83	25	17	24.1	99.65	Mostly Cloudy
9/26/2006 5:00	2006	9	26	5:00	10.6	7.2	79	25	9	24.1	100.08	Clear
9/26/2006 6:00	2006	9	26	6:00	9.5	6.6	82	27	15	24.1	100.16	Clear
9/26/2006 7:00	2006	9	26	7:00	9.2	6.5	83	28	9	24.1	100.26	Clear
9/26/2006 8:00	2006	9	26	8:00	10.6	6.9	78	27	11	24.1	100.35	Clear
9/26/2006 9:00	2006	9	26	9:00	11.8	6.5	70	27	13	24.1	100.41	Mainly Clear
9/26/2006 10:00	2006	9	26	10:00	12.7	5.9	63	26	13	24.1	100.42	Mainly Clear
9/26/2006 11:00	2006	9	26	11:00	14.3	5.5	55	25	15	24.1	100.44	Mainly Clear
9/26/2006 12:00	2006	9	26	12:00	15.4	5.5	52	29	15	24.1	100.44	Mainly Clear
9/26/2006 13:00	2006	9	26	13:00	15.7	4.9	49	23	15	24.1	100.44	Mostly Cloudy
9/26/2006 14:00	2006	9	26	14:00	15.7	5.6	51	23	13	24.1	100.43	Mostly Cloudy
9/26/2006 15:00	2006	9	26	15:00	16.9	6.5	50	23	13	24.1	100.41	Mostly Cloudy
9/26/2006 16:00	2006	9	26	16:00	16.4	7.9	57	23	19	24.1	100.42	Mainly Clear
9/26/2006 17:00	2006	9	26	17:00	15.5	7.5	59	23	19	24.1	100.4	Mainly Clear
9/26/2006 18:00	2006	9	26	18:00	14.3	7.6	64	21	11	24.1	100.41	Mainly Clear
9/26/2006 19:00	2006	9	26	19:00	13.9	7.8	67	21	11	24.1	100.43	Mainly Clear
9/26/2006 20:00	2006	9	26	20:00	13.9	8.4	69	22	9	24.1	100.44	Mainly Clear
9/26/2006 21:00	2006	9	26	21:00	13.7	8.8	72	22	6	24.1	100.43	Clear
9/26/2006 22:00	2006	9	26	22:00	14.2	9.1	71	20	9	24.1	100.42	Clear
9/27/2006 5:00	2006	9	27	5:00	14.4	10.5	77	18	24	24.1	100.17	Mainly Clear
9/27/2006 6:00	2006	9	27	6:00	14.5	10.4	76	18	20	24.1	100.14	Mainly Clear
9/27/2006 7:00	2006	9	27	7:00	15.1	10.4	73	18	26	24.1	100.1	Mainly Clear
9/27/2006 8:00	2006	9	27	8:00	15.1	10.9	76	17	28	24.1	100.08	Mainly Clear
9/27/2006 9:00	2006	9	27	9:00	15.7	11.2	75	16	28	24.1	100.07	Mainly Clear
9/27/2006 10:00	2006	9	27	10:00	16.6	12	74	18	26	24.1	100.04	Mainly Clear
9/27/2006 11:00	2006	9	27	11:00	16.4	11.7	74	18	26	24.1	100.01	Mainly Clear
9/27/2006 12:00	2006	9	27	12:00	17.3	12.6	74	16	20	24.1	99.95	Mainly Clear
9/27/2006 13:00	2006	9	27	13:00	18.7	14.2	75	16	19	24.1	99.87	Mainly Clear
9/27/2006 14:00	2006	9	27	14:00	19.3	14.5	74	16	20	24.1	99.8	Mainly Clear
9/27/2006 15:00	2006	9	27	15:00	18.7	14.1	75	17	24	24.1	99.73	Mostly Cloudy
9/27/2006 16:00	2006	9	27	16:00	18.6	13.7	73	17	26	24.1	99.66	Mostly Cloudy
9/27/2006 17:00	2006	9	27	17:00	18.5	13.3	72	17	24	24.1	99.68	Mostly Cloudy
9/27/2006 18:00	2006	9	27	18:00	18.6	12.9	69	17	24	24.1	99.67	Mostly Cloudy
9/27/2006 19:00	2006	9	27	19:00	18.2	13.1	72	17	26	24.1	99.64	Mainly Clear
9/27/2006 20:00	2006	9	27	20:00	17.8	13.9	78	16	26	24.1	99.61	Mainly Clear
9/27/2006 21:00	2006	9	27	21:00	17.8	13.2	74	17	26	24.1	99.58	Mainly Clear
9/27/2006 22:00	2006	9	27	22:00	17.6	12.7	73	16	30	24.1	99.59	Mostly Cloudy

9/28/2006 5:00	2006	9	28	5:00	16.4	13.2	81	19	22	24.1	99.53	Rain Showers
9/28/2006 6:00	2006	9	28	6:00	16.5	12.9	79	20	17	16.1	99.52	Rain Showers
9/28/2006 7:00	2006	9	28	7:00	16.5	13.2	81	19	19	19.3	99.51	Cloudy
9/28/2006 8:00	2006	9	28	8:00	16.6	13.2	80	18	26	19.3	99.48	Cloudy
9/28/2006 9:00	2006	9	28	9:00	15.7	13.1	85	18	28	9.7	99.54	Rain Showers
9/28/2006 10:00	2006	9	28	10:00	14.9	13.1	89	20	15	8	99.53	Rain Showers
9/28/2006 11:00	2006	9	28	11:00	14.9	13	88	22	15	6.4	99.53	Rain Showers
9/28/2006 12:00	2006	9	28	12:00	14.1	12.4	89	34	19	8	99.47	Rain Showers
9/28/2006 13:00	2006	9	28	13:00	13.8	12	89	33	9	16.1	99.5	Rain Showers
9/28/2006 14:00	2006	9	28	14:00	13.7	12.1	90	33	6	16.1	99.49	Rain Showers
9/28/2006 15:00	2006	9	28	15:00	13.4	12	91	32	9	16.1	99.48	Rain
9/28/2006 16:00	2006	9	28	16:00	12.7	10.8	88	31	7	12.9	99.49	Rain
9/28/2006 17:00	2006	9	28	17:00	12.6	10.9	89	0	0	16.1	99.54	Rain
9/28/2006 18:00	2006	9	28	18:00	12.4	11	91	29	11	9.7	99.55	Rain
9/28/2006 19:00	2006	9	28	19:00	11.5	9.9	90	35	6	19.3	99.52	Rain
9/28/2006 20:00	2006	9	28	20:00	11.5	9.9	90	29	4	12.9	99.58	Rain
9/28/2006 21:00	2006	9	28	21:00	11	9.2	89	34	7	24.1	99.54	Cloudy
9/28/2006 22:00	2006	9	28	22:00	9.7	8.2	90	36	15	9.7	99.63	Rain
9/29/2006 5:00	2006	9	29	5:00	7.5	5.4	87	31	15	24.1	99.71	Mostly Cloudy
9/29/2006 6:00	2006	9	29	6:00	6.9	5	88	32	6	24.1	99.73	Mostly Cloudy
9/29/2006 7:00	2006	9	29	7:00	7	4.7	85	29	9	24.1	99.79	Mostly Cloudy
9/29/2006 8:00	2006	9	29	8:00	7.3	3.9	79	31	11	24.1	99.84	Mostly Cloudy
9/29/2006 9:00	2006	9	29	9:00	7.6	3.8	77	31	9	24.1	99.87	Mostly Cloudy
9/29/2006 10:00	2006	9	29	10:00	7.6	3.5	75	29	13	24.1	99.89	Mostly Cloudy
9/29/2006 11:00	2006	9	29	11:00	8	3.1	71	27	15	24.1	99.91	Mostly Cloudy
9/29/2006 12:00	2006	9	29	12:00	7.9	2.6	69	28	17	24.1	99.94	Mostly Cloudy
9/29/2006 13:00	2006	9	29	13:00	8.9	2.8	66	27	15	24.1	99.97	Mostly Cloudy
9/29/2006 14:00	2006	9	29	14:00	9.8	2.2	59	27	17	24.1	99.96	Mostly Cloudy
9/29/2006 15:00	2006	9	29	15:00	11.8	2.6	53	28	9	24.1	99.97	Mostly Cloudy
9/29/2006 16:00	2006	9	29	16:00	11.4	2.4	54	28	11	24.1	100	Mostly Cloudy
9/29/2006 17:00	2006	9	29	17:00	11.3	2.3	54	27	6	24.1	100.04	Mostly Cloudy
9/29/2006 18:00	2006	9	29	18:00	10	1.6	56	29	6	24.1	100.08	Mainly Clear
9/29/2006 19:00	2006	9	29	19:00	9.7	2.1	59	27	6	24.1	100.13	Mainly Clear
9/29/2006 20:00	2006	9	29	20:00	9	1.7	60	27	13	24.1	100.22	Mainly Clear
9/29/2006 21:00	2006	9	29	21:00	7.6	1.7	66	27	7	24.1	100.32	Mainly Clear
9/29/2006 22:00	2006	9	29	22:00	5	1.3	77	29	7	24.1	100.35	Mainly Clear
9/30/2006 5:00	2006	9	30	5:00	2.4	-0.3	82	2	4	24.1	100.54	Mainly Clear
9/30/2006 6:00	2006	9	30	6:00	2.9	0.4	84	5	6	24.1	100.61	Mainly Clear
9/30/2006 7:00	2006	9	30	7:00	5.1	2.6	84	6	7	24.1	100.66	Mostly Cloudy
9/30/2006 8:00	2006	9	30	8:00	12.3	8.3	77	17	28	24.1	100.69	Mainly Clear
9/30/2006 9:00	2006	9	30	9:00	12.4	8.5	77	16	30	24.1	100.73	Mainly Clear
9/30/2006 10:00	2006	9	30	10:00	13.1	7.9	71	15	30	24.1	100.72	Mainly Clear
9/30/2006 11:00	2006	9	30	11:00	14.2	7.2	63	15	24	24.1	100.69	Mostly Cloudy
9/30/2006 12:00	2006	9	30	12:00	14.2	7.7	65	16	26	24.1	100.67	Mostly Cloudy
9/30/2006 13:00	2006	9	30	13:00	14.6	7.4	62	16	24	24.1	100.59	Mostly Cloudy

9/30/2006 14:00	2006	9	30	14:00	14.9	6.2	56	15	28	24.1	100.54	Cloudy
9/30/2006 15:00	2006	9	30	15:00	15	6.2	56	17	32	24.1	100.51	Cloudy
9/30/2006 16:00	2006	9	30	16:00	13.4	6.9	65	17	37	24.1	100.55	Mostly Cloudy
9/30/2006 17:00	2006	9	30	17:00	13.2	6.4	63	13	33	24.1	100.51	Mostly Cloudy
9/30/2006 18:00	2006	9	30	18:00	13.1	6.8	66	14	33	24.1	100.49	Mostly Cloudy
9/30/2006 19:00	2006	9	30	19:00	12.6	6.9	68	12	20	24.1	100.46	Cloudy
9/30/2006 20:00	2006	9	30	20:00	13.1	8.2	72	14	30	24.1	100.45	Cloudy
9/30/2006 21:00	2006	9	30	21:00	13.1	9	76	16	33	24.1	100.42	Cloudy
9/30/2006 22:00	2006	9	30	22:00	13.1	9.5	79	16	33	24.1	100.38	Cloudy
10/1/2006 5:00	2006	10	1	5:00	12.7	11.1	90	9	9	3.2	99.94	Moderate Rain Showers
10/1/2006 6:00	2006	10	1	6:00	13.9	11.9	88	16	37	6.4	99.89	Rain Showers
10/1/2006 7:00	2006	10	1	7:00	14.1	12.3	89	19	20	12.9	99.95	Rain Showers
10/1/2006 8:00	2006	10	1	8:00	13.4	11.2	87	25	15	24.1	100.07	Mostly Cloudy
10/1/2006 9:00	2006	10	1	9:00	14.6	12	84	23	15	24.1	100.13	Mostly Cloudy
10/1/2006 10:00	2006	10	1	10:00	14.8	11.8	82	22	9	24.1	100.17	Mostly Cloudy
10/1/2006 11:00	2006	10	1	11:00	14.8	11.7	82	25	13	24.1	100.21	Mostly Cloudy
10/1/2006 12:00	2006	10	1	12:00	14.3	10.7	79	25	13	24.1	100.27	Cloudy
10/1/2006 13:00	2006	10	1	13:00	15.6	11.3	76	21	13	24.1	100.29	Cloudy
10/1/2006 14:00	2006	10	1	14:00	15.3	11.5	78	25	13	24.1	100.29	Rain Showers
10/1/2006 15:00	2006	10	1	15:00	14.9	11.7	81	25	7	24.1	100.34	Mostly Cloudy
10/1/2006 16:00	2006	10	1	16:00	15.4	11.8	79	23	7	24.1	100.38	Mostly Cloudy
10/1/2006 17:00	2006	10	1	17:00	15.9	11.9	77	25	9	24.1	100.43	Mostly Cloudy
10/1/2006 18:00	2006	10	1	18:00	14.9	10.9	77	26	11	24.1	100.49	Mostly Cloudy
10/1/2006 19:00	2006	10	1	19:00	13.5	10.4	82	27	4	24.1	100.52	Mainly Clear
10/1/2006 20:00	2006	10	1	20:00	13.4	10.6	83	27	11	24.1	100.58	Mainly Clear
10/1/2006 21:00	2006	10	1	21:00	13.2	10.5	84	29	11	24.1	100.61	Mainly Clear
10/1/2006 22:00	2006	10	1	22:00	12.1	9.9	86	31	9	24.1	100.65	Mainly Clear
10/2/2006 5:00	2006	10	2	5:00	8.3	6.8	90	29	13	24.1	100.88	Clear
10/2/2006 6:00	2006	10	2	6:00	7.6	6.4	92	26	4	24.1	100.95	Mainly Clear
10/2/2006 7:00	2006	10	2	7:00	8.1	6.7	91	29	4	24.1	100.99	Mainly Clear
10/2/2006 8:00	2006	10	2	8:00	9.8	7.8	87	32	6	24.1	101.01	Mainly Clear
10/2/2006 9:00	2006	10	2	9:00	12	8.9	81	0	0	24.1	101.03	Mainly Clear
10/2/2006 10:00	2006	10	2	10:00	13.1	9.8	80	21	11	24.1	101.05	Mainly Clear
10/2/2006 11:00	2006	10	2	11:00	14	10.2	78	15	9	24.1	101.03	Mainly Clear
10/2/2006 12:00	2006	10	2	12:00	15	10.8	76	18	19	24.1	101.03	Mainly Clear
10/2/2006 13:00	2006	10	2	13:00	15.7	11.2	75	18	20	24.1	100.98	Mainly Clear
10/2/2006 14:00	2006	10	2	14:00	16.7	10.8	68	23	17	24.1	100.95	Mainly Clear
10/2/2006 15:00	2006	10	2	15:00	16.4	10.6	69	20	20	24.1	100.94	Mainly Clear
10/2/2006 16:00	2006	10	2	16:00	16.6	8.6	59	21	17	24.1	100.91	Mainly Clear
10/2/2006 17:00	2006	10	2	17:00	15.2	10.3	73	19	19	24.1	100.86	Mainly Clear
10/2/2006 18:00	2006	10	2	18:00	14.6	10.5	76	19	15	24.1	100.84	Mainly Clear
10/2/2006 19:00	2006	10	2	19:00	14.5	10.2	75	19	13	24.1	100.81	Mainly Clear
10/2/2006 20:00	2006	10	2	20:00	14.7	10.3	75	19	13	24.1	100.82	Mainly Clear
10/2/2006 21:00	2006	10	2	21:00	14.8	10.4	75	18	9	24.1	100.83	Mainly Clear
10/2/2006 22:00	2006	10	2	22:00	15.1	11.9	81	18	13	24.1	100.83	Mainly Clear

10/3/2006 5:00	2006	10	3	5:00	15.5	13.4	87	19	17	24.1	100.63	Thunderstorms
10/3/2006 6:00	2006	10	3	6:00	15.7	13.7	88	19	19	24.1	100.67	Mostly Cloudy
10/3/2006 7:00	2006	10	3	7:00	15.8	13.8	88	20	13	24.1	100.68	Mostly Cloudy
10/3/2006 8:00	2006	10	3	8:00	16.2	14.2	88	19	13	12.9	100.73	Cloudy
10/3/2006 9:00	2006	10	3	9:00	16.1	14.4	90	18	13	16.1	100.73	Cloudy
10/3/2006 10:00	2006	10	3	10:00	16.8	15.2	90	20	13	9.7	100.68	Fog
10/3/2006 11:00	2006	10	3	11:00	16.5	14.7	89	21	9	9.7	100.72	Fog
10/3/2006 12:00	2006	10	3	12:00	16.8	14.9	89	20	15	9.7	100.73	Fog
10/3/2006 13:00	2006	10	3	13:00	17.4	15.3	87	23	15	9.7	100.72	Fog
10/3/2006 14:00	2006	10	3	14:00	18.9	15.6	81	22	15	9.7	100.65	Fog
10/3/2006 15:00	2006	10	3	15:00	17.4	15.3	87	18	9	11.3	100.66	Mostly Cloudy
10/3/2006 16:00	2006	10	3	16:00	17.4	15.4	88	19	4	12.9	100.7	Mainly Clear
10/3/2006 17:00	2006	10	3	17:00	17.6	15.4	87	21	7	12.9	100.77	Mainly Clear
10/3/2006 18:00	2006	10	3	18:00	17.9	14.9	83	24	15	12.9	100.83	Mainly Clear
10/3/2006 19:00	2006	10	3	19:00	16.6	14.8	89	22	11	16.1	100.87	Clear
10/3/2006 20:00	2006	10	3	20:00	15.8	14.2	90	23	4	16.1	100.9	Mainly Clear
10/3/2006 21:00	2006	10	3	21:00	15.2	14.1	93	16	6	12.9	100.91	Mostly Cloudy
10/3/2006 22:00	2006	10	3	22:00	15.7	14.7	94	17	11	11.3	100.91	Mostly Cloudy
10/4/2006 5:00	2006	10	4	5:00	15.8	14.6	93	18	13	8	100.63	Fog
10/4/2006 6:00	2006	10	4	6:00	15.7	14.6	93	17	15	3.2	100.54	Fog
10/4/2006 7:00	2006	10	4	7:00	15.7	14.7	94	18	15	4	100.54	Fog
10/4/2006 8:00	2006	10	4	8:00	15.9	14.7	93	15	19	6.4	100.32	Fog
10/4/2006 9:00	2006	10	4	9:00	15.7	14.5	93	16	22	6.4	100.25	Rain
10/4/2006 10:00	2006	10	4	10:00	15.5	13.9	90	17	28	11.3	100.09	Cloudy
10/4/2006 11:00	2006	10	4	11:00	16	14.4	90	18	17	19.3	100.08	Mostly Cloudy
10/4/2006 12:00	2006	10	4	12:00	16.8	14.9	89	18	20	12.9	100	Cloudy
10/4/2006 13:00	2006	10	4	13:00	16.5	14.7	89	20	24	12.9	99.97	Rain Showers
10/4/2006 14:00	2006	10	4	14:00	18.4	15.8	85	23	22	19.3	99.89	Cloudy
10/4/2006 15:00	2006	10	4	15:00	17.8	16.1	90	23	20	12.9	99.9	Rain
10/4/2006 16:00	2006	10	4	16:00	14.6	12.8	89	34	37	4.8	99.97	Rain
10/4/2006 17:00	2006	10	4	17:00	12.4	10.5	88	36	28	16.1	100.14	Rain
10/4/2006 18:00	2006	10	4	18:00	12.2	10.3	88	36	22	24.1	100.31	Rain
10/4/2006 19:00	2006	10	4	19:00	11.3	8.2	81	35	39	24.1	100.47	Mostly Cloudy
10/4/2006 20:00	2006	10	4	20:00	10.6	5.8	72	36	35	24.1	100.68	Mostly Cloudy
10/4/2006 21:00	2006	10	4	21:00	10.3	5.4	72	36	28	24.1	100.82	Mainly Clear
10/4/2006 22:00	2006	10	4	22:00	10.3	6	75	35	19	24.1	100.98	Mostly Cloudy
10/5/2006 5:00	2006	10	5	5:00	4.7	1.3	79	35	13	24.1	101.4	Clear
10/5/2006 6:00	2006	10	5	6:00	4.3	1	79	35	11	24.1	101.42	Clear
10/5/2006 7:00	2006	10	5	7:00	4.1	1.6	84	35	11	24.1	101.47	Mainly Clear

10/5/2006 8:00	2006	10	5	8:00	6.3	2.2	75	35	15	24.1	101.56	Mainly Clear
10/5/2006 9:00	2006	10	5	9:00	7.7	2.4	69	36	15	24.1	101.63	Mostly Cloudy
10/5/2006 10:00	2006	10	5	10:00	9.2	3	65	1	13	24.1	101.64	Mostly Cloudy
10/5/2006 11:00	2006	10	5	11:00	10	1.6	56	4	15	24.1	101.61	Mostly Cloudy
10/5/2006 12:00	2006	10	5	12:00	10.7	1.5	53	3	11	24.1	101.59	Mostly Cloudy
10/5/2006 13:00	2006	10	5	13:00	12.4	1.8	48	3	19	24.1	101.52	Mostly Cloudy
10/5/2006 15:00	2006	10	5	15:00	12	0.3	45	3	15	24.1	101.47	Mostly Cloudy
10/5/2006 16:00	2006	10	5	16:00	11.4	0.5	47	2	7	24.1	101.51	Mostly Cloudy
10/5/2006 17:00	2006	10	5	17:00	10.4	0.1	49	2	17	24.1	101.49	Mostly Cloudy
10/5/2006 18:00	2006	10	5	18:00	9.1	0.6	55	1	13	24.1	101.57	Mostly Cloudy
10/5/2006 19:00	2006	10	5	19:00	8.2	1.3	62	1	11	24.1	101.6	Mostly Cloudy
10/5/2006 20:00	2006	10	5	20:00	7.3	2.3	71	35	13	24.1	101.66	Cloudy
10/5/2006 21:00	2006	10	5	21:00	7.2	2.5	72	36	11	24.1	101.68	Cloudy
10/5/2006 22:00	2006	10	5	22:00	6.7	2.5	75	1	7	24.1	101.72	Mostly Cloudy
10/6/2006 5:00	2006	10	6	5:00	4.2	1.3	81	1	13	24.1	101.99	Clear
10/6/2006 6:00	2006	10	6	6:00	3.7	1.4	85	2	13	24.1	102.04	Mainly Clear
10/6/2006 7:00	2006	10	6	7:00	4	1.7	85	2	13	24.1	102.08	Mainly Clear
10/6/2006 8:00	2006	10	6	8:00	6	2.6	79	2	13	24.1	102.17	Mainly Clear
10/6/2006 9:00	2006	10	6	9:00	8.8	2.9	66	4	13	24.1	102.22	Mainly Clear
10/6/2006 10:00	2006	10	6	10:00	10.4	2.5	58	5	15	24.1	102.24	Mainly Clear
10/6/2006 11:00	2006	10	6	11:00	12.2	3	53	4	15	24.1	102.21	Mainly Clear
10/6/2006 12:00	2006	10	6	12:00	12.8	1.4	46	5	17	24.1	102.2	Mainly Clear
10/6/2006 13:00	2006	10	6	13:00	14	1.5	43	4	13	24.1	102.11	Mainly Clear
10/6/2006 14:00	2006	10	6	14:00	14.4	0.3	38	3	15	24.1	102.06	Mainly Clear
10/6/2006 15:00	2006	10	6	15:00	15.3	1.9	40	6	15	24.1	102.02	Mainly Clear
10/6/2006 16:00	2006	10	6	16:00	14.9	1.1	39	5	9	24.1	102	Mainly Clear
10/6/2006 17:00	2006	10	6	17:00	14.2	0.4	39	2	9	24.1	102.01	Mainly Clear
10/6/2006 18:00	2006	10	6	18:00	10.6	1.5	53	36	6	24.1	102.04	Mainly Clear
10/6/2006 19:00	2006	10	6	19:00	7.7	2.6	70	36	7	24.1	102.07	Mainly Clear
10/6/2006 20:00	2006	10	6	20:00	6.6	2.2	73	34	9	24.1	102.1	Mainly Clear
10/6/2006 21:00	2006	10	6	21:00	6.6	1.8	71	1	6	24.1	102.11	Mainly Clear
10/6/2006 22:00	2006	10	6	22:00	5.9	1.5	73	1	6	24.1	102.11	Mainly Clear
10/7/2006 5:00	2006	10	7	5:00	1.5	-0.3	88	34	9	24.1	102.05	Mainly Clear
10/7/2006 6:00	2006	10	7	6:00	1.4	-0.3	88	35	7	24.1	102.08	Mainly Clear
10/7/2006 7:00	2006	10	7	7:00	2.1	0.7	90	36	7	24.1	102.1	Mainly Clear
10/7/2006 8:00	2006	10	7	8:00	7.7	3.6	75	3	7	24.1	102.15	Mainly Clear
10/7/2006 9:00	2006	10	7	9:00	10.4	4.2	65	4	4	24.1	102.14	Mainly Clear
10/7/2006 10:00	2006	10	7	10:00	12	7.2	72	16	4	24.1	102.12	Mainly Clear
10/7/2006 11:00	2006	10	7	11:00	12.4	8.1	75	16	7	24.1	102.1	Mainly Clear
10/7/2006 12:00	2006	10	7	12:00	13.4	9	75	16	9	24.1	102.01	Mainly Clear
10/7/2006 13:00	2006	10	7	13:00	14	8.3	68	18	13	24.1	101.92	Mainly Clear
10/7/2006 14:00	2006	10	7	14:00	14.2	8.2	67	18	11	24.1	101.87	Mainly Clear
10/7/2006 15:00	2006	10	7	15:00	14.7	7.9	64	16	11	24.1	101.83	Mainly Clear
10/7/2006 16:00	2006	10	7	16:00	14.3	6.7	60	18	13	24.1	101.78	Mainly Clear
10/7/2006 17:00	2006	10	7	17:00	14.2	5.3	55	19	7	24.1	101.75	Mainly Clear

10/7/2006 18:00	2006	10	7	18:00	13.5	6.6	63	21	7	24.1	101.73	Mainly Clear
10/7/2006 19:00	2006	10	7	19:00	11.9	6.2	68	23	7	24.1	101.72	Mainly Clear
10/7/2006 20:00	2006	10	7	20:00	11.1	7.1	76	0	0	24.1	101.7	Mainly Clear
10/7/2006 21:00	2006	10	7	21:00	7.8	5.5	85	30	4	24.1	101.7	Mainly Clear
10/7/2006 22:00	2006	10	7	22:00	6.1	3.8	85	31	6	24.1	101.69	Mainly Clear
10/8/2006 5:00	2006	10	8	5:00	2.5	0.8	89	2	4	24.1	101.63	Mainly Clear
10/8/2006 6:00	2006	10	8	6:00	4.7	3.3	91	4	4	24.1	101.62	Mainly Clear
10/8/2006 7:00	2006	10	8	7:00	2.5	1.1	90	36	6	24.1	101.62	Mainly Clear
10/8/2006 8:00	2006	10	8	8:00	8.7	6.7	87	0	0	24.1	101.61	Mainly Clear
10/8/2006 9:00	2006	10	8	9:00	12.7	10	84	16	6	24.1	101.62	Mostly Cloudy
10/8/2006 10:00	2006	10	8	10:00	14.1	10.7	80	18	15	24.1	101.59	Mainly Clear
10/8/2006 11:00	2006	10	8	11:00	14.6	11.1	80	17	19	24.1	101.53	Mostly Cloudy
10/8/2006 12:00	2006	10	8	12:00	15.3	11	76	17	15	24.1	101.46	Mainly Clear
10/8/2006 13:00	2006	10	8	13:00	15.6	12	79	18	17	24.1	101.37	Mainly Clear
10/8/2006 14:00	2006	10	8	14:00	15.8	12.1	79	18	15	24.1	101.24	Mainly Clear
10/8/2006 15:00	2006	10	8	15:00	15.5	11.8	79	18	20	24.1	101.18	Mainly Clear
10/8/2006 16:00	2006	10	8	16:00	15.3	11.5	78	18	19	24.1	101.13	Mainly Clear
10/8/2006 17:00	2006	10	8	17:00	15.3	12.3	82	19	17	24.1	101.09	Mainly Clear
10/8/2006 18:00	2006	10	8	18:00	14.9	12.4	85	20	9	24.1	101.06	Mainly Clear
10/8/2006 19:00	2006	10	8	19:00	14.7	12.6	87	21	6	24.1	101.04	Mainly Clear
10/8/2006 20:00	2006	10	8	20:00	14.2	12.5	90	22	9	24.1	101	Mainly Clear
10/8/2006 21:00	2006	10	8	21:00	13.8	11.6	87	22	7	24.1	100.95	Mainly Clear
10/8/2006 22:00	2006	10	8	22:00	14.2	12.6	90	19	11	24.1	100.94	Mainly Clear

ATTACHMENT C

SIEMENS SWT 2.3 -93 TURBINE DATA

OCTOBER 2007

SIEMENS

January 19, 2007

Ross Keating
President and Chief Operating Office
Canadian Hydro Developers, inc.
500, 1324-17th Avenue SW
Calgary, Alberta T2T 5S8
Canada

Subject: Wolfe Island Wind Park, Ontario, Canada

MR. Keating:

This letter confirms that Canadian Hydro Developers, Inc. has purchased SWT 2.3-93 turbines from Siemens. This is the only wind turbine model that Siemens has offered to the North American market. Please note that the SWT 2.3-93 was previously known as the Siemens 2.3 MW Mk II, as we recently announced to re-name PG products and services under a common nomenclature structure that is consistent with Siemens global communication standards.

It is important to note that while the names of our products have changed, all else about them remains the same.

Sincerely,

Dany St-Pierre
Marketing Manager – Americas
Siemens Wind Power
Siemens Power Generation

Siemens Power Generation, Inc.

4400 Alafaya Trail, MC
Orlando, FL 32826-2399

Sound Level Guarantee Revision

With reference to the Turbine Supply and Installation Term Sheet ("Term Sheet") made August 30, 2005 between Canadian Hydro Developers Inc (Canadian Hydro) and Siemens Power Generation Inc (SPGI) ("the Parties") for the wind development project under development at Wolfe Island, Canada, the Parties agree to modify the sound level guarantee for the Wind Turbine Generators from the Term Sheet level of 104 dBa at 6 m/s, measured at 10m above ground level (grade) to 103 dBa at 6 m/s measured at 10m above grade with a test uncertainty of +/- 1 dBa, in accordance with Siemens document number: PG-R-CTO-30-0000-0070-00, subject to the following:

1. The new sound level guarantee applies only to the Wolfe Island project.
2. Siemens only liability shall be to meet this revised Sound Level Guarantee and Siemens shall have no responsibility for any Applicable Law or other requirements of any local, provincial or federal government authorities which pertain to the sound levels of the Units which is more stringent than this Sound Level Guarantee. Canadian Hydro waives its rights to claim under the guarantee, for sound non conformance below 104 dBa.

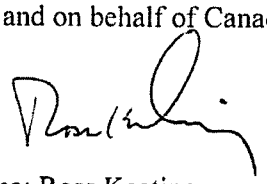
The Remaining provisions of the Term Sheet remain as set forth therein.

For and on behalf of Siemens Power Generation, Inc

By: 

Name: Henrik Stiesdal
Title: Chief Technology Officer

For and on behalf of Canadian Hydro Developers, Inc.

By: 

Name: Ross Keating
Title: President and Chief Operating Officer

Exhibit U
Acoustic Emissions

SWT-2.3-93-WI, Wolfe Island

Sound Power Levels
With reference to IEC 61400-11:1998 the sound power levels (L_{WA}) presented below with corresponding wind speeds measured at 10 m height are valid within ±1 dB.

Wind speed [m/s]	6	7	8	9	10
Noise emission, L_{wa} [dB(A)]	103	105	105	105	105

Typical Octave Band
A typical octave band spectrum is tabulated below valid for 103 dB(A) at 6 m/s in 10m.

Octave band frequency [Hz]	31.5	63	125	250	500	1000	2000	4000	8000
L_{wa} [dB(A)]	73.3	83.4	91.5	97.9	99.4	95.6	91.0	86.1	81.1

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WINDTEST

Kaiser-Wilhelm-Koog GmbH-

Report of acoustical emissions of a Siemens wind turbine generator system of the type 2.3 MW Mk II near Høvsøre in Denmark

Date(s) of measurements: 2005-08-11 to 13

September 2005

Report WT 4498/05



Laboratory accredited by DAP Deutsches Akkreditierungssystem Prüfwesen according to DIN EN ISO/IEC 17025. This accreditation is valid for the test and measurement procedures given in the certificate.

Deutscher Akkreditierungs Rat DAR

DAP-PL-1556.00

WINDTEST
Kaiser-Wilhelm-Koog GmbH-

Report of acoustical emissions of a Siemens wind turbine generator system of the type 2.3 MW Mk II near Høvsøre in Denmark

Report WT 4498/05

Site or measuring place:	Høvsøre, Denmark in the region of Ringkøbing
Customer:	Siemens Wind Power A/S Borupvej 16 7330 Brande, Denmark
Contractor:	WINDTEST Kaiser-Wilhelm-Koog GmbH Sommerdeich 14 b 25709 Kaiser-Wilhelm-Koog, Germany

Date of order:	2005-08-23	Order No.:	4025 05 03069 64

Engineer:	Checked:

Dipl.-Ing. A. Jensen

Dipl.-Ing. J. Neubert
Acoustics Group Leader

Kaiser-Wilhelm-Koog, 2005-09-08

Extracts may be copied from this report only with the written consent of WINDTEST Kaiser-Wilhelm-Koog GmbH.
It comprises a total of 47 pages, including annexes.

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1 Scope

The order from Siemens Wind Power A/S dated 2005-08-23 required WINDTEST Kaiser-Wilhelm-Koog GmbH (WINDTEST) to carry out acoustic noise measurements on the Siemens wind turbine generator system (WTGS or 'turbine') 2.3 MW Mk II of hub height 80 m near Høvsøre, in the region of Ringkøbing in Denmark. From this, the sound power level, relevant for noise propagation calculations, of the noise emitted from the turbine at different wind speeds, and frequency spectra of the same, was also to be determined.

The results given in this report relate only to this WTGS.

2 Method

2.1 Measurement procedures

All measurements and analysis described in this report were done in accordance with the IEC 61400-11: Wind turbine generator systems – Part 11: Acoustic noise measurement techniques, Ed. 2 [IEC 61400-11] using Method 1 as outlined in 7.3.1.1 "Method 1: determination of the wind speed from the electric output and the power curve". In this report the sound power level and the tonality are given in the range of wind speeds from 6 to 10 $^{m}/_{s}$ at a height of 10 m.

Note: A calculated power curve for the turbine was provided by the customer for purposes of converting the measured turbine power output into the standardised wind speed. This power curve is given in the Annex.

2.2 Measurement object

Table 1 shows the characteristics of the measured WTGS. The remaining characteristics can be found in the manufacturer's certificate included in the Annex.

Table 1: Characteristics of the measured WTGS

parameter	Value
manufacturer	Siemens Wind Power A/S
type	2.3 MW Mk II
WTGS No.	2300439
site	Høvsøre, Denmark
hub-height above ground	80 m
rotor diameter	92,4 m
distance middle of tower to middle of blade flange	3,5 m
power control (pitch/stall)	pitch

2.3 Course of the measurements

The total measurement period lasted from 2005-08-12 15:00 h until 2005-08-13 20:00 h. During this time the measured wind speed ranged from 5,5 to 12 m/s at a height of 10 m. The real



electrical power output of the turbine ranged between 300 and 2300 kW. The turbine was running continuously during the operating noise measurements.

The sound pressure level was recorded with a microphone on an acoustically hard board. The real electrical power output and the wind speed at a height of 10 m, taken upwind of the turbine in clear air, were also recorded. Time periods, where there were intermittent background noise of a significant nature, e.g. passing cars, planes flying over, rain etc., were marked accordingly during the measurements, and were omitted in the later evaluation. If there were random and reoccurring disturbances, which could not be marked during the measurement, a later state correction by means of a comparison with the DAT-recording was done.

The wind turbine generator system is sited in farmland. The surface roughness length for this measurement is assumed to be 0.05 m. The microphone position was chosen to minimise the effect of buildings, trees or bushes in the surrounding area of the wind turbine generator system, which might have had an influence on the measurement results. The conditions comply with free field behaviour over a reflecting plane.

During the noise measurements the meteorological conditions given in Table 2 were prevailing.

Table 2: Prevailing meteorological conditions during the measurements

barometric pressure at 2 m height above ground [hPa]	*1001 - 1006*
air temperature at 2 m height above ground [°C]	*14 - 18*
prevailing wind direction	*WNW*
range of wind direction	*280 - 330*
weather conditions	*cloudy and dry*
Turbulence intensity at 10 m height above ground [%]	*14,0*

2.4 Measuring equipment

The measuring equipment used is listed in the Annex. This equipment is tested regularly according to [IEC 61400-11] to ensure a high degree of measurement accuracy as well as security of data. The complete acoustic measurement system was checked before and after the measurements using an acoustic calibrator (B&K 4231).

2.5 Position of microphone

The microphone was placed according to [IEC 61400-11]. The distance from the turbine to the reference measuring point, R_0 = 112 m, was chosen taking local circumstances into account. The height of the microphone with respect to the bottom of the turbine foundation was 0 m.

3 Measurement results

3.1 Determination of directivity

As no significant directivity was ascertained the reference measurement position was chosen to be directly downwind of the turbine. This ensured worst case sound propagation conditions were taken into account.

3.2 Sound pressure level

The microphone converts the sound pressure into a continuous analogue signal which is then fed to a sound level meter. The resulting dB value, L_{Aeq}, together with the status, the wind speed at a height of 10 m, WS, and the real power output of the turbine, P_w, all recorded by the measurement system, is plotted against time in a graph given in the Annex. Here it can be seen at which points in time the turbine is switched on and off and provides an overview of the background noise in relation to the operating noise recorded by the measurement system over the whole period of the measurement. As can be seen, data was captured continuously throughout the whole measurement period. Non-normal background noises occurring in the measurement period, e.g. from aircraft or traffic, were marked during data acquisition to enable their easy omission in the evaluation to follow. The state signal is used to differentiate between periods when the turbine is running and when it is stopped. *State = 3* depicts a running turbine, *state = 0.5* depicts a stopped turbine, and *state = 0* marks the data to be omitted in the evaluation.

The noise produced by the turbine alone $L_{Aeq,c}$ at wind speeds of 6, 7, 8, 9 and 10 m/s is then determined by converting the dB levels of background and in-service noise to intensities, performing a subtraction and converting back again to dB. In order to determine this, regression curves of the measured sound pressure level with the turbine both running and stopped, plotted with respect to the standardised wind speed at a height of 10 m are required. The wind speed measured during the background noise measurement is multiplied by the factor κ, which is defined as the following:

$$\kappa = \frac{V_s}{V_z}$$

where,

V_s is the standardised wind speed

V_z is the measured wind speed.

For this measurement, κ = 0,93.

The results of this regression analysis are given in the Annex. All relevant sound pressure level values are given in the annex.

Remark: The data have been analysed using a fourth order regression because this is the best fitting approximation through all the relevant data points. In accordance with [IEC 61400-11] the data have also been analysed using a second order regression which is given in the annex only for information purposes. The sound levels resulting from the higher order regression have been applied in the third octave analysis.

3.3 Sound power level of the turbine

In accordance with [IEC 61400-11] the sound power level $L_{WA,k}$ of the turbine in dB is derived from the corrected sound pressure level $L_{Aeq,c,k}$, at wind speeds between 6 and 10 m/s at a height of 10 m, using the following formula:

$$L_{WA,k} = L_{Aeq,c,k} - 6 + 10 \cdot \lg\left(\frac{4 \cdot \pi \cdot R_1^2}{S_0}\right)$$

where, 6 dB is the correction due to the doubled sound pressure sensed by the microphone caused by coherent interference at the acoustically hard board.

$10 \cdot \lg\left(\frac{4 \cdot \pi \cdot R_1^2}{S_0}\right)$ = the ratio in dB of the surface area of a sphere having the radius R_1 to the reference surface area of S_0

where,

S_0 = 1 m^2

$R_1 = \sqrt{(R_0 + d)^2 + (H - h_A)^2}$

R_0 = distance between tower centre and microphone position

d = distance between tower centre and rotor flange middle point

H = hub-height above ground level

h_A = height of microphone

The following results are given in the Annex:

- A graph showing regressions through all the measured wind turbine sound data L_{Aeq} and background noise data L_n.
- A plot of the background corrected normalised values of L_{WA} against the standardised wind speed.
- A plot of L_{Aeq} and L_n against measured wind speed.
- A plot of L_{Aeq} against power.
- A plot of rotor speed against power.
- A time plot of the measurement.

For the Siemens 2.3 MW Mk II in the present configuration the real power output and the apparent sound power levels are given in table 4.

3.4 Tonal and frequency analyses

In accordance with the technical guideline [IEC 61400-11] a tonal analysis has to be carried out. The frequency spectrum of the noise, which is measured on the acoustically hard board, is determined on the basis of a narrow band analysis by means of the FFT-analyser B&K 2144. This analysis was performed after the measurements using the audio signal recorded on a DAT-recorder.

The results of the tonal analysis of the Siemens 2.3 MW Mk II according to [IEC 61400-11] are given in table 4.

3.5 3rd octave analysis

The A-weighted sound spectra at all the integer wind speeds are given in the Annex.

3.6 Uncertainties

3.6.1 Sound power level

The result of the sound power level measurement is subject to uncertainties which are due to the environment, meteorological conditions and the measurement system. For these measurements all the type B measurement uncertainty components as specified in the technical guideline [IEC 61400-11] are given in Table 3. For all of the type B uncertainties mentioned here, a rectangular distribution of possible values is assumed for simplicity with a range described as "±a". The standard deviation for such a distribution is:

$$U = \frac{a}{\sqrt{3}}$$

Table 3: Type B measurement uncertainty components

Component	**Range [dB]**	**Uncertainty [dB]**
Calibration, U_{B1}	±0,2	0,12
Chain of acoustic measurement instruments, U_{B2}	±0,4	0,23
Acoustically hard board, U_{B3}	±0,5	0,29
Distance measurement, U_{B4}	±0,1	0,06
Acoustic impedance of air, U_{B5}	±0,2	0,12
Meteorological variation (including turbulence), U_{B6}	±0,7	0,40
Wind speed derived from the power curve, U_{B7}	±0,3	0,17
Wind direction, U_{B8}	±0,5	0,29
$\sum_{i=1}^{8} U_{Bi}^{\ 2}$		0,44

The error in the background correction U_{B9} in dB has been calculated for each integer wind speed as follows:

$$U_{B9} = L_{Aeq,c,k} - \left[10 \cdot \log\left(10^{0,1 \cdot L_{Aeq,k}} - 10^{0,1(L_n + U_{\mathrm{HG}})}\right)\right]$$

where U_{HG} is the error in the background noise in dB defined as follows:

$$U_{\mathrm{HG}} = \sqrt{\frac{(y_n - y_{n,est})^2}{N_n - 2}}$$

where:

y_n = measured sound pressure level of background noise in dB

$y_{n,est}$ = estimated sound pressure level of background noise from the regression analysis in dB

N_n = number of background noise measurement values in the wind speed bin corresponding to the integer wind speed.

The combined measurement uncertainty U_C relating to the sound power level $L_{WA,k}$ is calculated as follows:

$$U_C = \sqrt{U_A{}^2 + U_{B9}{}^2 + \sum_{i=1}^{8} U_{Bi}{}^2}$$

where:

$$U_A = \sqrt{\frac{\sum (y - y_{est})^2}{N - 2}}$$

where:

y = measured sound pressure level of total noise (operating plus background) in dB

y_{est} = estimated sound pressure level of total noise from the regression analysis in dB

N = number of total noise measurement values in the wind speed bin corresponding to the integer wind speed.

All values for U_A, U_{B9} and U_C are given in the annex.

3.6.2 One-third octave band spectra

The uncertainty in the one-third octave band spectra is given in the Annex for all the third octave bands.

3.6.3 Tonality

The uncertainty in the tonality is given in the Annex for all the given tones.

4 Summary

As ordered by Siemens Wind Power A/S, 7330 Brande, Denmark, WINDTEST Kaiser-Wilhelm-Koog GmbH took measurements of the acoustic noise emissions on the Siemens WTGS 2.3 MW Mk II with a hub height of 80 m.

All measurements and analyses of the sound power level and tonality described in this report were made on the basis of the technical guideline [IEC 61400-11]. The analysis of the sound power level was carried out using the standardised wind speed which was calculated from the power curve provided by the customer (see Annex).

The data on the Siemens WTGS 2.3 MW Mk II have been evaluated by using a fourth order regression because this is the best fitting approximation over all relevant points.

The results of this measurement are given in table 4.

Table 4: Summary of results

wind speed in 10 m height [m/s]	***6***	***7***	***8***	***9***	***10***
electrical power output calculated from the power curve [kW]	*1049*	*1651*	*2106*	*2260*	*2295*
measured pitch angle [degrees]	*-0,8*	*-0,8*	*-0,8*	*0*	*>1*
measured rotor speed [min^{-1}]	*15,1*	*15,3*	*15,4*	*15,8*	*16,0*
sound power level [dB]	*103,4*	*104,9*	*105,1*	*105,0*	*105,0*
combined uncertainty in the sound power level, U_C [dB]	*1,2*	*1,1*	*1,2*	*1,3*	*1,3*
tonality, ΔL_k [dB]	*-5,58*	*-4,68*	*-6,36*	*-5,43*	*-5,91*
tonal audibility, $\Delta L_{a,k}$ [dB]	*-2,58*	*-1,69*	*-3,36*	*-2,43*	*-3,58*
frequency of the most prevalent tone [Hz]	*1200*	*1200*	*1200*	*1200*	*530*

It is assured that this report has been drawn up impartially in accordance with state-of-the-art science and technology and with best knowledge and conscience.

5 List of employed symbols and abbreviations

d	-	distance from rotor centre to tower axis	m
D	-	rotor diameter	m
$\Delta L_{tn,j,k}$	-	tonality of the 'j th' spectrum at 'k th' wind speed, where j = 1 to 12 and k = 6, 7, 8, 9, 10	dB
ΔL_k	-	energetic average of the 12 $\Delta L_{tn,j,k}$	dB
$\Delta L_{a,k}$	-	tonal audibility	dB
f	-	frequency of the tone	Hz
f_c	-	centre frequency of critical band	Hz
H	-	height of rotor centre (horizontal axis turbine) or height of rotor equatorial plane (vertical axis turbine) above local ground near the wind turbine	m
h_A	-	location point height (in measurement equal to microphone height)	m
κ	-	the ratio between standardised wind speed and measured wind speed	-
L_A or L_C	-	A or C-weighted sound pressure level	dB
$L_{Aeq,k}$	-	equivalent continuous A-weighted sound pressure level, where k = 6, 7, 8, 9, 10	dB
$L_{Aeq,c,k}$	-	equivalent continuous A-weighted sound pressure level corrected for background noise at each integer wind speed and corrected to reference conditions, where k = 6, 7, 8, 9, 10	dB
L_n	-	equivalent continuous sound pressure level level of the background noise	dB
L_p	-	sound pressure level	dB
$L_{pn,j,k}$	-	sound pressure level of masking noise within a critical band in the 'j th' spectrum at the 'k th' wind speed, where j = 1 to 12 and k = 6, 7, 8, 9, 10	dB
$L_{pn,avg,j,k}$	-	average of analysis bandwidth sound pressure levels of masking noise in the 'j th' spectrum at the 'k th' wind speed, where j = 1 to 12 and k = 6, 7, 8, 9, 10	dB
$L_{pt,j,k}$	-	sound pressure level of the tone or tones in the 'j th' spectrum at the 'k th' wind speed, where j = 1 to 12 and k = 6, 7, 8, 9, 10	dB
L_s	-	equivalent continuous sound pressure level of only wind turbine noise	dB
L_{s+n}	-	equivalent continuous sound pressure level of combined wind turbine and background noise	dB
$L_{WA,k}$	-	apparent sound power level, where k = 6, 7, 8, 9, 10	dB
N	-	Number of measured values	-
P_W	-	effective electrical power	kW
R_0	-	reference distance	m
R_i	-	slant distance from rotor centre to actual measurement position	m
S_0	-	reference area, S_0 = 1 m^2	m
U_A , U_B	-	Uncertainty components	dB
U_C	-	Total uncertainty	dB
U_{HG}		Error in the background noise	dB
V_m	-	derived wind speed from power curve	m/s
V_S	-	standardised wind speed	m/s
WTGS	-	wind turbine generator system	-
y	-	measured sound pressure level of operating plus background noise	dB
y_{est}	-	estimated sound pressure level of operating plus background noise from the regression analysis	dB

6 References

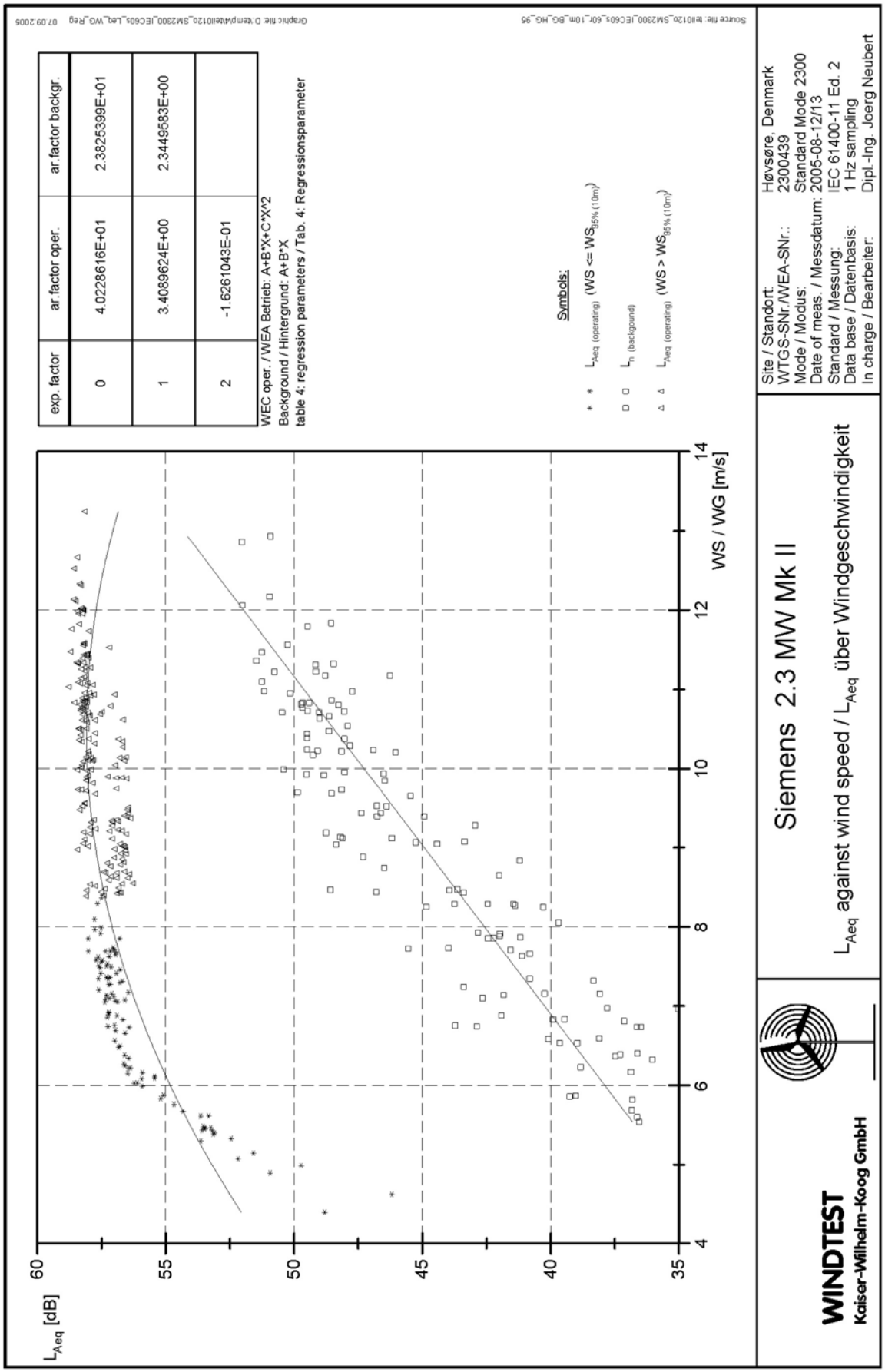
[IEC 61400-11] IEC 61400-11, Wind turbine generator systems - Part 11: Acoustic noise measurement techniques, Ed. 2.

7 Annex

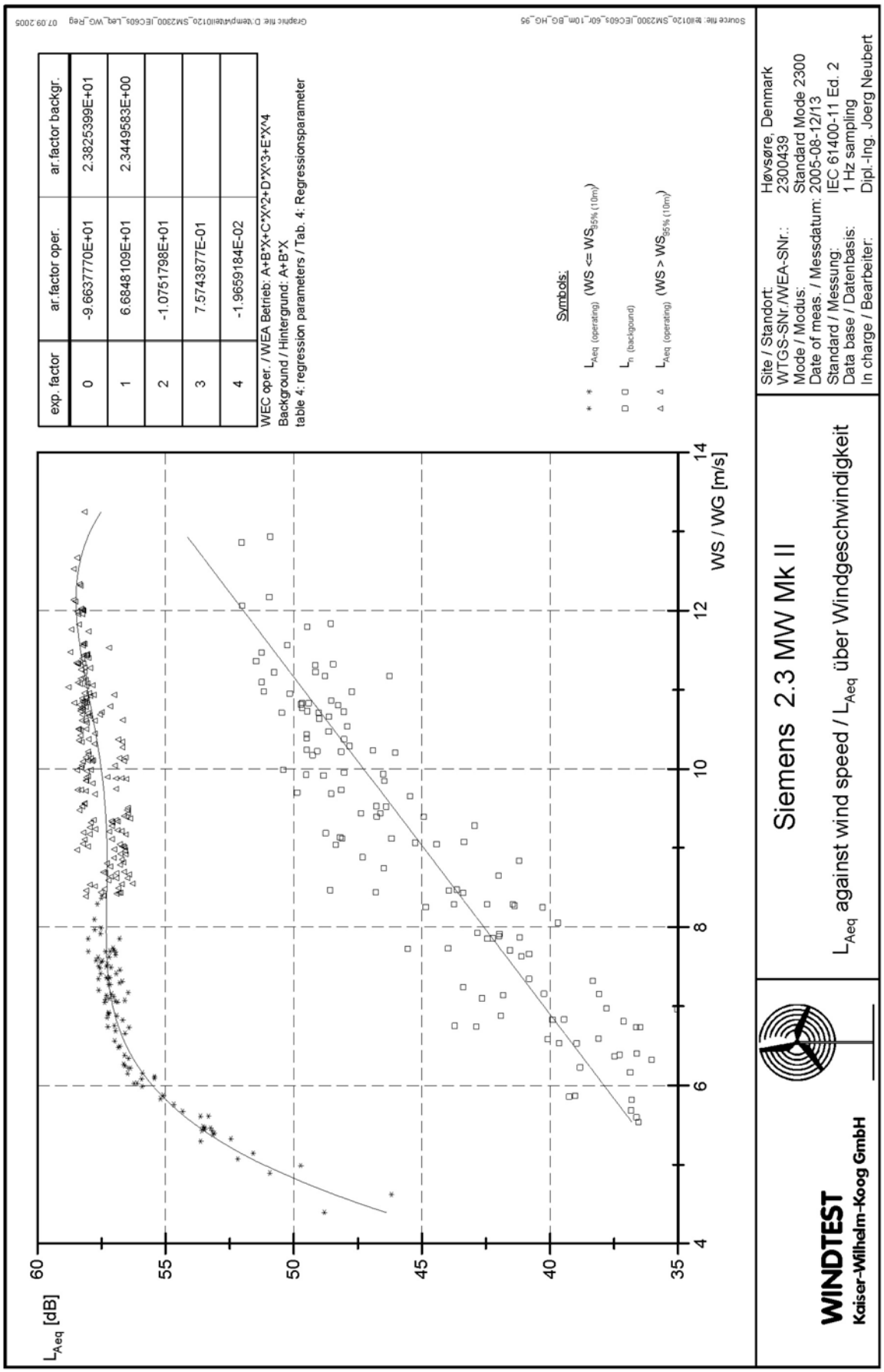
Annex 1: Measuring equipment used

Beschreibung *description*	**Fabrikat** ***supplier***	**Typ***/type*	**WT Nr./Ser.Nr.** ***WT stock number/serial number***	**Kal. am** *cal. on*	**Eichung am** ***standardisation***	**Einsatz** *used*
Akustischer Kalibrator *acoustic calibrator*	Brüel & Kjær	4231	WT 300083004 (2438819)	-	31.12.2006	x
Mikrofon *microphone*	Bruel & Kjær	4188	zu WT 30002904 (2427565)	-	31.12.2006	x
Vorverstärker *preamp.*	Brüel & Kjær	ZC 0030	zu WT 30002904	-	31.12.2006	x
Mikrofonkabel *microphone cable*	Brüel & Kjær	AO 0560	zu WT 30002904	-	31.12.2006	x
Handschallpegelmesser *decibel meter*	Brüel & Kjær	2238	WT 30002904 (2437622)	-	31.12.2006	x
Primärwindschirm *primary wind shield*	Brüel & Kjær	UA 0237	-	-	-	x
Sekundärwindschirm *secondary wind shield*	Delta Acoustics	SIM	-	-	-	
DAT-Rekorder *DAT-recorder*	Sony	TCD-D100	WT 300083304 (541959)	-	-	x
Anemometer *anemometer*	Thies Clima	4.3519.00.000	WT 010041504 (PN 457 0604)	Jun. 04	-	x
Windrichtungsgeber *wind direction sensor*	Thies Clima	4.3129.00.012	WT 020013504 (0504426	-	-	x
Temperaturgeber *temperature sensors*	Heraeus (Logger)	PT100	WT 300084704	Jul. 05	-	x
Temperaturgeber *temperature sensors*	Heraeus (W+W)	PT100	WT 300084604	Jul. 05	-	x
Luftdruckgeber *pressure sensors*	Wilmers Messtechnik (Logger)	0619	WT 090021803	Jul. 05	-	x
Luftdruckgeber *pressure sensors*	Wilmers Messtechnik (W+W)	0619	WT 090022804	Jul. 05	-	x
Leistungsumformer *power transducer*	Metrawatt (DME 1)	SINEAX DME 442	WT 300070903	Jun. 04	-	
Leistungsumformer *power transducer*	Metrawatt (DME 2)	SINEAX DME 442	WT 300055202	Aug. 03	-	
Leistungsumformer *power transducer*	Metrawatt (DME 3)	SINEAX DME 442	WT 300018898	Feb. 05	-	
Leistungsumformer *power transducer*	Metrawatt (DME 4)	SINEAX DME 442	WT 300079804	Feb. 05	-	
Zangenstromwandler *current clamps*	Chauvin Arnoux (DME 1)	D32N	WT 300071603 bis 300071803	Jul. 05	-	
Zangenstromwandler *current clamps*	Chauvin Arnoux (DME 2)	D32N	WT 300053501 bis 300053701	Jul. 05	-	
Zangenstromwandler *current clamps*	Chauvin Arnoux (DME 3)	AmpFLEX A100	WT 300091804 bis 300092004	Jul. 05	-	
Zangenstromwandler *current clamps*	Chauvin Arnoux (DME 4)	AmpFLEX A100	WT 300085804 bis 300086004	Jul. 05	-	
Datenlogger *datalog*	Th. Friedrichs	1020	WT 030013504 (091630)	Jul. 04	-	x
Zweikanal-Echtzeit-Frequenzanalysator *2-channel real time frequency analyser*	Brüel & Kjær	2144	WT 9904897 (1732981)	Sep. 03	-	x
Erfassungs- und Auswertesoftware *data acquisition and analytical software*	GfS Aachen Microsoft DATALOG GmbH	DIAdem 8.1 Excel 2000 Dasy-Lab 7.0	-	-	-	x
Erfassungsrechner *data acquisition Computer*	HP	Compaq nx 9005	WT 400023903 (CNF 3371X4F)	-	-	
Erfassungsrechner *data acquisition Computer*	HP	OmniBook XE3	WT 400021502 (TW 21806701)	-	-	
Erfassungsrechner *data acquisition Computer*	HP	OmniBook XE3	WT 400020802 (TW 21121810)	-	-	
Erfassungsrechner *data acquisition Computer*	HP	Compaq nx 5000	WT 400026604 (CNU43700RT)	-	-	
Erfassungsrechner *data acquisition Computer*	HP	Compaq nx 9005	WT 400024003 (CNF 3371X70)	-	-	
Erfassungsrechner *data acquisition Computer*	HP	Compaq nx 9005	WT 400024103 (CNF 3371X4X)	-	-	x
10 m – Teleskopmast *10 m – telescopic mast*	Clark (SMS 3)	QT 12M/HP	WT 050019003	-	-	x
Unterbrechungsfreie Spannungsversorgung *uninterruptable power supply*	APS	Smart UPS 1000	WT 30009002104	-	-	x

Annex 2.1a: 2nd order regression of L_{Aeq} and L_n against standardised wind speed



Annex 2.1b: Higher order regression of L_{Aeq} and L_n against standardised wind speed



Parameters of evaluation / Auswerteparameter :

H	=	80.0	m	d	=	3.50	m	h_A	=	0.0	m
D	=	93.0	m	z_0	=	0.050	m	R_0	=	112.0	m

P_{rated} / P_{Nenn} = 2.30 MW

$WS_{95\%}$ / $WG_{95\%}$ = 11.67 m/s

Results / Ergebnisse :

$WS_{95\%(10m)}$ / $WG_{95\%(10m)}$ = 8.38 m/s

$Power_{95\%}$ / $Leistung_{95\%}$ = 2.185 MW

Range of the wind direction / Windrichtungsbereich = 284.40° - 325.68°

κ = 0.93

average turbulence intensity / mittlere Turbulenzintensität = 14.0 %

WS_{10m} / WG_{10m}	U_A [dB]	U_{B9} [dB]	U_C [dB]
6	0.44	0.04	1.2
7	0.31	0.05	1.1
8	0.41	0.08	1.2
9	0.64	0.14	1.3
10	0.68	0.25	1.3

table 1: uncertainty / Tabelle 1: Messunsicherheiten

WS_{10m} / WG_{10m}	$L_{Aeq,k}$ [dB]	L_{backgr} [dB]	$L_{Aeq,c,k}$ [dB]	$L_{WA,k}$ [dB]
6	55.5	37.9	55.4	103.4
7	57.1	40.2	57.0	104.9
8	57.3	42.6	57.2	105.1
9	57.3	44.9	57.0	105.0
10	57.5	47.3	57.1	105.0

table 2: results L = f(WS) / Tabelle 2: Ergebnisse L = f(WG)

$WS_{95\%}$ / $WG_{95\%}$	$L_{Aeq,k}$ [dB]	L_{backgr} [dB]	$L_{Aeq,c,k}$ [dB]	$L_{WA,k}$ [dB]
8.38	57.3	43.5	57.1	105.1

table 3: results L = f($WS_{95\%}$) / Tabelle 3: Ergebnisse L = f($WG_{95\%}$)

Source file: tab012c_SW2000_IEC60_80c_10m_DG_DG_96_01 Graphic file: graph012c_SW2000_IEC60_80c_10m_DG_DG_96_01_1hz_07.09.2006

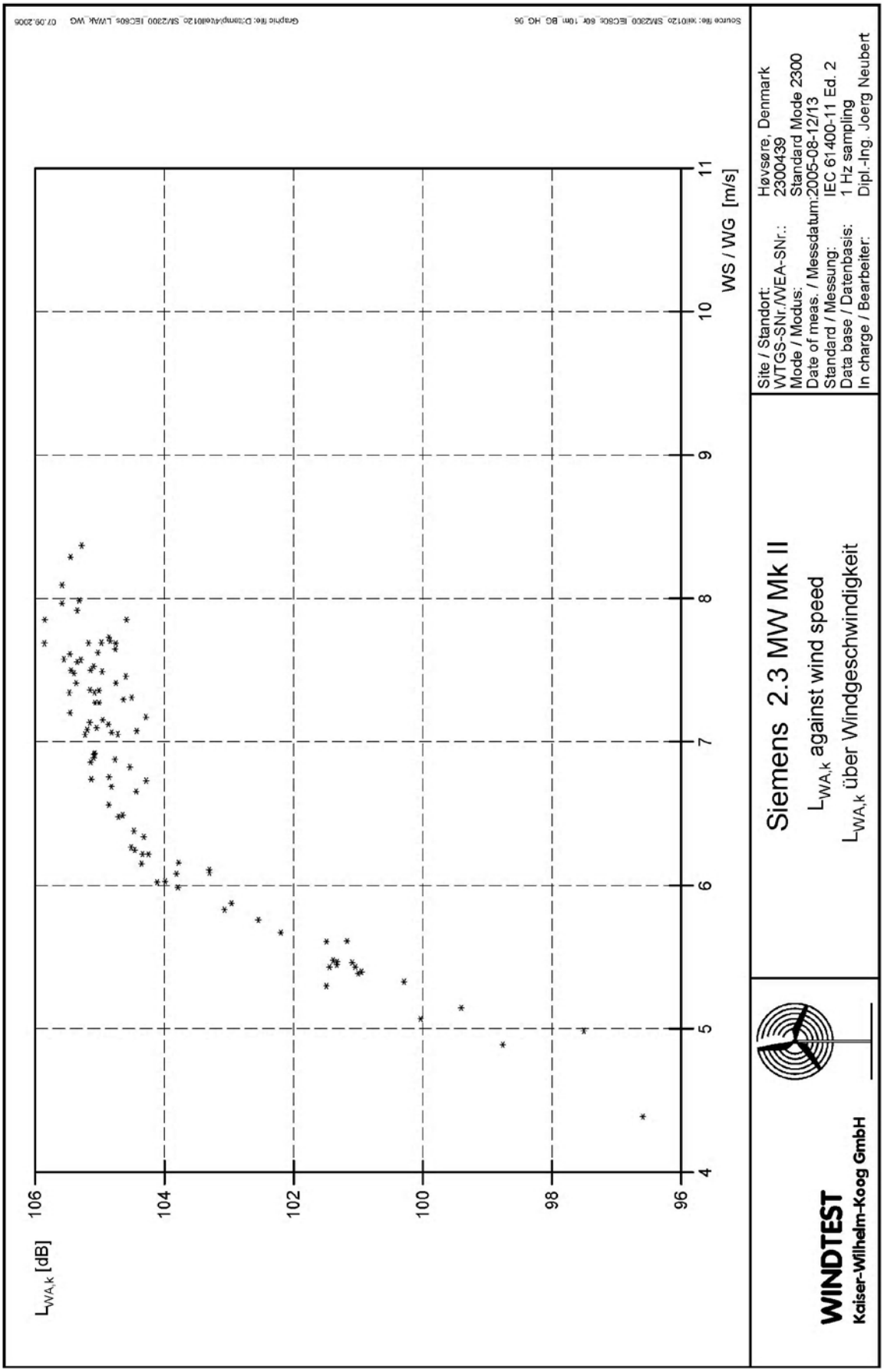
WINDTEST
Kaiser-Wilhelm-Koog GmbH

Siemens 2.3 MW Mk II

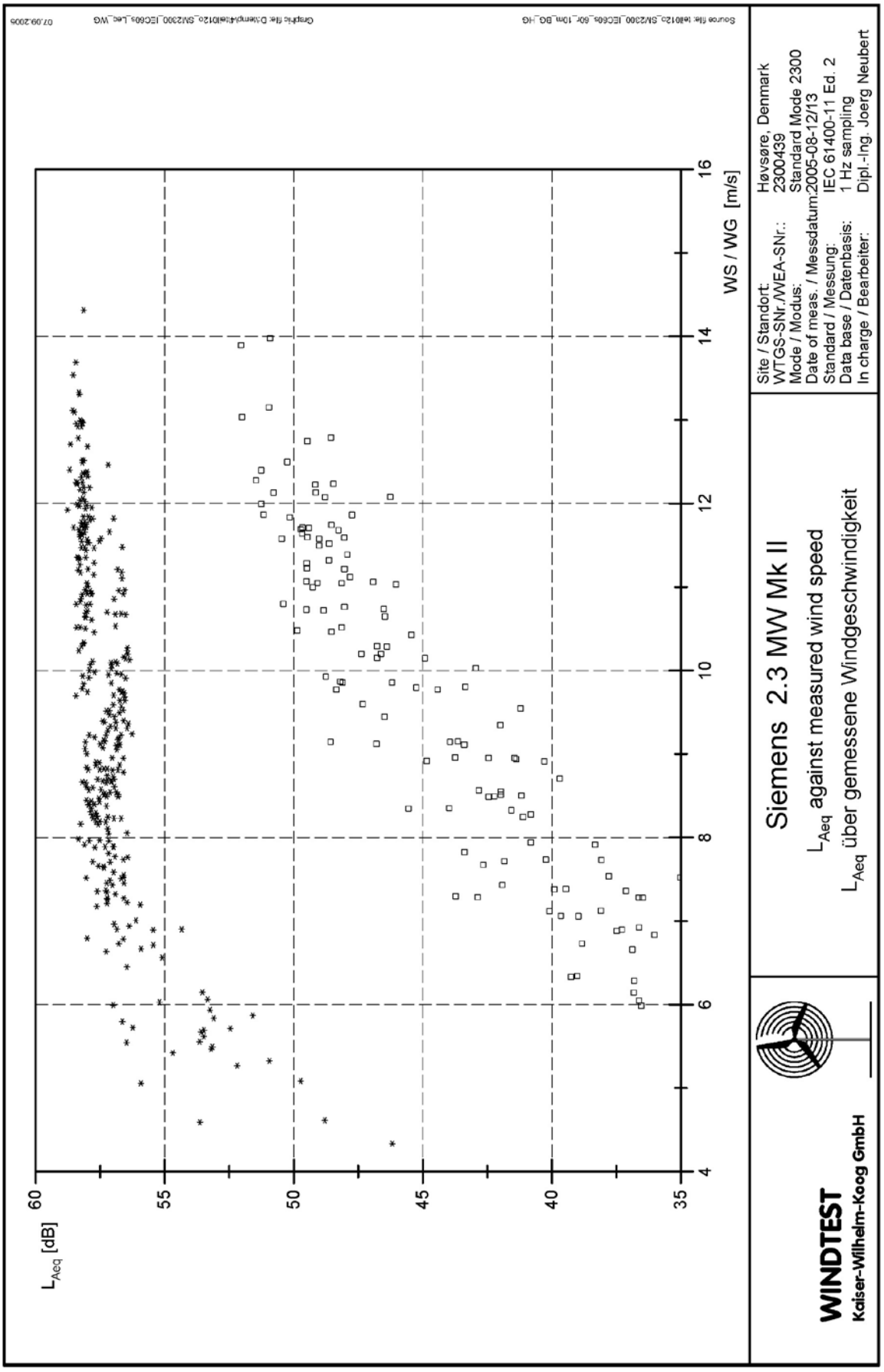
Results / Ergebnisse

Site / Standort:	Høvsøre, Denmark
WTGS-SNr./WEA-SNr.:	2300439
Mode / Modus:	Standard Mode 2300
Date of meas. / Messdatum:	2005-08-12/13
Standard / Messung:	IEC 61400-11 Ed. 2
Data base / Datenbasis:	1 Hz sampling
In charge / Bearbeiter:	Dipl.-Ing. Joerg Neubert

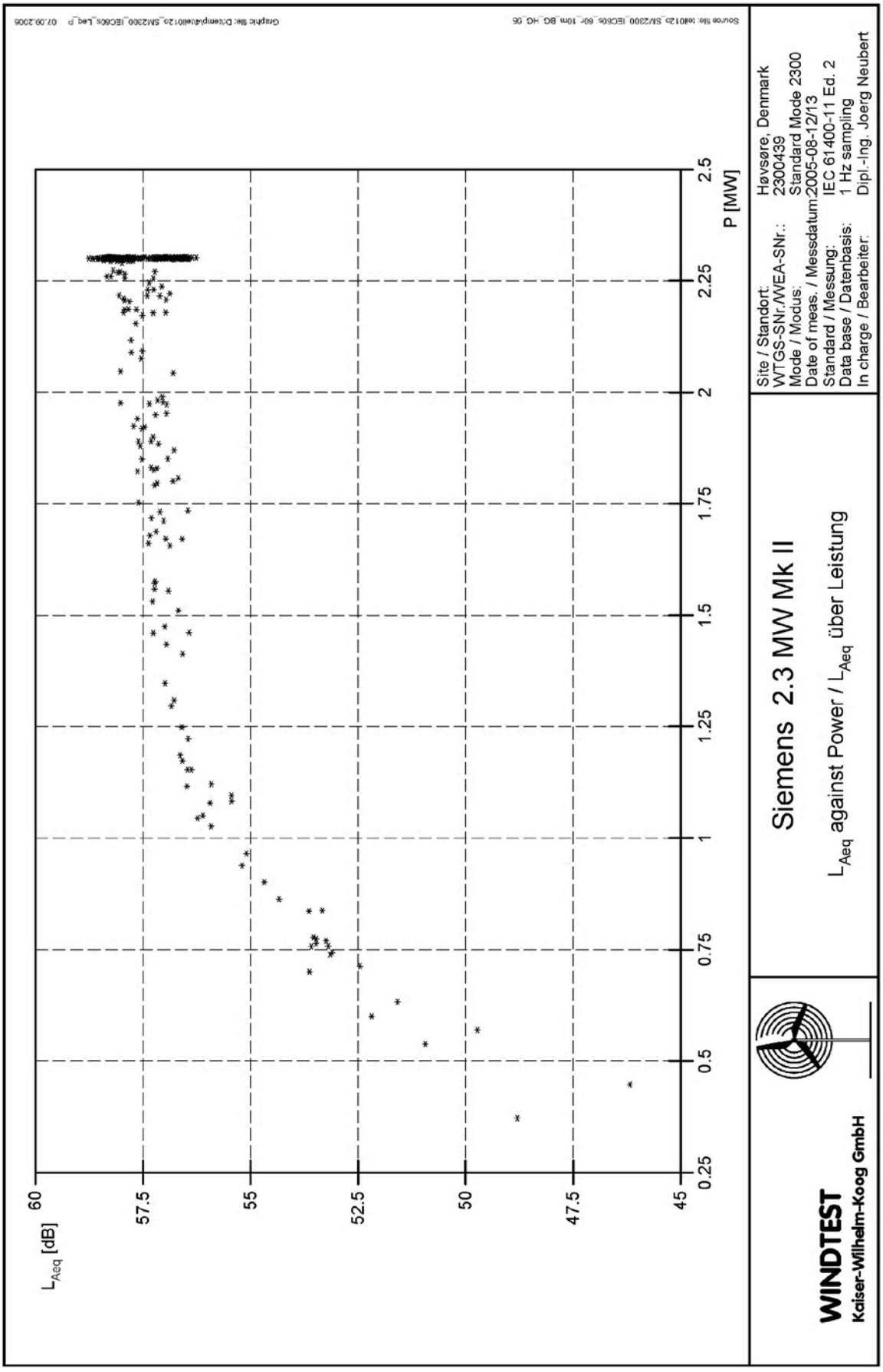
Annex 2.3: Plot of L_{WA} against standardised wind speed



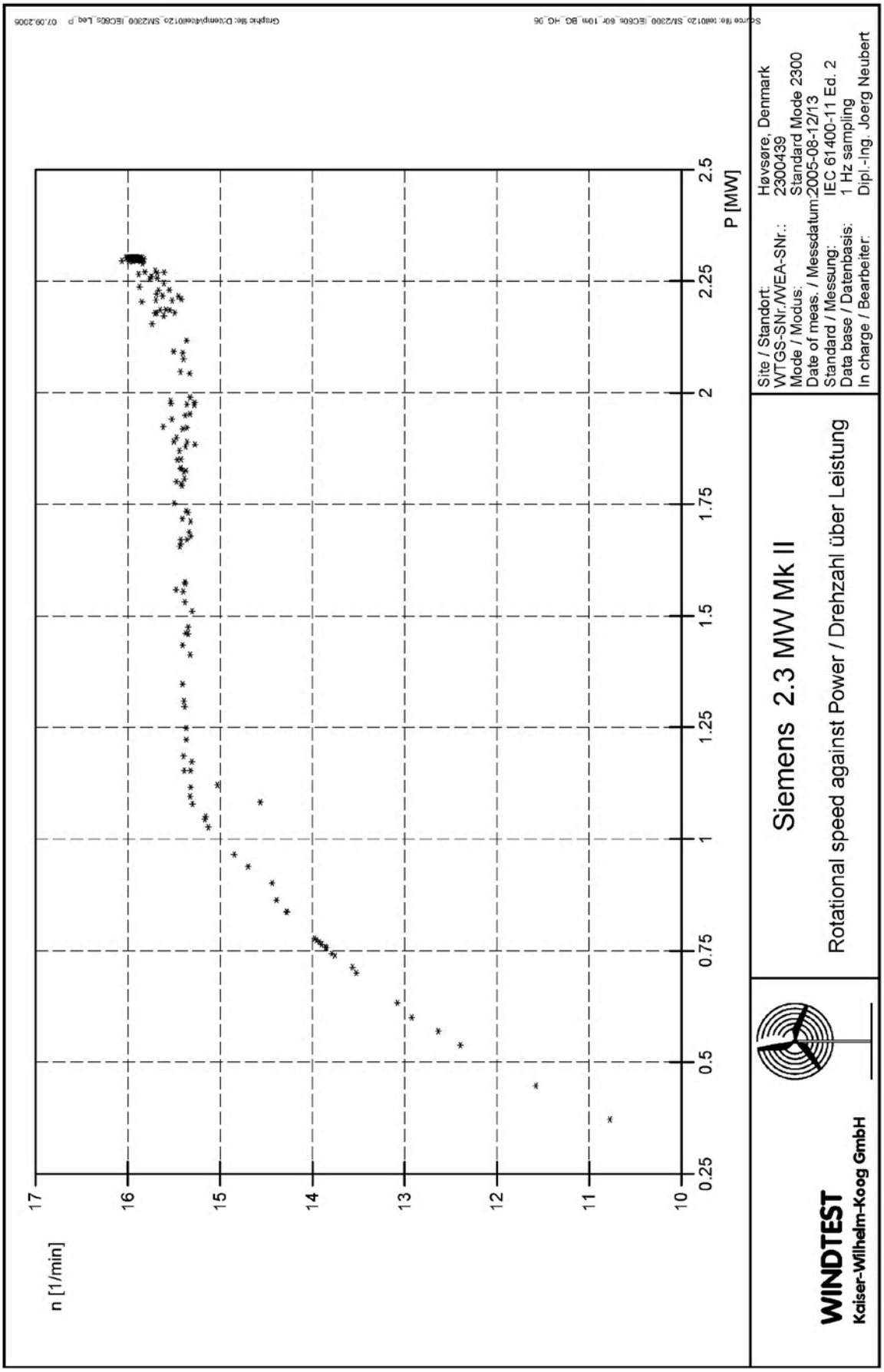
Annex 2.4: Plot of L_{Aeq} and L_n against measured wind speed



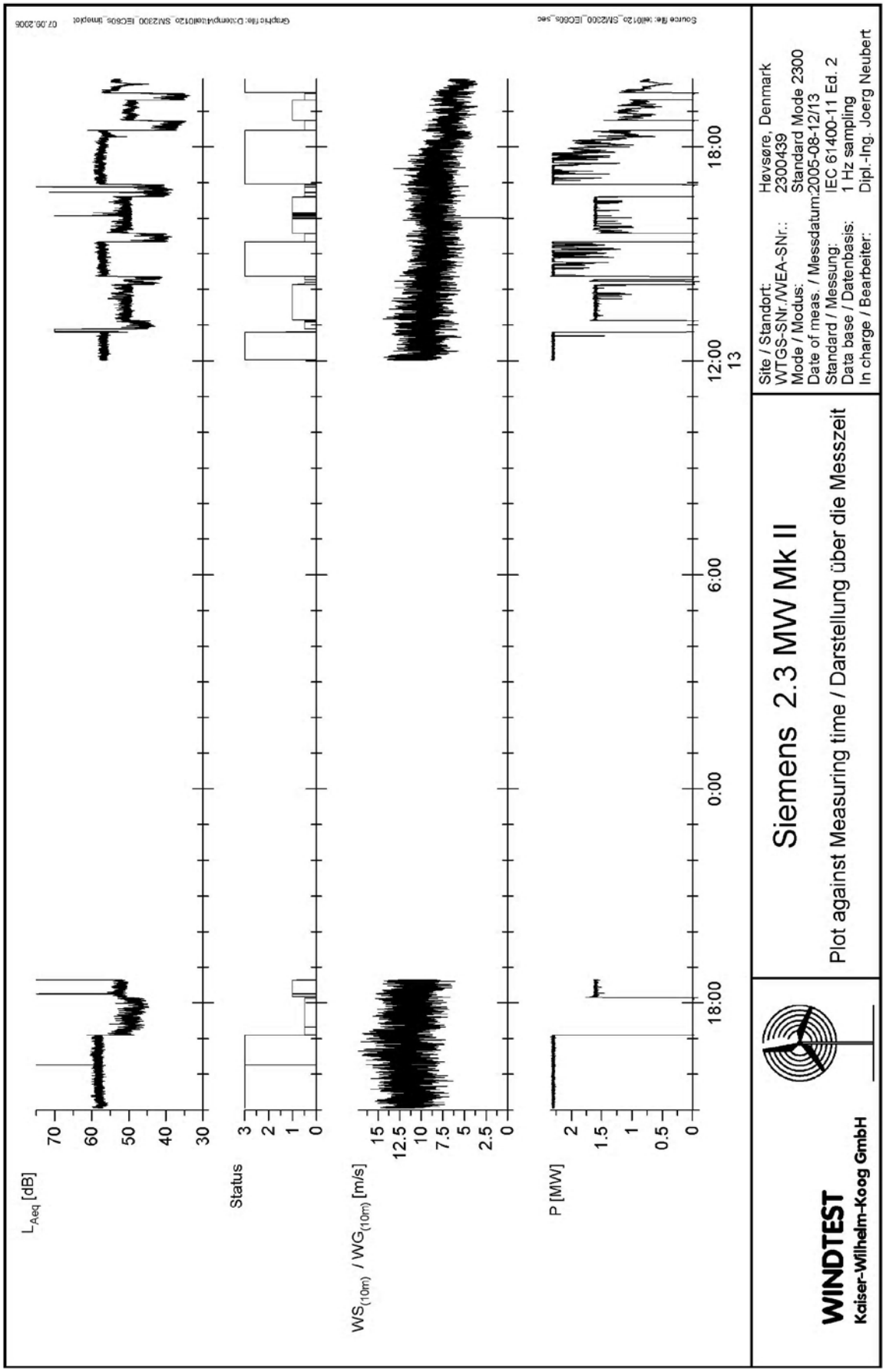
Annex 2.5: Plot of L_{Aeq} against power



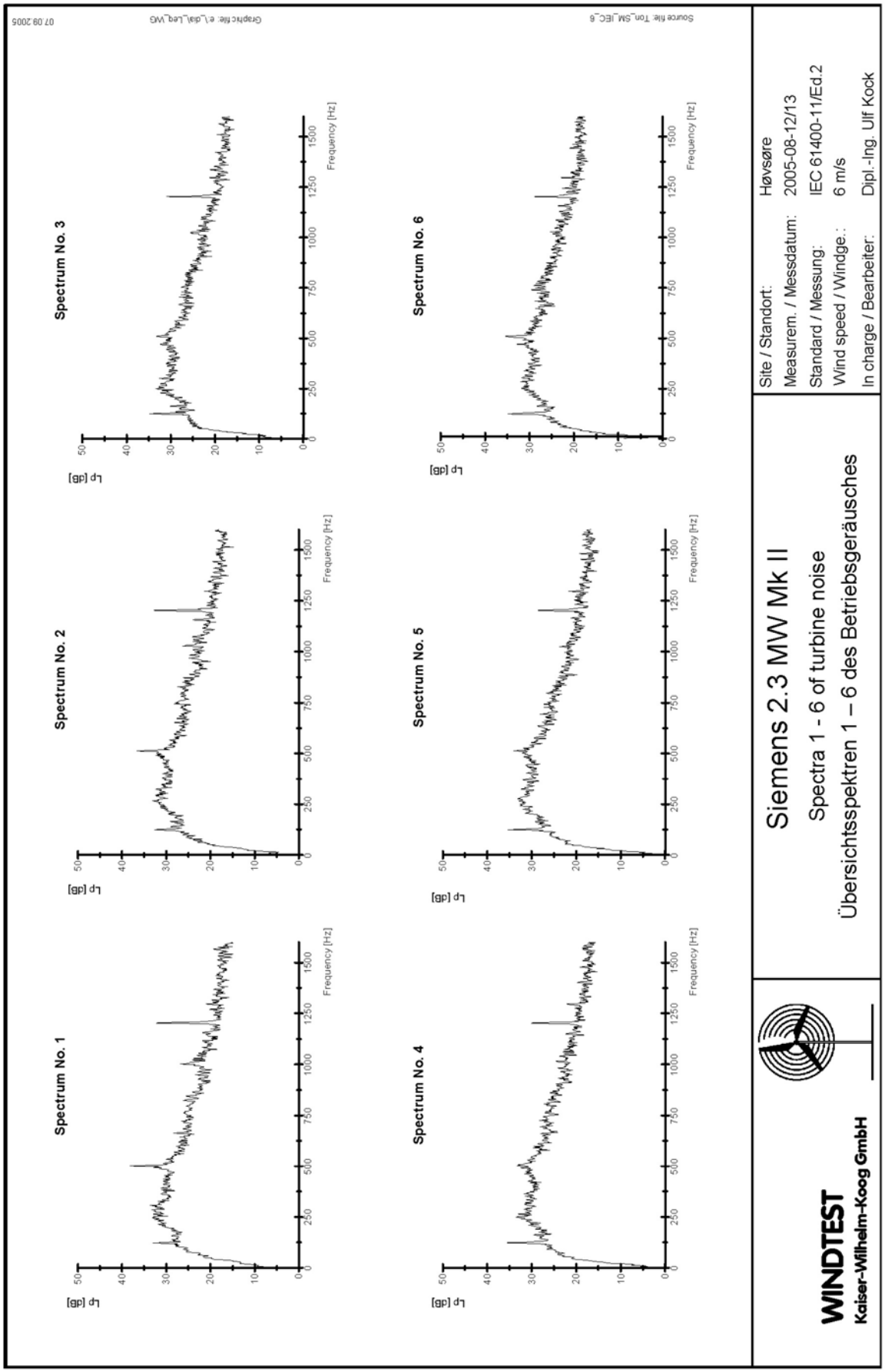
Annex 2.6: Plot of rotor speed against power



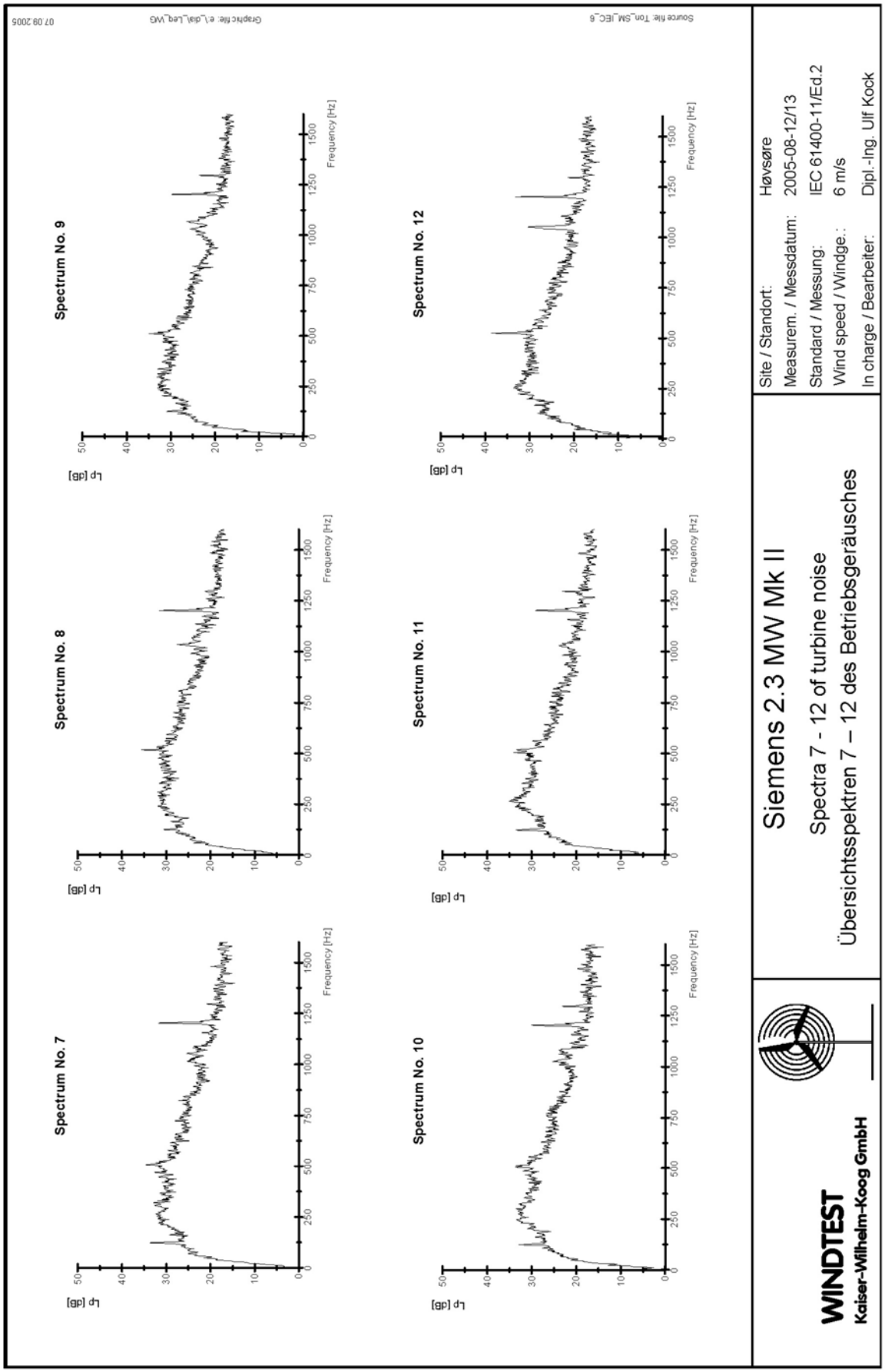
Annex 2.7: Time plot of measurement



Annex 3.1a: Overview spectra 1-6 of turbine noise at a wind speed of 6 m/s



Annex 3.1b: Overview spectra 7-12 of turbine noise at a wind speed of 6 m/s



m No.	tone fT [Hz]	delta f [Hz]	Lpn,avg,j,k [dB]	Lpt,j,k [dB]	Lpn,j,k [dB]	delta Ltn,j,k [dB]	La [dB]	delta La,k [dB]
1	1204	2.00	19.36	33.06	37.29	-4.23	-3.00	-1.24
2	1204	2.00	20.40	33.91	38.33	-4.42	-3.00	-1.43
3	1204	2.00	20.14	31.73	38.07	-6.34	-3.00	-3.35
4	1204	2.00	20.19	30.86	38.12	-7.26	-3.00	-4.26
5	1204	2.00	19.57	29.77	37.49	-7.73	-3.00	-4.73
6	1204	2.00	20.97	30.07	38.90	-8.83	-3.00	-5.83
7	1204	2.00	19.65	32.98	37.57	-4.59	-3.00	-1.60
8	1202	2.00	20.35	32.08	38.27	-6.19	-2.99	-3.20
9	1202	2.00	19.20	31.01	37.12	-6.11	-2.99	-3.12
10	1204	2.00	18.92	31.62	36.85	-5.22	-3.00	-2.23
11	1202	2.00	19.38	30.27	37.31	-7.04	-2.99	-4.04
12	1202	2.00	18.82	34.02	36.74	-2.73	-2.99	0.27

Energetic average of delta Lt (delta Lk) = -5.58 [dB]

Frequency dependant audibility criterion (La) [dB] = -3.00 [dB]

Audibility, delta Lk - La (delta La,k) = -2.58 [dB]

Uncertainty of delta La,k (Ua) = 2.41 [dB]

Audibility greater than or equal to -3.0 dB ?: Yes

Graphic file: t_e1_delt_Lan_SW1

Source file: Ton_SM_IEC_6

07.09.2005

WINDTEST
Kaiser-Wilhelm-Koog GmbH

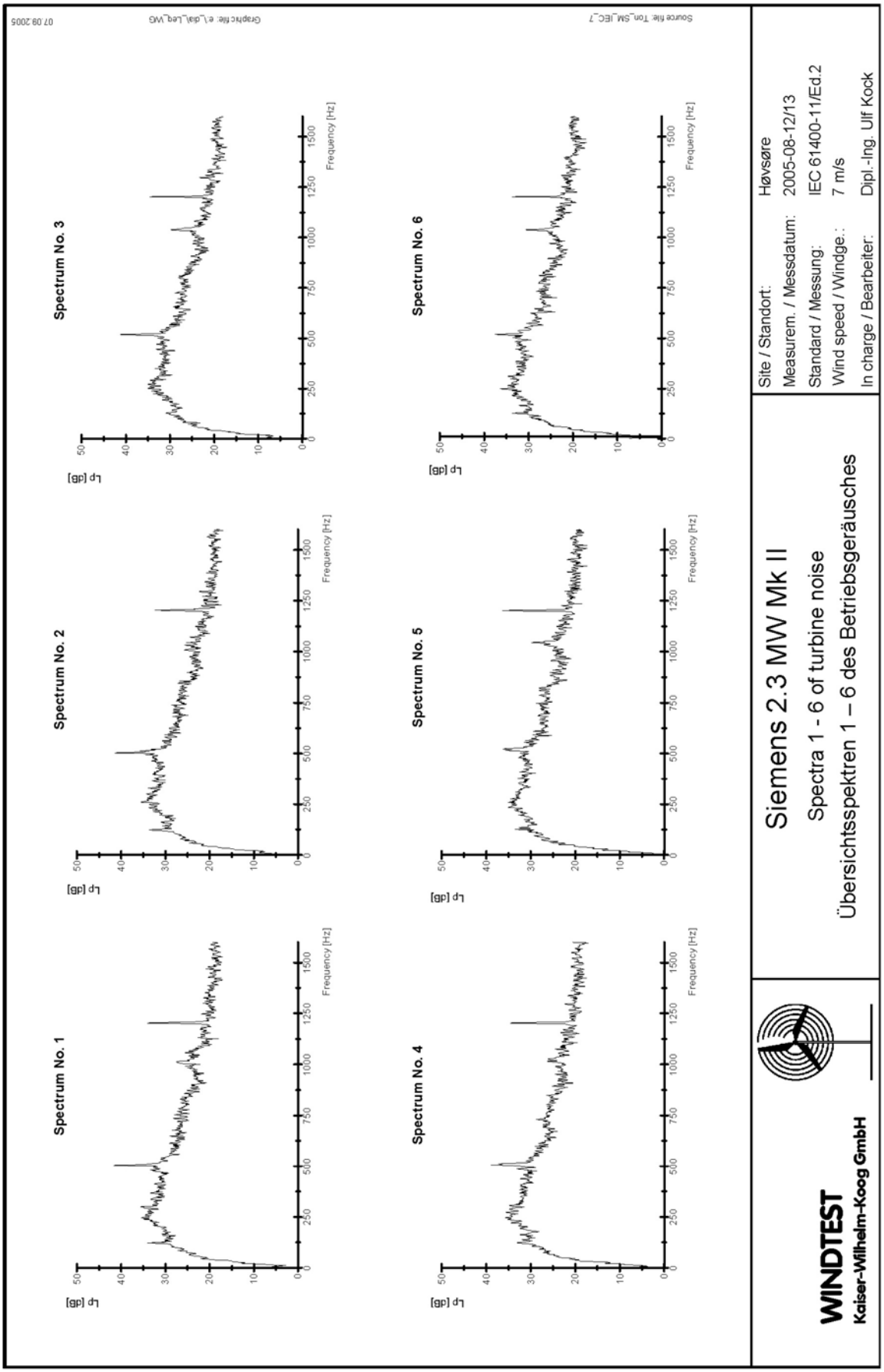
Siemens 2.3 MW Mk II

Analysis of tonality of turbine noise

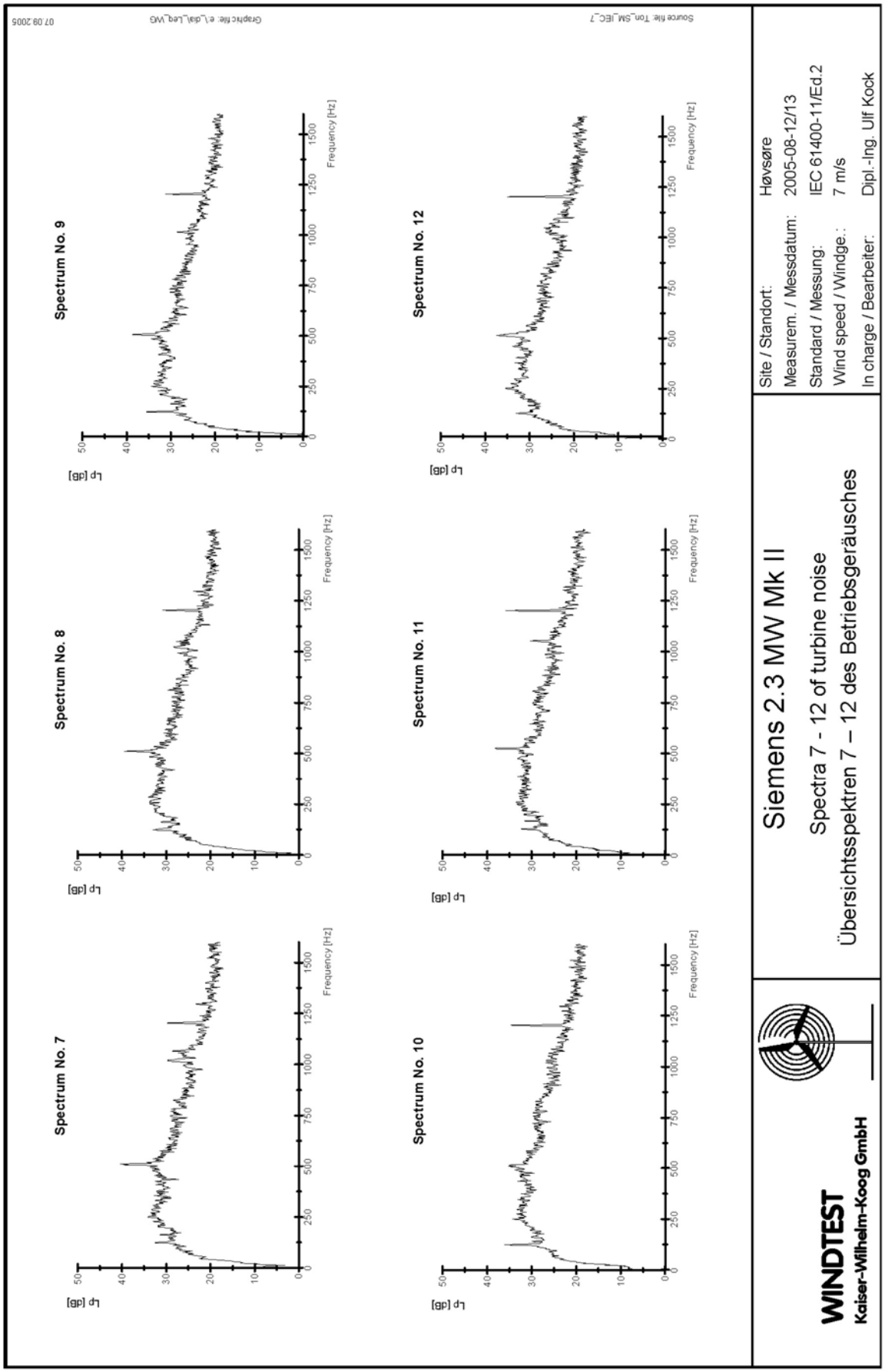
Tonhaltigkeitsbewertung des Betriebsgeräusches

Site / Standort:	Høvsøre
Measurem. / Messdatum:	2005-08-12/13
Standard / Messung:	IEC 61400-11/Ed.2
Wind speed / Windge.:	6 m/s
In charge / Bearbeiter:	Dipl.-Ing. Ulf Kock

Annex 3.2a: Overview spectra 1-6 of turbine noise at a wind speed of 7 m/s



Annex 3.2b: Overview spectra 7-12 of turbine noise at a wind speed of 7 m/s



Annex 3.2c: Analysis of tonality of turbine noise at a wind speed of 7 m/s

07.09.2005

Graphic file: e:_dat_Leq_MG

Source file: Ton_SM_IEC_7

m No.	tone fT [Hz]	delta f [Hz]	Lpn,avg,j,k [dB]	Lpt,j,k [dB]	Lpn,j,k [dB]	delta Ltn,j,k [dB]	La [dB]	delta La,k [dB]
1	1204	2.00	20.72	34.72	38.65	-3.93	-3.00	-0.94
2	1204	2.00	21.03	33.39	38.95	-5.57	-3.00	-2.57
3	1202	2.00	21.44	35.77	39.36	-3.59	-2.99	-0.60
4	1204	2.00	21.13	35.80	39.06	-3.26	-3.00	-0.26
5	1202	2.00	21.86	36.97	39.78	-2.82	-2.99	0.18
6	1202	2.00	21.88	34.03	39.80	-5.78	-2.99	-2.78
7	1204	2.00	21.62	30.69	39.55	-8.87	-3.00	-5.87
8	1204	2.00	22.07	31.40	40.00	-8.60	-3.00	-5.60
9	1204	2.00	22.34	31.52	40.27	-8.75	-3.00	-5.75
10	1204	2.00	22.48	35.58	40.41	-4.83	-3.00	-1.83
11	1202	2.00	22.37	36.62	40.29	-3.68	-2.99	-0.68
12	1202	2.00	20.90	36.18	38.82	-2.64	-2.99	0.36

Energetic average of delta Lt (delta Lk) = -4.68 [dB]

Frequency dependant audibility criterion (La) [dB] = -3.00 [dB]

Audibility, delta Lk - La (delta La,k) = -1.69 [dB]

Uncertainty of delta La,k (Ua) = 2.43 [dB]

Audibility greater than or equal to -3.0 dB ?: Yes

WINDTEST
Kaiser-Wilhelm-Koog GmbH

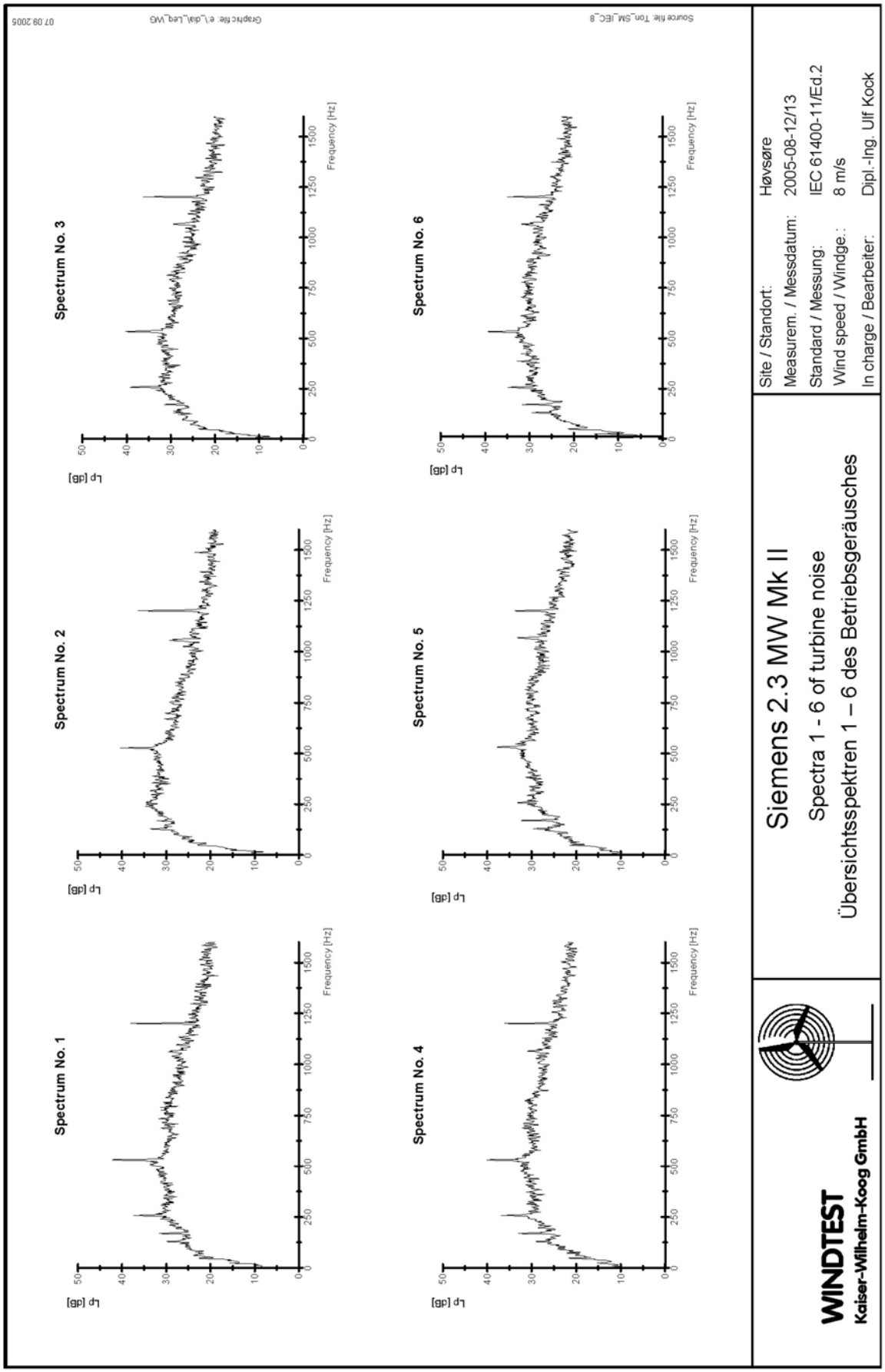
Siemens 2.3 MW Mk II

Analysis of tonality of turbine noise

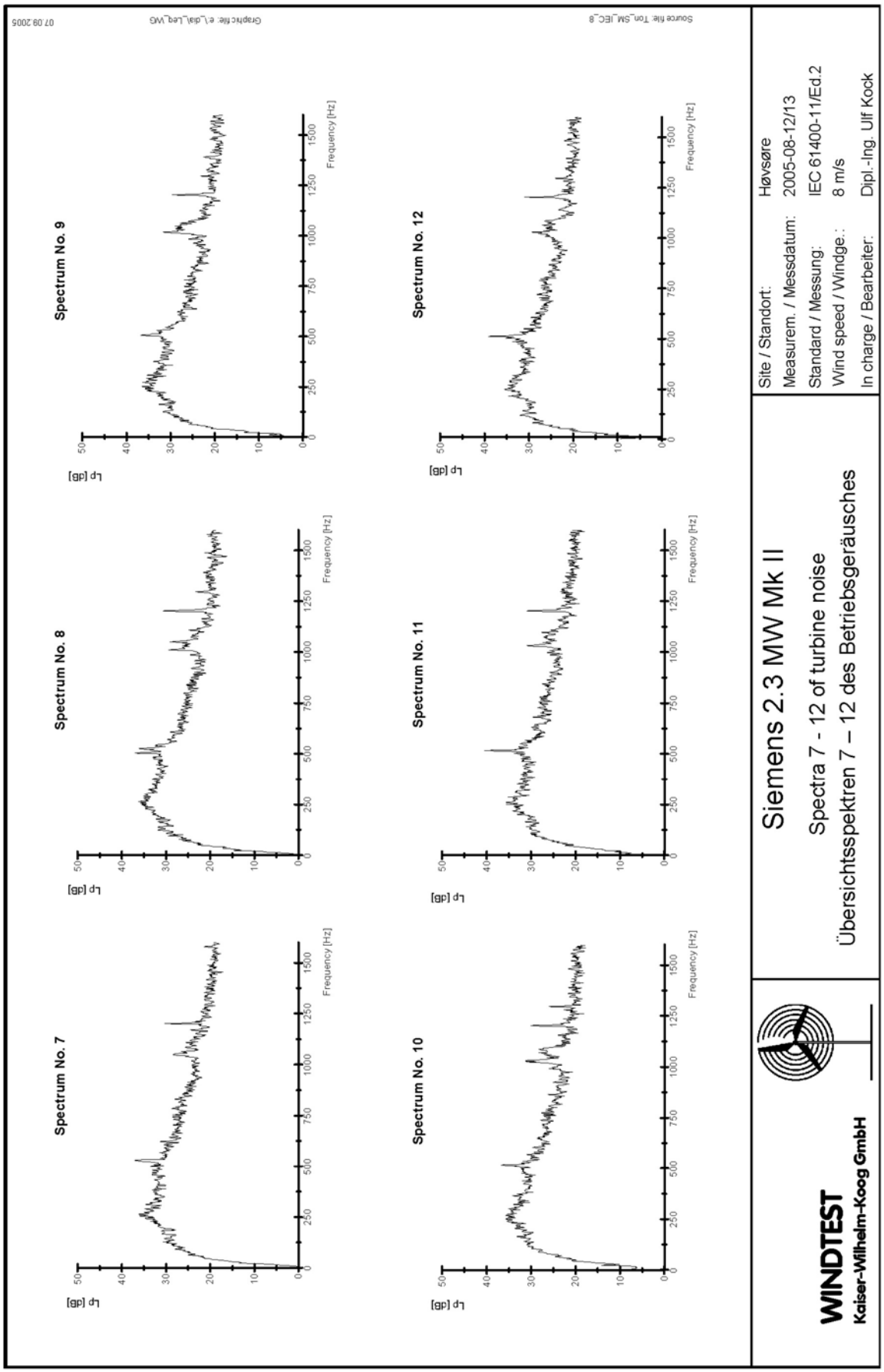
Tonhaltigkeitsbewertung des Betriebsgeräusches

Site / Standort:	Høvsøre
Measurem. / Messdatum:	2005-08-12/13
Standard / Messung:	IEC 61400-11/Ed.2
Wind speed / Windge.:	7 m/s
In charge / Bearbeiter:	Dipl.-Ing. Ulf Kock

Annex 3.3a: Overview spectra 1-6 of turbine noise at a wind speed of 8 m/s



Annex 3.3b: Overview spectra 7-12 of turbine noise at a wind speed of 8 m/s



m No.	tone fT [Hz]	delta f [Hz]	Lpn,avg,j,k [dB]	Lpt,j,k [dB]	Lpn,j,k [dB]	delta Ltn,j,k [dB]	La [dB]	delta La,k [dB]
1	1202	2.00	24.17	38.84	42.09	-3.24	-2.99	-0.25
2	1202	2.00	21.96	36.91	39.88	-2.97	-2.99	0.03
3	1202	2.00	23.10	36.78	41.02	-4.24	-2.99	-1.25
4	1202	2.00	25.03	36.71	42.95	-6.25	-2.99	-3.25
5	1202	2.00	25.78	34.91	43.70	-8.78	-2.99	-5.79
6	1202	2.00	25.29	35.47	43.21	-7.74	-2.99	-4.75
7	1202	2.00	22.13	28.51	40.05	-11.54	-2.99	-8.55
8	1202	2.00	20.56	32.53	38.48	-5.95	-2.99	-2.96
9	1204	2.00	21.44	30.29	39.37	-9.08	-3.00	-6.08
10	1202	2.00	21.77	31.03	39.70	-8.67	-2.99	-5.67
11	1202	2.00	22.44	31.96	40.36	-8.41	-2.99	-5.41
12	1204	2.00	21.66	31.46	39.59	-8.13	-3.00	-5.13

Energetic average of delta Lt (delta Lk) = -6.36 [dB]

Frequency dependant audibility criterion (La) [dB] = -2.99 [dB]

Audibility, delta Lk - La (delta La,k) = -3.36 [dB]

Uncertainty of delta La,k (Ua) = 2.56 [dB]

Audibility greater than or equal to -3.0 dB ?: No

Graphic file: t_a_delt_Lan_SM_

Source file: Ton_SM_IEC_8_07.09.2005

WINDTEST
Kaiser-Wilhelm-Koog GmbH

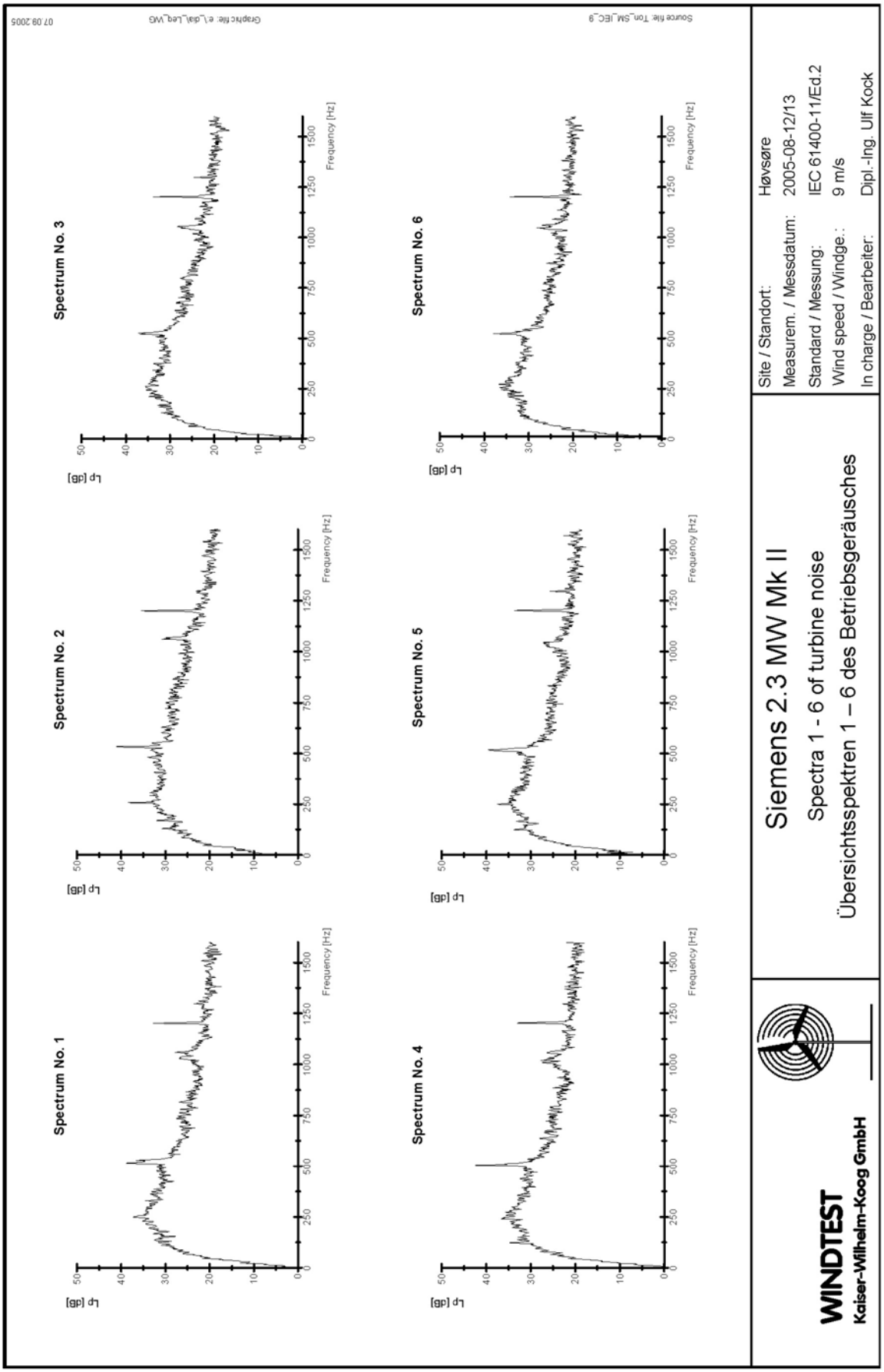
Siemens 2.3 MW Mk II

Analysis of tonality of turbine noise

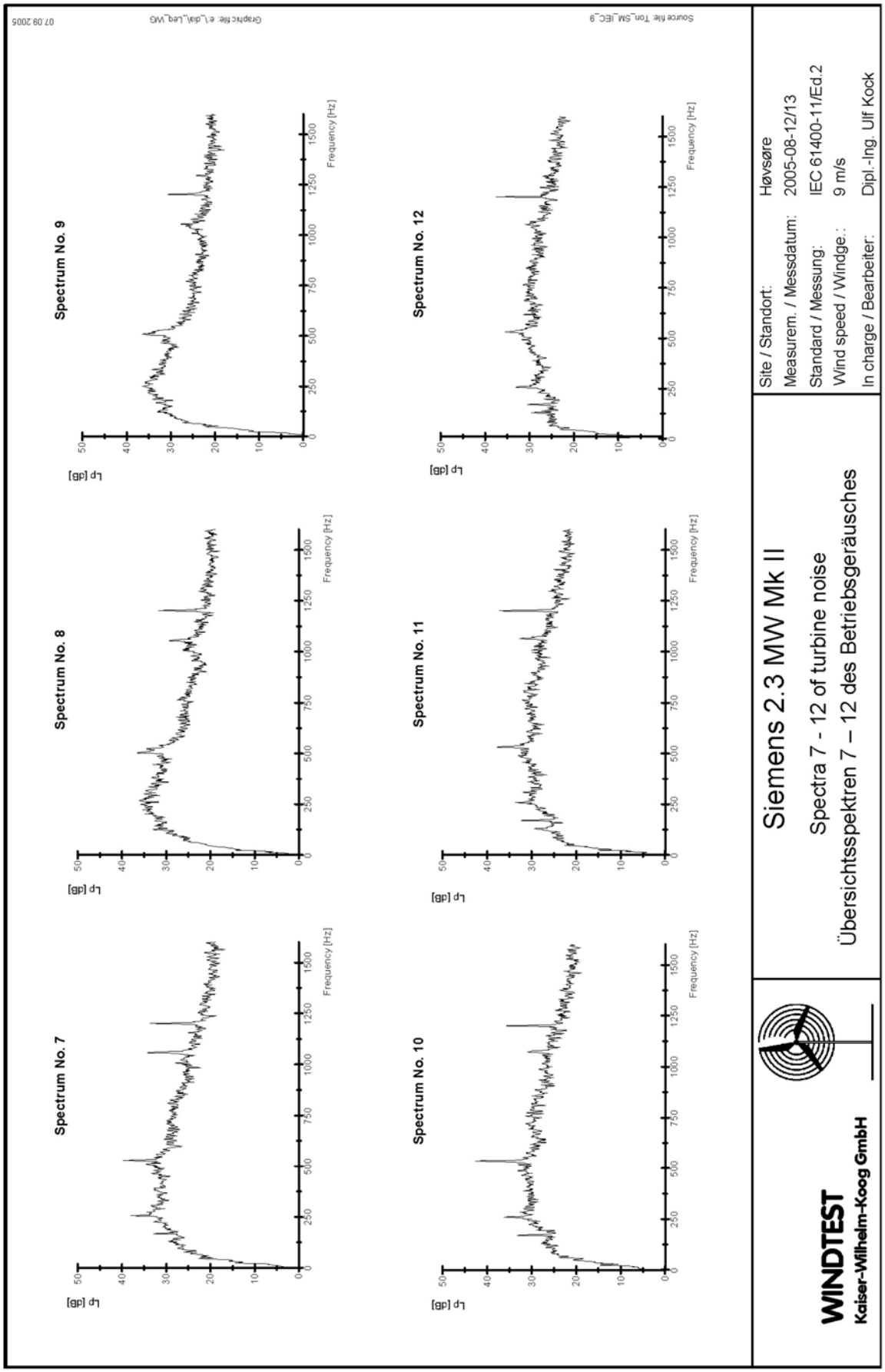
Tonhaltigkeitsbewertung des Betriebsgeräusches

Site / Standort:	Høvsøre
Measurem. / Messdatum:	2005-08-12/13
Standard / Messung:	IEC 61400-11/Ed.2
Wind speed / Windge.:	8 m/s
In charge / Bearbeiter:	Dipl.-Ing. Ulf Kock

Annex 3.4a: Overview spectra 1-6 of turbine noise at a wind speed of 9 m/s



Annex 3.4b: Overview spectra 7-12 of turbine noise at a wind speed of 9 m/s



m No.	tone fT [Hz]	delta f [Hz]	Lpn,avg,j,k [dB]	Lpt,j,k [dB]	Lpn,j,k [dB]	delta Ltn,j,k [dB]	La [dB]	delta La,k [dB]
1	1202	2.00	21.21	34.04	39.13	-5.09	-2.99	-2.09
2	1202	2.00	22.59	36.23	40.51	-4.28	-2.99	-1.29
3	1202	2.00	21.36	34.35	39.28	-4.93	-2.99	-1.94
4	1204	2.00	21.53	33.98	39.46	-5.48	-3.00	-2.48
5	1202	2.00	21.56	34.35	39.48	-5.13	-2.99	-2.14
6	1202	2.00	21.44	35.08	39.36	-4.28	-2.99	-1.28
7	1202	2.00	22.59	34.75	40.52	-5.76	-2.99	-2.77
8	1202	2.00	21.53	32.08	39.45	-7.37	-2.99	-4.37
9	1202	2.00	22.20	31.49	40.12	-8.63	-2.99	-5.64
10	1202	2.00	24.50	36.83	42.42	-5.59	-2.99	-2.60
11	1202	2.00	25.28	38.67	43.20	-4.54	-2.99	-1.54
12	1202	2.00	26.09	38.16	44.01	-5.85	-2.99	-2.86

Energetic average of delta Lt (delta Lk) = -5.43 [dB]

Frequency dependant audibility criterion (La) [dB] = -2.99 [dB]

Audibility, delta Lk - La (delta La,k) = -2.43 [dB]

Uncertainty of delta La,k (Ua) = 2.32 [dB]

Audibility greater than or equal to -3.0 dB ?: Yes

Graphic file: t_a_delt_Lak_SM1.wmf

Source file: Ton_SM_IEC_9_07.09.2005

WINDTEST
Kaiser-Wilhelm-Koog GmbH

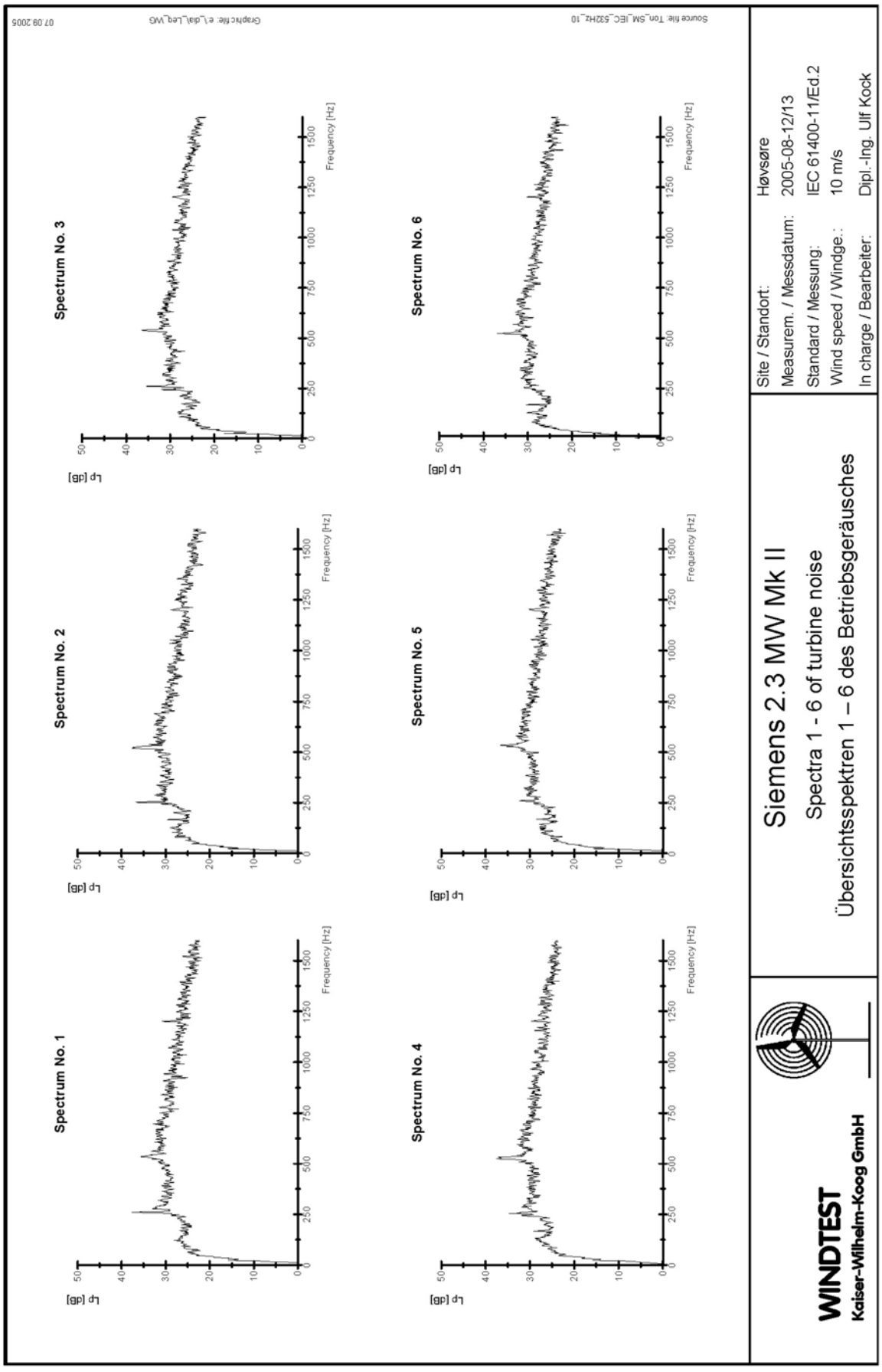
Siemens 2.3 MW Mk II

Analysis of tonality of turbine noise

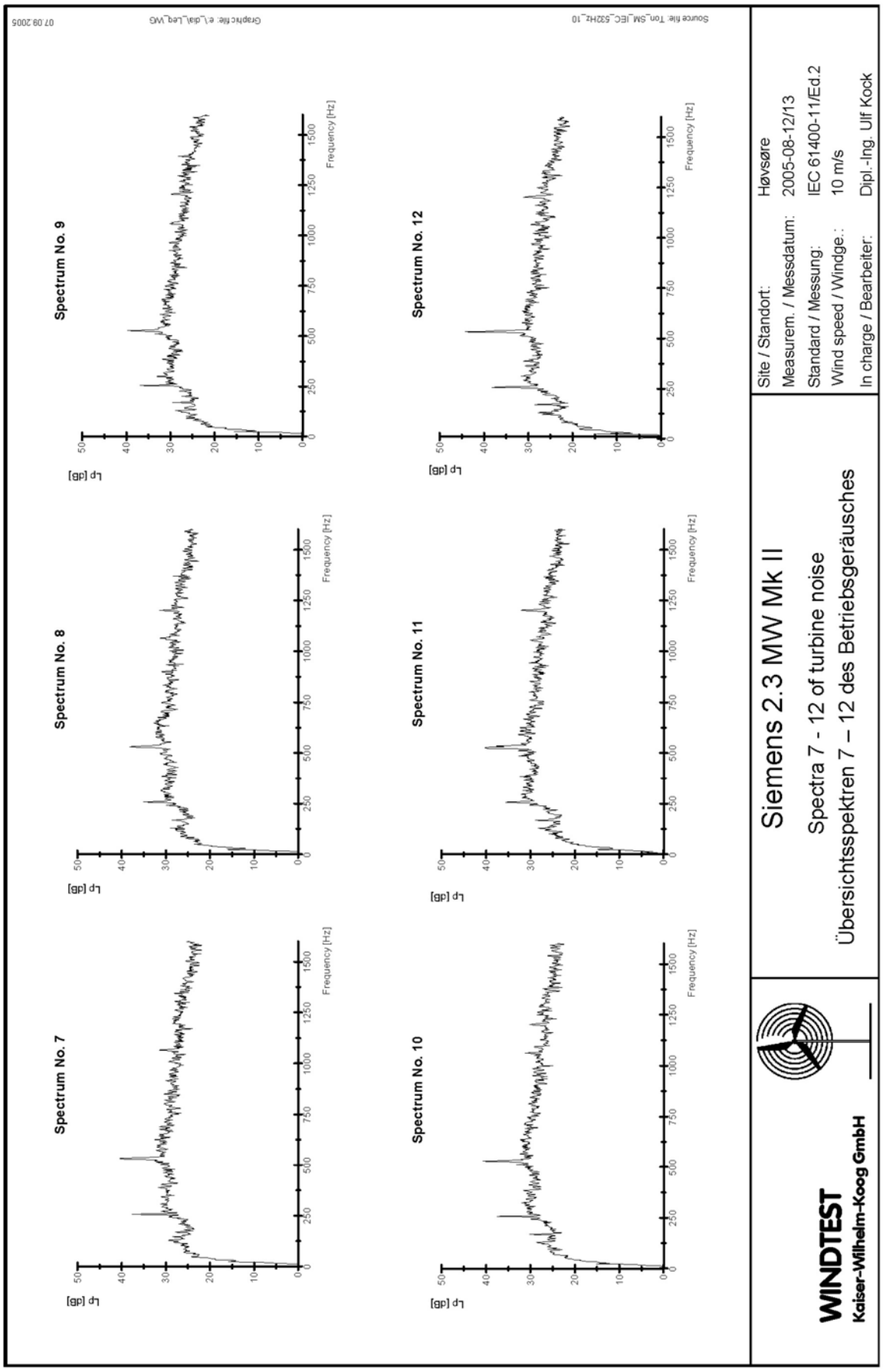
Tonhaltigkeitsbewertung des Betriebsgeräusches

Site / Standort:	Høvsøre
Measurem. / Messdatum:	2005-08-12/13
Standard / Messung:	IEC 61400-11/Ed.2
Wind speed / Windge.:	9 m/s
In charge / Bearbeiter:	Dipl.-Ing. Ulf Kock

Annex 3.5a: Overview spectra 1-6 of turbine noise at a wind speed of 10 m/s



Annex 3.5b: Overview spectra 7-12 of turbine noise at a wind speed of 10 m/s



m No.	tone fT [Hz]	delta f [Hz]	Lpn,avg,j,k [dB]	Lpt,j,k [dB]	Lpn,j,k [dB]	delta Ltn,j,k [dB]	La [dB]	delta La,k [dB]
1	536	2.00	31.80		47.81	-16.01	-2.34	-13.67
2	520	2.00	31.72		47.69	-15.97	-2.32	-13.65
3	540	2.00	31.75		47.77	-16.02	-2.34	-13.68
4	526	2.00	30.81	41.35	46.79	-5.44	-2.33	-3.12
5	534	2.00	31.98		47.99	-16.00	-2.34	-13.67
6	524	2.00	31.25		47.23	-15.98	-2.32	-13.65
7	534	2.00	31.08	43.89	47.08	-3.19	-2.34	-0.85
8	530	2.00	31.00	39.38	47.00	-7.62	-2.33	-5.29
9	528	2.00	31.53	40.32	47.52	-7.20	-2.33	-4.87
10	530	2.00	31.04	42.17	47.03	-4.87	-2.33	-2.53
11	526	2.00	31.04	44.67	47.03	-2.36	-2.33	-0.03
12	534	2.00	30.39	46.01	46.39	-0.39	-2.34	1.95

Energetic average of delta Lt (delta Lk) = -5.91 [dB]

Frequency dependant audibility criterion (La) [dB] = -2.33 [dB]

Audibility, delta Lk - La (delta La,k) = -3.58 [dB]

Uncertainty of delta La,k (Ua) = 3.13 [dB]

Audibility greater than or equal to -3.0 dB ?: No

Graphic file: t_delt_Lak_SM1_07.08.2005

Source file: Ton_SM_IEC_532Hz_10

WINDTEST
Kaiser-Wilhelm-Koog GmbH

Siemens 2.3 MW Mk II

Analysis of tonality of turbine noise

Tonhaltigkeitsbewertung des Betriebsgeräusches

Site / Standort:	Høvsøre
Measurem. / Messdatum:	2005-08-12/13
Standard / Messung:	IEC 61400-11/Ed.2
Wind speed / Windge.:	10 m/s
In charge / Bearbeiter:	Dipl.-Ing. Ulf Kock

Annex 4.1: A-weighted sound pressure 1/3-octave spectrum at 6 m/s

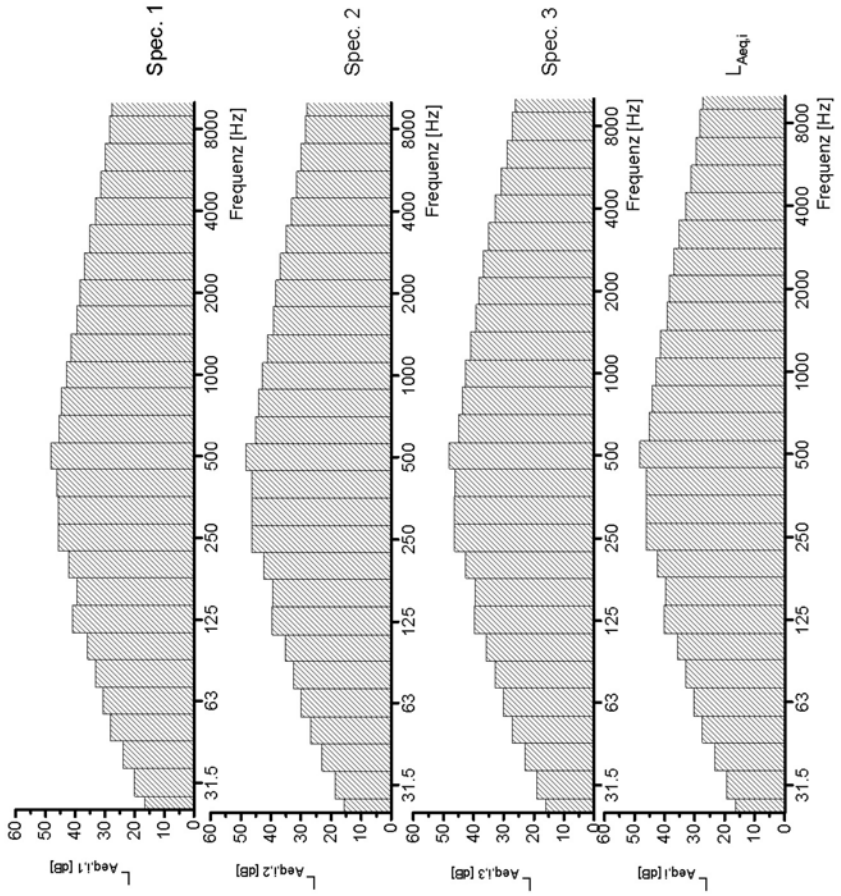
reference sound pressure/
Referenz - Schalldruck - Betrieb $L_{Aeq,c}$ = 55.4 dB

reference background sound pressure
Referenz - Schalldruck - Hintergrund $L_{Aeq,n}$ = 37.9 dB

reference sound power
Referenz - Schallleistung L_{WA} = 103.4 dB

reference wind speed
Referenz - Windgeschwindigkeit WS 10m = 6 m/s

f [Hz]	Spec. 1 [dB]	Spec. 2 [dB]	Spec. 3 [dB]	$L_{Aeq,i}$ [dB]	$L_{WA,i}$ [dB]	U_a [dB]	U_c [dB]
25	16.6	15.8	16.1	16.2	64.1	0.4	2.0
31.5	20.1	18.5	19.0	19.2	67.1	0.8	2.1
40	24.0	23.0	23.0	23.4	71.3	0.5	2.1
50	28.1	26.8	27.1	27.4	75.3	0.7	2.1
63	30.7	30.1	30.0	30.3	78.2	0.4	2.0
80	33.2	32.6	32.8	32.9	80.8	0.3	2.0
100	35.8	35.2	35.8	35.6	83.5	0.4	2.0
125	40.9	39.5	39.9	40.2	88.1	0.7	2.1
160	39.5	39.4	39.5	39.5	87.4	0.1	2.0
200	42.2	42.4	42.6	42.4	90.3	0.2	2.0
250	45.8	46.2	46.4	46.2	94.1	0.3	2.0
315	45.8	46.2	46.4	46.1	94.0	0.3	2.0
400	46.0	46.3	46.2	46.2	94.1	0.1	2.0
500	48.2	48.2	48.1	48.2	96.1	0.1	2.0
630	45.3	45.1	45.1	45.2	93.1	0.1	2.0
800	44.7	44.0	43.8	44.2	92.1	0.5	2.0
1000	42.9	42.8	42.7	42.8	90.7	0.1	2.0
1250	41.5	41.2	41.1	41.3	89.2	0.2	2.0
1600	39.4	39.2	39.1	39.3	87.2	0.2	2.0
2000	38.5	38.4	38.4	38.4	86.3	0.1	2.0
2500	36.9	36.8	36.8	36.8	84.7	0.1	2.0
3150	35.1	35.0	35.0	35.1	83.0	0.1	2.0
4000	33.2	33.1	32.8	33.0	80.9	0.2	2.0
5000	31.3	31.4	30.8	31.2	79.1	0.3	2.0
6300	29.9	30.0	29.0	29.6	77.5	0.6	2.1
8000	28.3	28.5	27.2	28.0	75.9	0.7	2.1
10000	27.6	27.9	26.2	27.3	75.2	0.9	2.2



WINDTEST
Kaiser-Wilhelm-Koog GmbH

Siemens 2.3 MW Mk II

One third octave analysis / Terzanalyse

Site / Standort: Høvsøre
Measurem. / Messdatum: 2005-08-12/13
Standard / Messung: FGW / IEC
In charge / Bearbeiter: Dipl.-Ing. Ulf Kock

Annex 4.2: A-weighted sound pressure 1/3-octave spectrum at 7 m/s

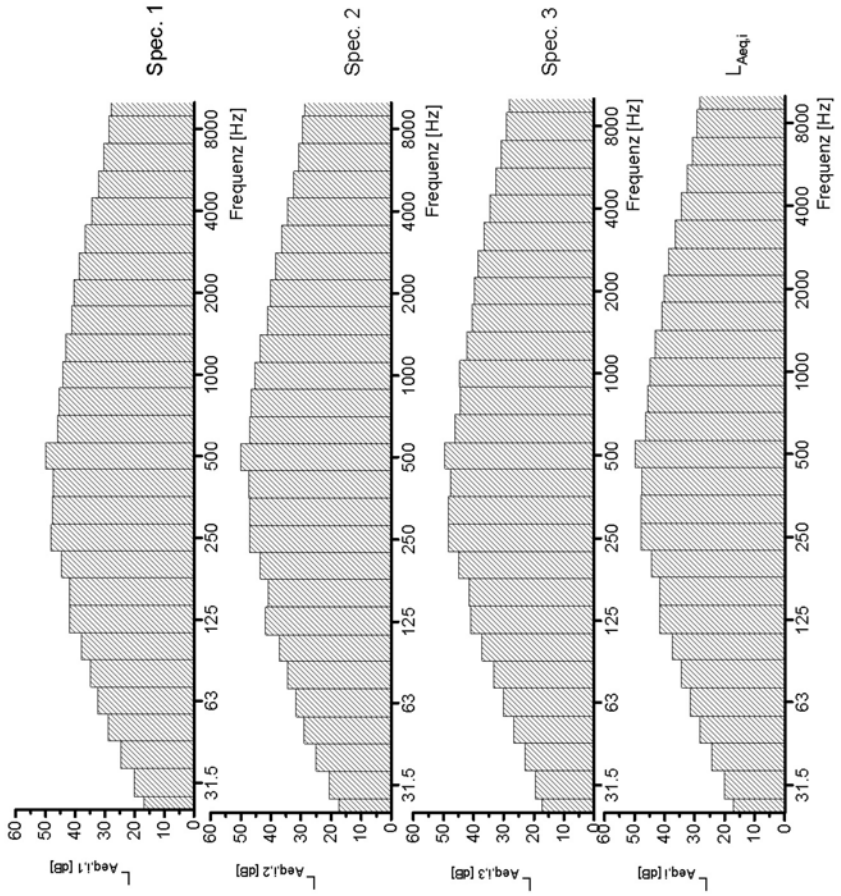
reference sound pressure/
Referenz - Schalldruck - Betrieb $L_{Aeq,c}$ = 57.0 dB

reference background sound pressure
Referenz - Schalldruck - Hintergrund $L_{Aeq,n}$ = 40.2 dB

reference sound power
Referenz - Schallleistung L_{WA} = 104.9 dB

reference wind speed
Referenz - Windgeschwindigkeit WS 10m = 7 m/s

f [Hz]	Spec. 1 [dB]	Spec. 2 [dB]	Spec. 3 [dB]	$L_{Aeq,i}$ [dB]	$L_{WA,i}$ [dB]	U_a [dB]	U_c [dB]
25	16.8	17.3	17.4	17.2	65.0	0.3	2.0
31.5	20.3	20.7	19.4	20.2	68.0	0.6	2.1
40	24.6	25.0	22.9	24.3	72.1	1.2	2.3
50	28.8	28.9	26.8	28.3	76.1	1.2	2.3
63	32.3	31.7	30.1	31.5	79.3	1.2	2.3
80	34.9	34.5	33.4	34.3	82.1	0.8	2.1
100	37.9	37.2	37.3	37.5	85.3	0.4	2.0
125	42.0	41.8	40.9	41.6	89.4	0.6	2.1
160	41.9	40.9	41.6	41.5	89.3	0.5	2.1
200	44.5	43.5	44.9	44.4	92.2	0.7	2.1
250	48.0	47.0	48.5	47.9	95.7	0.8	2.1
315	47.7	47.1	48.4	47.8	95.6	0.7	2.1
400	47.6	47.4	47.7	47.6	95.4	0.2	2.0
500	49.9	50.0	49.6	49.8	97.6	0.2	2.0
630	45.9	47.0	46.1	46.4	94.2	0.5	2.1
800	45.3	46.7	44.5	45.6	93.4	1.1	2.3
1000	44.2	45.4	44.6	44.8	92.6	0.6	2.1
1250	43.2	43.5	42.3	43.0	90.8	0.6	2.1
1600	41.2	41.2	40.6	41.0	88.8	0.3	2.0
2000	40.4	40.1	39.8	40.1	87.9	0.3	2.0
2500	38.6	38.4	38.4	38.5	86.3	0.1	2.0
3150	36.6	36.5	36.6	36.6	84.4	0.1	2.0
4000	34.5	34.3	34.6	34.5	82.3	0.1	2.0
5000	32.2	32.4	32.6	32.4	80.2	0.2	2.0
6300	30.4	30.8	30.8	30.7	78.5	0.2	2.0
8000	28.7	29.5	29.0	29.1	76.9	0.4	2.0
10000	27.9	28.8	28.3	28.3	76.1	0.5	2.0



WINDTEST
Kaiser-Wilhelm-Koog GmbH

Siemens 2.3 MW Mk II

One third octave analysis / Terzanalyse

Site / Standort: Høvsøre
Measurem. / Messdatum: 2005-08-12/13
Standard / Messung: FGW / IEC
In charge / Bearbeiter: Dipl.-Ing. Ulf Kock

Annex 4.3: A-weighted sound pressure 1/3-octave spectrum at 8 m/s

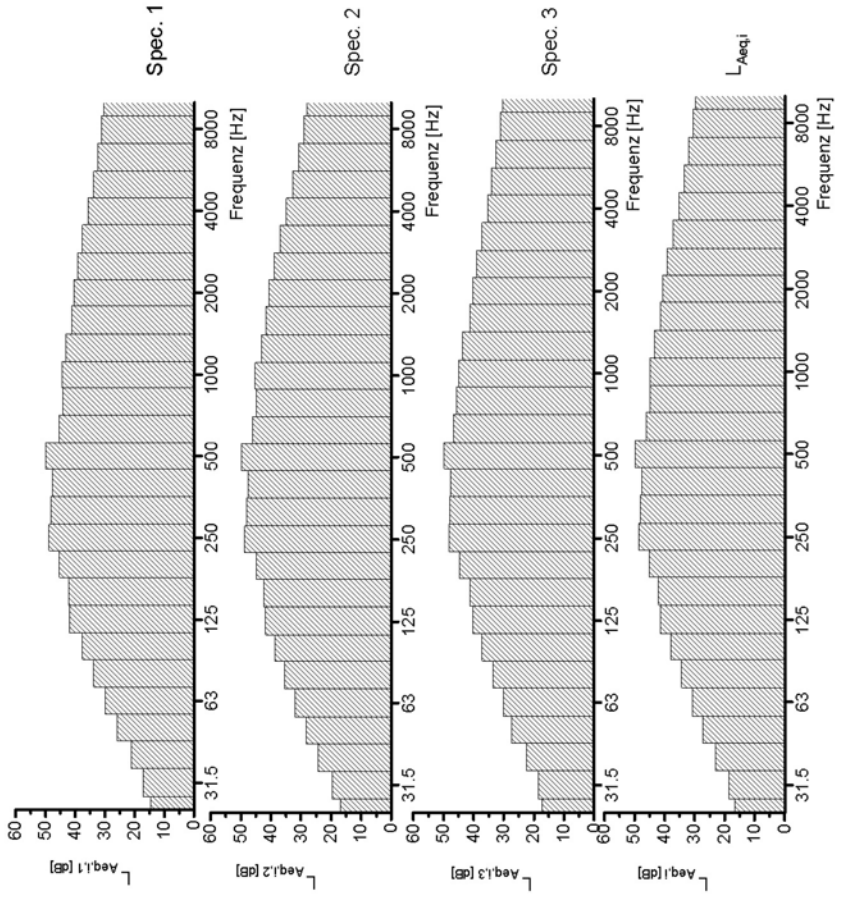
reference sound pressure/
Referenz - Schalldruck - Betrieb $L_{Aeq,c}$ = 57.2 dB

reference background sound pressure
Referenz - Schalldruck - Hintergrund $L_{Aeq,n}$ = 42.6 dB

reference sound power
Referenz - Schallleistung L_{WA} = 105.1 dB

reference wind speed
Referenz - Windgeschwindigkeit WS 10m = 8 m/s

f [Hz]	Spec. 1 [dB]	Spec. 2 [dB]	Spec. 3 [dB]	$L_{Aeq,i}$ [dB]	$L_{WA,i}$ [dB]	U_a [dB]	U_c [dB]
25	14.7	17.0	17.3	16.5	64.3	1.4	2.4
31.5	17.2	19.6	18.5	18.5	66.3	1.2	2.3
40	21.2	24.4	22.6	22.9	70.7	1.6	2.5
50	25.9	28.4	27.3	27.3	75.1	1.3	2.4
63	29.9	32.0	30.0	30.8	78.6	1.2	2.3
80	33.8	35.4	33.7	34.4	82.2	1.0	2.2
100	37.6	38.6	37.3	37.9	85.7	0.6	2.1
125	42.0	41.8	40.3	41.4	89.2	0.9	2.2
160	42.3	42.3	41.3	42.0	89.8	0.6	2.1
200	45.4	44.8	44.8	45.0	92.8	0.3	2.0
250	48.8	48.6	48.3	48.6	96.4	0.2	2.0
315	48.3	48.0	48.0	48.1	95.9	0.2	2.0
400	47.7	47.6	47.7	47.6	95.4	0.0	2.0
500	49.9	49.7	49.8	49.8	97.6	0.1	2.0
630	45.4	46.1	46.7	46.1	93.9	0.6	2.1
800	44.1	45.0	45.6	44.9	92.7	0.7	2.1
1000	44.5	45.2	45.0	44.9	92.7	0.4	2.0
1250	43.3	43.1	43.8	43.4	91.2	0.4	2.0
1600	41.2	41.6	41.3	41.4	89.2	0.2	2.0
2000	40.6	40.7	40.4	40.5	88.3	0.2	2.0
2500	39.2	39.0	39.0	39.1	86.9	0.1	2.0
3150	37.5	37.0	37.2	37.3	85.1	0.3	2.0
4000	35.5	34.9	35.4	35.3	83.1	0.4	2.0
5000	33.7	32.7	34.0	33.5	81.3	0.7	2.1
6300	32.5	30.7	32.6	32.0	79.8	1.1	2.2
8000	31.2	28.9	31.1	30.5	78.3	1.3	2.4
10000	30.4	28.0	30.4	29.7	77.5	1.4	2.4



WINDTEST
Kaiser-Wilhelm-Koog GmbH

Siemens 2.3 MW Mk II

One third octave analysis / Terzanalyse

Site / Standort: Høvsøre
Measurem. / Messdatum: 2005-08-12/13
Standard / Messung: FGW / IEC
In charge / Bearbeiter: Dipl.-Ing. Ulf Kock

Annex 4.4: A-weighted sound pressure 1/3-octave spectrum at 9 m/s

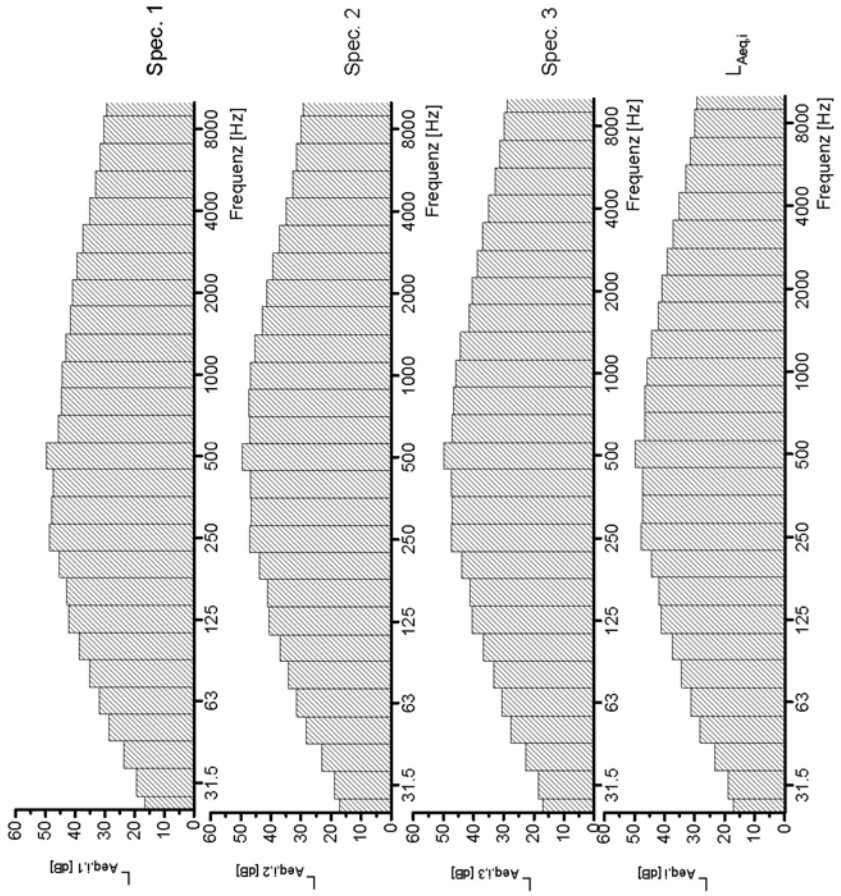
reference sound pressure/
Referenz - Schalldruck - Betrieb $L_{Aeq,c}$ = 57.0 dB

reference background sound pressure
Referenz - Schalldruck - Hintergrund $L_{Aeq,n}$ = 44.9 dB

reference sound power
Referenz - Schallleistung L_{WA} = 105 dB

reference wind speed
Referenz - Windgeschwindigkeit WS 10m = 9 m/s

f [Hz]	Spec. 1 [dB]	Spec. 2 [dB]	Spec. 3 [dB]	$L_{Aeq,i}$ [dB]	$L_{WA,i}$ [dB]	U_a [dB]	U_c [dB]
25	16.6	17.3	17.0	17.0	64.7	0.3	2.0
31.5	19.3	19.0	18.4	18.9	66.6	0.5	2.0
40	23.8	23.2	22.7	23.2	70.9	0.5	2.1
50	28.5	28.1	27.8	28.1	75.8	0.4	2.0
63	31.9	31.4	30.6	31.3	79.0	0.7	2.1
80	35.3	34.2	33.4	34.4	82.1	0.9	2.2
100	38.7	37.1	36.7	37.6	85.3	1.1	2.3
125	42.2	40.6	40.5	41.2	88.9	1.0	2.2
160	42.9	41.1	41.2	41.8	89.5	1.0	2.2
200	45.4	43.8	44.0	44.5	92.2	0.9	2.2
250	48.7	47.2	47.5	47.8	95.5	0.8	2.1
315	48.0	46.7	47.2	47.3	95.0	0.7	2.1
400	47.4	46.7	47.5	47.2	94.9	0.4	2.0
500	49.8	49.6	50.0	49.8	97.5	0.2	2.0
630	45.6	47.0	47.2	46.7	94.4	0.9	2.2
800	44.8	47.4	46.8	46.5	94.2	1.4	2.4
1000	44.3	46.8	45.9	45.8	93.5	1.3	2.4
1250	43.4	45.3	44.4	44.4	92.1	1.0	2.2
1600	41.7	42.9	41.6	42.1	89.8	0.7	2.1
2000	40.9	41.3	40.5	40.9	88.6	0.4	2.0
2500	39.3	39.3	38.9	39.2	86.9	0.2	2.0
3150	37.5	37.3	36.9	37.2	84.9	0.3	2.0
4000	35.3	35.0	34.9	35.1	82.8	0.2	2.0
5000	33.2	32.8	33.0	33.0	80.7	0.2	2.0
6300	31.6	31.3	31.3	31.4	79.1	0.2	2.0
8000	30.3	29.9	29.8	30.0	77.7	0.3	2.0
10000	29.5	29.2	28.8	29.2	76.9	0.3	2.0



WINDTEST
Kaiser-Wilhelm-Koog GmbH

Siemens 2.3 MW Mk II

One third octave analysis / Terzanalyse

Site / Standort: Høvsøre
Measurem. / Messdatum: 2005-08-12/13
Standard / Messung: FGW / IEC
In charge / Bearbeiter: Dipl.-Ing. Ulf Kock

Annex 4.5: A-weighted sound pressure 1/3-octave spectrum at 10 m/s

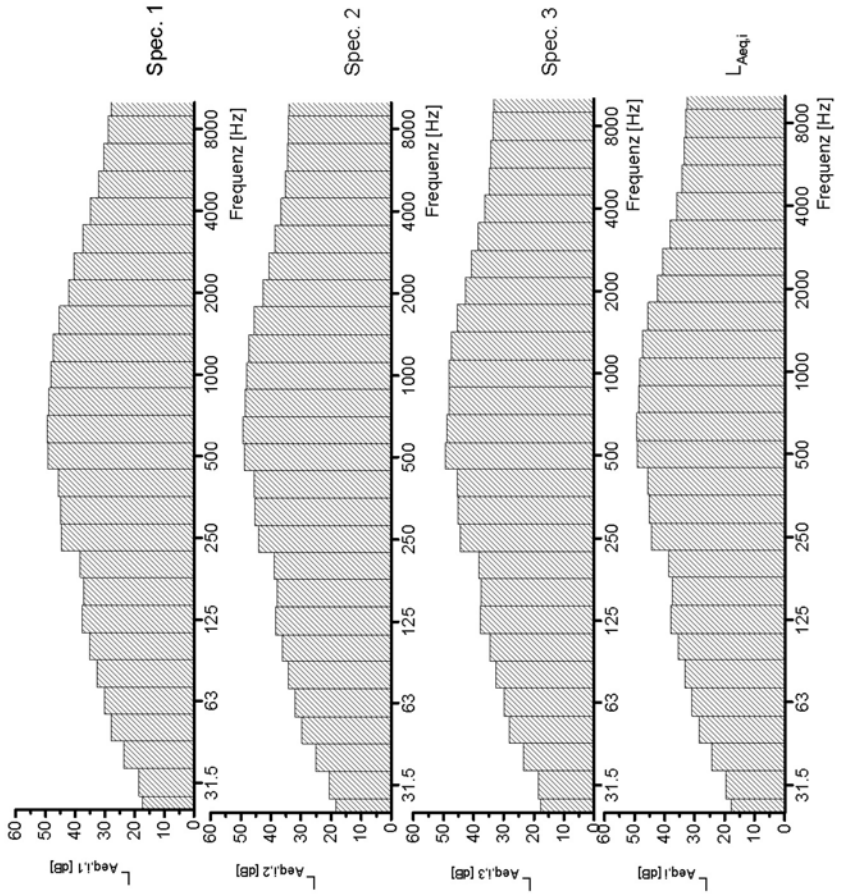
reference sound pressure/
Referenz - Schalldruck - Betrieb $L_{Aeq,c}$ = 57.1 dB

reference background sound pressure
Referenz - Schalldruck - Hintergrund $L_{Aeq,n}$ = 47.3 dB

reference sound power
Referenz - Schallleistung L_{WA} = 105 dB

reference wind speed
Referenz - Windgeschwindigkeit WS 10m = 10 m/s

f [Hz]	Spec. 1 [dB]	Spec. 2 [dB]	Spec. 3 [dB]	$L_{Aeq,i}$ [dB]	$L_{WA,i}$ [dB]	U_a [dB]	U_c [dB]
25	17.5	18.5	17.7	17.9	65.4	0.5	2.1
31.5	18.6	20.8	18.4	19.4	66.9	1.3	2.4
40	23.6	25.2	23.5	24.1	71.6	0.9	2.2
50	27.9	29.7	28.1	28.6	76.1	1.0	2.2
63	30.1	32.1	29.9	30.8	78.3	1.2	2.3
80	32.7	34.3	32.5	33.2	80.7	0.9	2.2
100	35.1	36.3	34.8	35.4	82.9	0.8	2.1
125	37.7	38.4	37.7	37.9	85.4	0.4	2.0
160	37.2	37.9	37.4	37.5	85.0	0.4	2.0
200	38.2	39.1	38.3	38.5	86.0	0.5	2.0
250	44.8	44.0	44.4	44.4	91.9	0.4	2.0
315	45.1	45.2	45.2	45.1	92.6	0.1	2.0
400	45.5	45.5	45.5	45.5	93.0	0.0	2.0
500	49.1	48.7	49.4	49.1	96.6	0.3	2.0
630	49.4	49.3	48.9	49.2	96.7	0.3	2.0
800	48.8	48.5	48.1	48.5	96.0	0.4	2.0
1000	48.3	48.0	48.2	48.2	95.7	0.1	2.0
1250	47.3	47.3	47.6	47.4	94.9	0.1	2.0
1600	45.3	45.5	45.5	45.4	92.9	0.1	2.0
2000	42.2	42.6	42.6	42.5	90.0	0.2	2.0
2500	40.3	40.8	40.8	40.6	88.1	0.3	2.0
3150	37.5	38.8	38.4	38.2	85.7	0.7	2.1
4000	34.8	36.6	36.4	36.0	83.5	1.0	2.2
5000	32.2	35.1	34.9	34.2	81.7	1.6	2.6
6300	30.3	34.5	34.3	33.4	80.9	2.4	3.1
8000	29.0	34.2	33.7	32.8	80.3	2.9	3.5
10000	27.9	34.0	33.4	32.4	79.9	3.4	3.9



Graphic file / Grafikdatei D:_dia\Terz_SM_IEC_10 07.09.2005

Source file / Quelldatei Terz_SM_IEC_10_erg

Siemens 2.3 MW Mk II

One third octave analysis / Terzanalyse

Site / Standort: Høvsøre
Measurem. / Messdatum: 2005-08-12/13
Standard / Messung: FGW / IEC
In charge / Bearbeiter: Dipl.-Ing. Ulf Kock

WINDTEST
Kaiser-Wilhelm-Koog GmbH



Picture from the board in direction of the WTGS

Annex 5: Photos



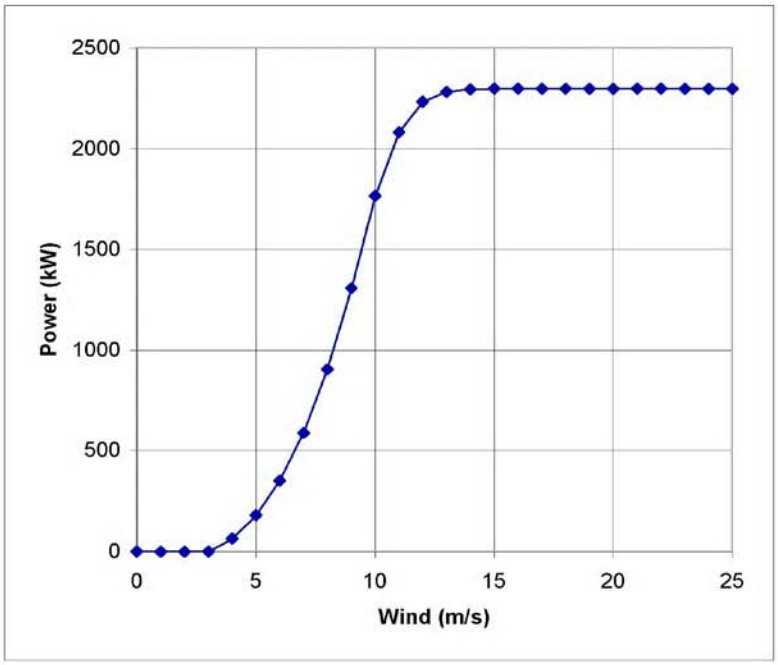
Picture of microphone and board

PP 2.3 MW Mk II, 1.225 kgm3 / 30-06-2004

Bonus 2.3 MW Mk II, 1.225 kg/m3
Sales Power Curve, Preliminary

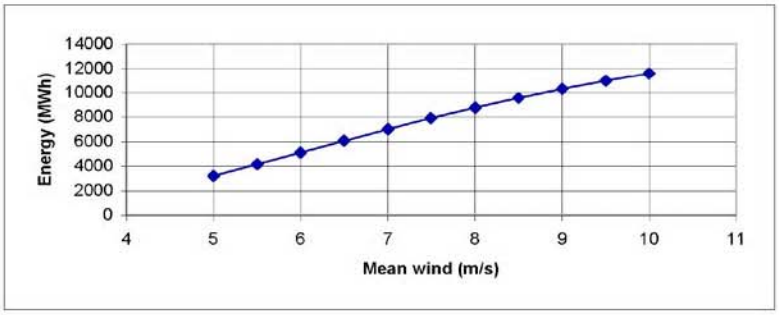
The calculated power curve data are valid for the above air density conditions, clean rotor blades, and horizontal, undisturbed air flow with 10% turbulence intensity.

Wind [m/s]	Power [kW]
0	0
1	0
2	0
3	0
4	65
5	180
6	352
7	590
8	906
9	1308
10	1767
11	2085
12	2234
13	2283
14	2296
15	2299
16	2300
17	2300
18	2300
19	2300
20	2300
21	2300
22	2300
23	2300
24	2300
25	2300



The annual energy production data for different annual mean wind speeds in hub height are calculated from the above power curve assuming a Rayleigh wind speed distribution, 100 percent availability, and no reductions due to array losses, grid losses, or other external factors affecting the production.

Wind [m/s]	Energy [MWh]
5.0	3238
5.5	4179
6.0	5134
6.5	6089
7.0	7037
7.5	7926
8.0	8792
8.5	9580
9.0	10324
9.5	11002
10.0	11616



HST Bonus Energy A/S 1 / 1

Herstellerbescheinigung zu spezifischen Daten der Anlage vom Typ
Manufacturer's certificate on specific data of the type of installation

Datum / date: 22/08/2005

1. Allgemeines		General
Hersteller	Siemens Wind Power A/S	manufacturer
Anlagenbezeichnung	2.3 MW mkII	type name
Art (horizontale/vertikale Achse)	Horizontal	type (horizontal / vertical axis)
Nennleistung	2300 kW	rated power
Nabenhöhe über Grund	80 m	hub height above ground
Nabenhöhe über Fundamentflansch	80 m	hub height above top of foundation flange
Nennwindgeschwindigkeit	12 m/s	rated wind speed
Ein- und Ausschaltwindgeschwindigkeit	3/25 m/s	cut-in and cut-out wind speed
Beitrag zum Kurzschlussstrom	appr. 2.5 kA	contribution to short circuit current
2. Rotor		**Rotor**
Durchmesser	92.4 m	diameter
Bestrichene Fläche	6706 m²	swept area
Anzahl der Blätter	3	number of blades
Nabenart (pendelnd/starr)	Rigid	kind of hub (teetered/rigid)
Anordnung zum Turm (luv/lee)	Luv	relative position to tower (luv/lee)
Nenndrehzahl / -bereich	6,1-18,4 U/min / rpm	rated speed / speed range
Auslegungsschnellaufzahl	___	design tip speed ratio
Rotorblatteinstellwinkel	-2 to 82° Pitch controlled	rotor blade pitch setting
Konuswinkel	2°	cone angle
Achsneigung	6°	tilt angle
Abstand Rotorflanschmittelpunkt - Turmmittellinie	3.5 m	distance between rotor flange centre and tower centre line
3. Blatt		**Blade**
Hersteller	Siemens Wind Power A/S	manufacturer
Typenbezeichnung	B45	type
Profile innen/außen	FFAW3/ NACA63-6xx	blade section inner/outer
Material	GRE	material
Länge	45 m	length
Profiltiefe max./min.	3.35 m/ 0.7 m	chord length (max./min.)
Zusatzkomponenten (z.B. stall strips, Vortex-Generatoren, Turbulatoren)	Vortex generator	additional components (e.g. stall strips, vortex generators, trip strips)
Extenderlänge	N/A	extender length
4. Getriebe		**Gear**
Hersteller	Flender	manufacturer
Typenbezeichnung	PEAB 4456	type
Ausführung	Planetary/helical	design
Übersetzungsverhältnis	1 : 90.84	speed ratio
5. Generator		**Generator**
Hersteller	ABB	manufacturer
Typenbezeichnung	AMA500L4A	type
Anzahl	1	numbers
Art	Asynchronous	design
Nennleistung(en)	2400 kW	rated power (s)
Nennscheinleistung	2690 kVA	rated apparent power
Nenndrehzahlen oder Drehzahlbereich	600-1800 1/min rpm	rated speed (s)/ speed range
Spannung	750 V @1550rpm	voltage
Frequenz	20-60 Hz	frequency
Nennschlupf	___ %	rated slip
6. Turm		**Tower**
Hersteller		manufacturer
Typenbezeichnung	DSSM04	type
Ausführung (Gitter/Rohr, zyl./kon.)	Tapered turbular	design (lattice/tubular, cylindrical/ conical)
Material	S355	material
Länge	78 m	length

Annex 7b: Manufacturer's certificate, page 2

7. Windrichtungsnachführung		**Yaw control**
Ausführung (aktiv/Passiv)	Active	design (active/passive)
Antriebsart (el./mech./hydr.)	Electrical	drive (electr./mech./hydr.)
Dämpfungssystem während des Betriebes	Friction	damping system during operation
8. Betriebsführung/ Regelung		**Other electric installations**
Art der Leistungsregelung	Pitch control	kind of power control
Antrieb der Leistungsregelung	Blade pitch	actuation of power control
Hersteller der Betriebsführung/ Regelung	KK-electronic	manufacturer of control system
- Typenbezeichnung	WTC 3	- type
- Verwendete Steuerungskurve	_____	- applied used control characteristics
9. Sonstige elektrische Komponenten		**Other electric installations**
Anzahl der Kompensationsstufen	Controlled by use of 4 quadrant frequency converter	number of compensation stages
Blindleistung Stufe 1	___ kvar	reactive power stage 1
Art der Netzkopplung	Connected by use of frequency conv.	kind of interconnection
- Hersteller	Alstom	- manufacturer
- Typenbezeichnung	4 quadrant	- type
-	frequency conv.	-
Netzschutzhersteller	KK	mains protective manufacturer
- Typenbezeichnung	_____	- type
- Einstellbereiche:		- adjustment ranges:
Spannungssteigerungsschutz	759 V line-line	overvoltage protection
Spannungsrückgangsschutz	621 V line-line for more than 3 sec.	undervoltage protection
Frequenzsteigerungsschutz	51,5 Hz	overfrequency protection
Frequenzrückgangsschutz	47,5 Hz	underfrequency protection
Typenbezeichnung der Abschalteinheit	Short circuit breaker	type of contact break device
Oberschwingungsfilter (Ja/Nein)	Yes	harmonic filter (yes/no)
(Oberschwingungsfilter müssen auf den Netzverknüfpungspunkt ausgelegt sein.)		(harmonic filter have to be designed for the point of common coupling)
10. Bremssystem		**Brake system**
Bremssystem (primär/sekundär)	Blade / Mech. brake	brake system (primary/secondary)
- Aktivierung	Hydraulic	– activation
- Anordnung	Hydraulic	– location
- Bremsenart	Pitch blade/ brake disc	– type
- Betätigung	Active / Passive	– actuation
11. Typenprüfung		**Type test**
Prüfbehörde	DNV	testing authority
Aktenzeichen	_____	reference
12. Informativer Teil		**Informative**
Standort der vermessenen WEA	Høvsøre DK	location of measured WTGS
Koordinaten des Standorts	_____	coordinate of location
Seriennummer der WEA	2300439	Serial number of WTGS
der Blätter	1001/ 1002/ 1003	blades
des Getriebes	4803384-020-1	gearbox
des Generators	457691	generator

Anschrift des Herstellers

Address of manufacturer

SIEMENS

Siemens Wind Power A/S
Postbox 171 - Borupvej 16
DK-7330 Brande - Denmark
Tel.: +45 9942 2222

22.8.05

Stempel, Unterschrift
stamp, signature

Der Hersteller der Windenergieanlage bestätigt, daß die WEA, deren Schallemission, Leistungskurve und elektrischen Eigenschaften in den Prüfberichten abgebildet ist, hinsichtlich ihrer technischen Daten mit den o.g. Positionen identisch ist.

The manfacturer of the wind turbine generator system confirms that the WTGS whose noise level, power curve and grid compatability is measured and depicted in the test report xxxxxxx is identical with the above entries with regard to its technical data.

Technical description

General design
The SWT-2.3-93 wind turbine is an upgraded version of the standard SWT-2.3-82 machine and includes the new B45 blade, a rotor diameter of 93 m, and hence a 25 percent increase of the swept area relative to the standard version of the SWT-2.3-82 wind turbine.

Rotor
The SWT-2.3-93 turbine has a three-bladed rotor with pitch regulation for power output optimization and control. The rotor speed is variable in order to maximize the aerodynamic efficiency, and speed compliance during power regulation minimizes the dynamic loads on the transmission system.

Blades
The B45 blades are made of fiberglass-reinforced epoxy in Siemens' proprietary IntegralBlade® manufacturing process. In this process, the blades are cast in one piece, leaving no weak points at glue joints and providing optimum quality. The aerodynamic design represents state-of-the-art wind turbine technology, and the structural design has special Siemens safety factors over and above all normal industry and customer requirements.

Rotor hub
The rotor hub is cast in nodular cast iron and is fitted to the main shaft with a flange connection. The hub is large enough to provide a comfortable working environment inside the structure for two service technicians during maintenance of bolt connections and pitch bearings.

Blade pitch system
The blade pitch arrangement is used to optimize and regulate power output through the operating range. The blades are feathered to minimize wind loads during standstill under extreme wind conditions.

Main shaft and bearing
The main shaft is forged in alloy steel and is hollow for the transfer of power and signals to the blade pitching system. The main shaft is supported by a self-aligning double spherical roller bearing, grease lubricated from an automatic lubrication system. The bearing seals are maintenance-free labyrinth seals.

Gearbox
The gearbox is a custom-built, three-stage planetary-helical design. The planetary-helical, high-torque stage provides a compact high-performance construction. The intermediary and high-speed stages are normal helical stages arranged with an offset of the high-speed shaft and thus allowing passage of power and control signals to the pitch systems. The gearbox is equipped with large-capacity cooling and filtering systems that ensure optimum operating conditions.

Generator
The generator is a fully-enclosed asynchronous machine with squirrel-cage rotor, which does not require slip rings. The generator rotor construction and stator windings are specially designed for high efficiency at partial loads. The generator is internally ventilated and cooled with an air-to-air heat exchanger.

Mechanical brake
The mechanical brake represents the secondary safety system of the turbine. It is fitted to the gearbox high-speed shaft and has two hydraulic calipers.

Yaw system
The yaw bearing is an externally geared ring with a friction bearing. Eight electric planetary gear motors drive the yawing. The yaw gear motors are fitted with brakes, assisting the passive friction of the bearing for stable maintenance of the yaw position.

Controller
A standard industrial computer is the basis of the turbine controller. The controller is self-diagnosing and includes a keyboard and display for easy status readout and adjustment of settings.

Power conversion
The NetConverter® power conversion system allows generator operation at variable speed, frequency and voltage while supplying power at constant frequency and voltage to the MV transformer. The power conversion system is a modular arrangement for easy maintenance.

Tower
The SWT-2.3-93 turbine is mounted on a tapered tubular steel tower. The tower can be fitted with a personnel hoist as an option.

Operation
The wind turbine operates automatically, self-starting when the wind reaches an average speed of about 3 - 5 m/s. During operation below rated power, the pitch angle and rotor speed are continuously adjusted to maximize the aerodynamic efficiency. Rated power is reached at a wind speed of about 13 - 14 m/s, and at higher wind speeds the output is regulated at rated power. Speed compliance during power regulation minimizes the dynamic loads on the transmission system. If the average wind speed exceeds the maximum operational limit of 25 m/s, the turbine is shut down by feathering of the blades. When the wind drops back below the restart speed, the safety systems reset automatically.

Remote control
The SWT-2.3-93 turbine is equipped with the unique WebWPS SCADA system. This system offers remote control and a variety of status views and useful reports from a standard Internet Web browser. The status views present electrical and mechanical data, operation and fault status, meteorological data and grid station data. Primary level users can be granted access to any of the server's features, including full control over the turbines.

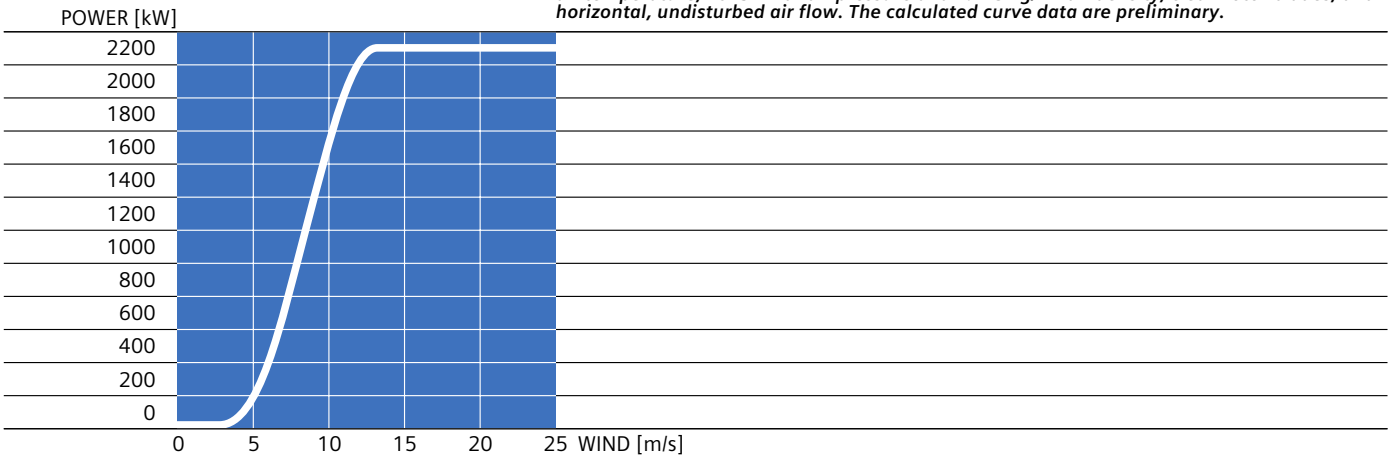
Technical specifications

Rotor	
Diameter	93 m
Swept area	6,800 m²
Rotor speed	6-16 rpm
Power regulation	Pitch regulation with variable speed
Blades	
Type	B45
Length	45 m
Aerodynamic brake	
Type	Full span pitch
Activation	Hydraulic, fail-safe
Transmission system	
Gearbox type	3-stage planetary/helical
Gearbox ratio	1:91
Gearbox oil filtering	Inline and offline
Gearbox cooling	Separate oil cooler
Oil volume	Approx. 400 l
Mechanical brake	
Type	Fail-safe disc brake

Generator	
Type	Asynchronous
Nominal power	2,300 kW
Voltage	690 V
Cooling system	Integrated heat exchanger
Yaw system	
Type	Active
Monitoring system	
SCADA system	WebWPS
Remote control	Full turbine control
Tower	
Type	Cylindrical and/or tapered tubular
Hub height	60 m, 80 m or site-specific
Operational data	
Cut-in wind speed	4 m/s
Nominal power at	13-14 m/s
Cut-out wind speed	25 m/s
Maximum 2 s gust	55 m/s (standard version) 60-80 m/s (special version)
Weights	
Rotor	60 tons
Nacelle	82 tons
Tower	Site-specific

Sales power curve

Note: The calculated power curve data are valid for standard conditions of 15 degrees Celsius air temperature, 1013 mBar air pressure and 1.225 kg/m³ air density, clean rotor blades, and horizontal, undisturbed air flow. The calculated curve data are preliminary.





Wind Power

Outstanding Efficiency

Siemens Wind Turbine

SWT-2.3-93

Technical description

Power Generation

SIEMENS

Content



Outstanding efficiency	Page 3
Technical description	Page 4
Technical specifications	Page 6
Sales power curve	Page 6
Nacelle arrangement	Page 7





The low-wind version of the famous and reliable SWT-2.3-82 wind turbine: The SWT-2.3-93

Outstanding efficiency

The SWT-2.3-93 wind turbine is an upgraded version of the well-known SWT-2.3-82 machine. For the last few years, the SWT-2.3-82 wind turbine, with a rotor diameter of 82.4 m, has been the preferred solution of many utilities and developers for large onshore and offshore projects, not only because of its robustness but also due to its reliability and productivity. This proven machine now features the new B45 blade, a rotor diameter of 93 m, and hence a 25 percent increase of the swept area.

The SWT-2.3-93 wind turbine is suitable for almost any type of application, both onshore and offshore. A rugged, conservative structural design, automatic lubrication systems with ample supplies, climate control of the internal environment and a simple generator system without slip rings provide exceptional reliability at long service intervals.

The large increase in rotor diameter was made possible by the introduction of new regulation principles and moderate revisions to the structural dimensions, and at the same time the quality, for which the Siemens wind turbines are famous, was maintained. Power conversion is implemented with Siemens' unique NetConverter® system, complying with all relevant grid codes and offering maximum flexibility in the turbine response to voltage and frequency control, fault ride-through and output adjustment.

The traditional advantages of the SWT-2.3-82 turbine have been retained in the SWT-2.3-93 upgraded version. Major components, such as the rotor hub, the main shaft, the gearbox and the yaw system are all of particularly heavy dimensions, the safety systems are fail-safe, the blade and nacelle lightning protection performance is well-proven, and all details are designed using best engineering practice.

As a result, we offer the new SWT-2.3-93 wind turbine with outstanding efficiency and proven technical features.



Technical description

General design
The SWT-2.3-93 wind turbine is an upgraded version of the standard SWT-2.3-82 machine and includes the new B45 blade, a rotor diameter of 93 m, and hence a 25 percent increase of the swept area relative to the standard version of the SWT-2.3-82 wind turbine.

Rotor
The SWT-2.3-93 turbine has a three-bladed rotor with pitch regulation for power output optimization and control. The rotor speed is variable in order to maximize the aerodynamic efficiency, and speed compliance during power regulation minimizes the dynamic loads on the transmission system.

Blades
The B45 blades are made of fiberglass-reinforced epoxy in Siemens' proprietary IntegralBlade® manufacturing process. In this process, the blades are cast in one piece, leaving no weak points at glue joints and providing optimum quality. The aerodynamic design represents state-of-the-art wind turbine technology, and the structural design has special Siemens safety factors over and above all normal industry and customer requirements.

Rotor hub
The rotor hub is cast in nodular cast iron and is fitted to the main shaft with a flange connection. The hub is large enough to provide a comfortable working environment inside the structure for two service technicians during maintenance of bolt connections and pitch bearings.

Blade pitch system
The blade pitch arrangement is used to optimize and regulate power output through the operating range. The blades are feathered to minimize wind loads during standstill under extreme wind conditions.

Main shaft and bearing
The main shaft is forged in alloy steel and is hollow for the transfer of power and signals to the blade pitching system. The main shaft is supported by a self-aligning double spherical roller bearing, grease lubricated from an automatic lubrication system. The bearing seals are maintenance-free labyrinth seals.

Gearbox
The gearbox is a custom-built, three-stage planetary-helical design. The planetary-helical, high-torque stage provides a compact high-performance construction. The intermediary and high-speed stages are normal helical stages arranged with an offset of the high-speed shaft and thus allowing passage of power and control signals to the pitch systems. The gearbox is equipped with large-capacity cooling and filtering systems that ensure optimum operating conditions.

Generator
The generator is a fully-enclosed asynchronous machine with squirrel-cage rotor, which does not require slip rings. The generator rotor construction and stator windings are specially designed for high efficiency at partial loads. The generator is internally ventilated and cooled with an air-to-air heat exchanger.

Mechanical brake
The mechanical brake represents the secondary safety system of the turbine. It is fitted to the gearbox high-speed shaft and has two hydraulic calipers.

Yaw system
The yaw bearing is an externally geared ring with a friction bearing. Eight electric planetary gear motors drive the yawing. The yaw gear motors are fitted with brakes, assisting the passive friction of the bearing for stable maintenance of the yaw position.

Controller
A standard industrial computer is the basis of the turbine controller. The controller is self-diagnosing and includes a keyboard and display for easy status readout and adjustment of settings.

Power conversion
The NetConverter® power conversion system allows generator operation at variable speed, frequency and voltage while supplying power at constant frequency and voltage to the MV transformer. The power conversion system is a modular arrangement for easy maintenance.

Tower
The SWT-2.3-93 turbine is mounted on a tapered tubular steel tower. The tower can be fitted with a personnel hoist as an option.

Operation
The wind turbine operates automatically, self-starting when the wind reaches an average speed of about 3 - 5 m/s. During operation below rated power, the pitch angle and rotor speed are continuously adjusted to maximize the aerodynamic efficiency. Rated power is reached at a wind speed of about 13 - 14 m/s, and at higher wind speeds the output is regulated at rated power. Speed compliance during power regulation minimizes the dynamic loads on the transmission system. If the average wind speed exceeds the maximum operational limit of 25 m/s, the turbine is shut down by feathering of the blades. When the wind drops back below the restart speed, the safety systems reset automatically.

Remote control
The SWT-2.3-93 turbine is equipped with the unique WebWPS SCADA system. This system offers remote control and a variety of status views and useful reports from a standard Internet Web browser. The status views present electrical and mechanical data, operation and fault status, meteorological data and grid station data. Primary level users can be granted access to any of the server's features, including full control over the turbines.



SWT-2.3-93 – suitable for onshore and offshore areas

Turbine Condition Monitoring
In addition to the WebWPS SCADA system, the turbine is equipped with a Web-based Turbine Condition Monitoring (TCM) system. The TCM system carries out precise condition diagnostics on main turbine components continuously and in real time. It gives early warning of possible component failures by continuous comparison of current vibration spectra with previously established reference spectra. The TCM system has various alarm levels, from informative through alerting level to turbine shutdown.

Grid compliance
The SWT-2.3-93 turbine complies with all currently valid grid code requirements on relevant markets. Voltage and frequency control and other grid-related adjustments can be implemented by the integrated Park Pilot facility in the WebWPS SCADA system, and the turbine has ride-through capability for all normal faults.



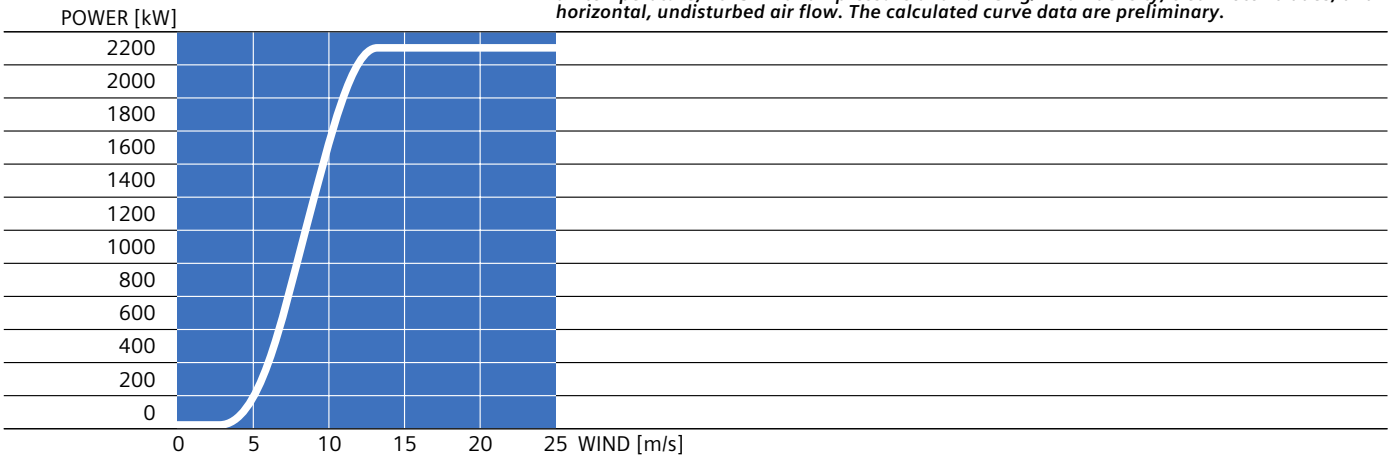
Technical specifications

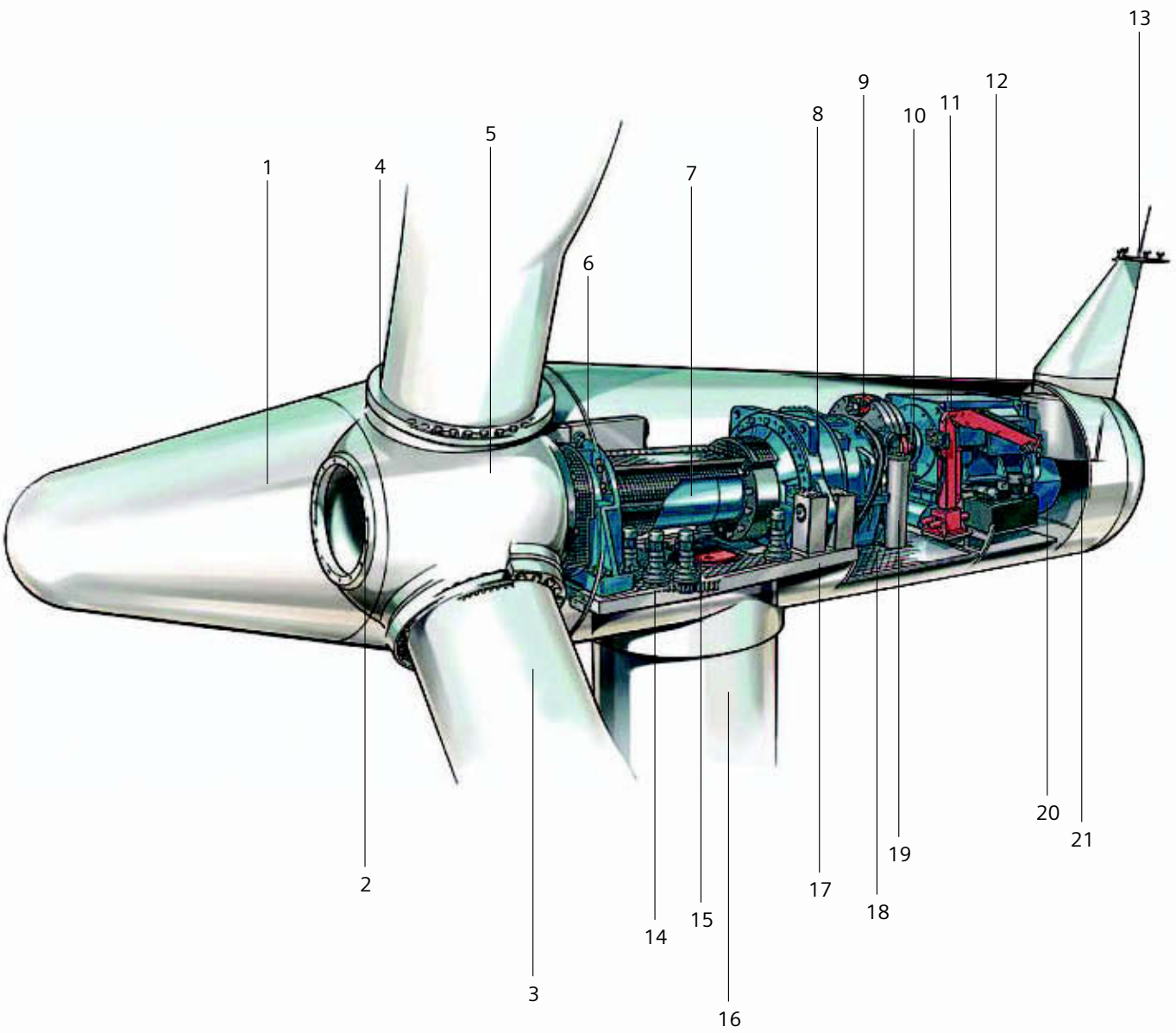
Rotor	
Diameter	93 m
Swept area	6,800 m²
Rotor speed	6-16 rpm
Power regulation	Pitch regulation with variable speed
Blades	
Type	B45
Length	45 m
Aerodynamic brake	
Type	Full span pitch
Activation	Hydraulic, fail-safe
Transmission system	
Gearbox type	3-stage planetary/helical
Gearbox ratio	1:91
Gearbox oil filtering	Inline and offline
Gearbox cooling	Separate oil cooler
Oil volume	Approx. 400 l
Mechanical brake	
Type	Fail-safe disc brake

Generator	
Type	Asynchronous
Nominal power	2,300 kW
Voltage	690 V
Cooling system	Integrated heat exchanger
Yaw system	
Type	Active
Monitoring system	
SCADA system	WebWPS
Remote control	Full turbine control
Tower	
Type	Cylindrical and/or tapered tubular
Hub height	60 m, 80 m or site-specific
Operational data	
Cut-in wind speed	4 m/s
Nominal power at	13-14 m/s
Cut-out wind speed	25 m/s
Maximum 2 s gust	55 m/s (standard version) 60-80 m/s (special version)
Weights	
Rotor	60 tons
Nacelle	82 tons
Tower	Site-specific

Sales power curve

Note: The calculated power curve data are valid for standard conditions of 15 degrees Celsius air temperature, 1013 mBar air pressure and 1.225 kg/m³ air density, clean rotor blades, and horizontal, undisturbed air flow. The calculated curve data are preliminary.





Nacelle arrangement

1. Spinner
2. Spinner bracket
3. Blade
4. Pitch bearing
5. Rotor hub
6. Main bearing
7. Main shaft
8. Gearbox
9. Brake disc
10. Coupling
11. Service crane
12. Generator
13. Meteorological sensors
14. Yaw gear
15. Yaw ring
16. Tower
17. Nacelle bedplate
18. Canopy
19. Oil filter
20. Generator fan
21. Oil cooler





Wind Power

Published by and copyright © 2006:
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Power Generation
Freyeslebenstrasse 1
91058 Erlangen, Germany

Siemens Wind Power A/S
Borupvej 16
7330 Brande, Denmark

www.siemens.com/powergeneration

Order No. A96001-S90-A310-V1-4A00
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The information in this document contains general
descriptions of the technical options available, which
may not apply in all cases. The required technical
options should therefore be specified in the contract.

ATTACHMENT D

TRANSFORMER DATA

OCTOBER 2007

Quote no. 06-1328-01A Update May 10_06 **DATA SHEET** Date: 22/01/2007

version 04.03.06

Client: Canadian Hydro Developers Inc., Serial # TP-763, TP-764

RATING								
Type	Substation	Class	H Winding		X Winding		Y Winding	
Phase	3		wye		delta		n/a	
Hertz	60		240	kV	34.5	kV		kV
Rise (deg.C.)	65	ONAN	60000	kVA	60000	kVA		kVA
Insulating Liquid	Oil	ONAF	80000	kVA	80000	kVA		kVA
Operating Altitude	3300 ft.	ONAF	100000	kVA	100000	kVA		kVA

ADDITIONAL TAP VOLTAGES	
H Winding:	+8 / -8 x 1.25% on load tap changer (full capacity below normal)
X Winding:	
Y Winding:	

PERFORMANCE BASED ON LOADING OF					DIELECTRIC TESTS (kV)		
H Winding	240	kV	60000	kVA	Applied Voltage	H Winding	34
X Winding	34.5	kV	60000	kVA	(To other windings	X Winding	70
Y Winding		kV		kVA	and ground)	Y Winding	n/a
		kV		kVA	Induced Voltage	Line to Line	CSA
		kV		kVA		Line to Ground	CSA

INSULATION LEVEL (kV)		
ITEMS	Basic Lightning Impulse Insulation Level	Low Frequency Voltage Insulation Level
H line	900	34
H neutral	110	34
X line	200	70
X neutral	n/a	n/a
Y line	n/a	n/a
Y neutral	n/a	n/a

PERFORMANCE DATA		Based on 85 deg. C reference temperature (no load loss)			
		Based on 85 deg. C reference temperature (load loss)			
Losses and Exciting Current				Regulation @	60000 kVA
Excitation	% Ex I	No Load (kW) *	Total Loss (kW) *	Power Factor	% Regulation
240 - 34.5 kV	0.50	41.00	167.30	1.00	0.38
110%	1.00			0.80	3.78

AUXILIARY LOSSES			
Transformer kVA		Class	Watts Aux. Loss
60000	kVA	ONAN	0 *
80000	kVA	ONAF	4900 *
100000	kVA	ONAF	9800 *
Average Sound Level	77/79/80	dB *	

PERCENT IMPEDANCE VOLTS					
%IZ	Between	kVA	%IZo	Between	kVA
5.85	H-X *	60000		H-X	60000
	H-Y			H-Y	
	Y-X			Y-X	

EFFICIENCIES	at 1.0 Pf. &	60000	kVA base	
% Load	100%	75%	50%	25%
% Eff.	99.72	99.75	99.76	99.68

MECHANICAL DATA Not For Construction Purposes		
Dimensions (Approx.)		
Height	(A) 7417	in
Width	(B) 7163	in
Depth	(C) 5232	in
Over cover	(D) 4369	in
Untanking	(E) 8433	in
	* excluding slings	
Masses (Approx.)		
Core and Coils	120000	lbs
Tank and Fittings	48000	lbs
Liquid	78000	lbs
Total Mass	246000	lbs
Shipping Mass	149000	lbs

*** guaranteed values**

Kevin Smith

From: Jim Pinter [JPinter@canhydro.com]
Sent: Wednesday, January 31, 2007 2:36 PM
To: Kevin Smith
Cc: Geoff Carnegie
Subject: FW: TP-720 & TP-763/5 Sound testing and data sheets

From: farid.alfonso@siemens.com [mailto:farid.alfonso@siemens.com]
Sent: January 31, 2007 12:15 PM
To: Jim Pinter
Subject: RE: TP-720 & TP-763/5 Sound testing and data sheets

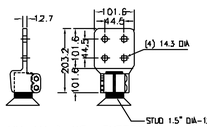
Jim,
Find a little explanation of how the sound level test will be perform
Sound level tests will be made according to 13 "Audible sound emissions" of IEEE Std C57.12.90.1999.

The transformer under test will be connected and energized at rated voltage and will be at no load with the tap changers on the principal tap. Fans will be operating as appropriate for the rating being tested. The sound measurements will begin after the transformer is energized and steady-state sound level conditions are established. The measurements will be made at one-third and two-thirds height and the microphone location for measuring the sound level will be according to figure 29 of IEEE Std C57.12.90.1999.

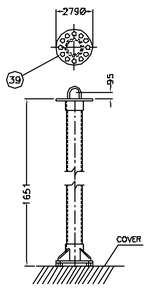
The sound pressure level measurements will be made with instrumentation that meets the requirements of ANSI S1.4-1983 for type 1 meter: Integrating and Logging Sound Level Meter, type 1900/OB-300, Quest Technologies, with A, C and linear frequency weighting networks. The 1900 meter is a 1/3 octave band analyzer with the addition of the OB-300 filter set.

If you have any questions do not hesitate and contact me.

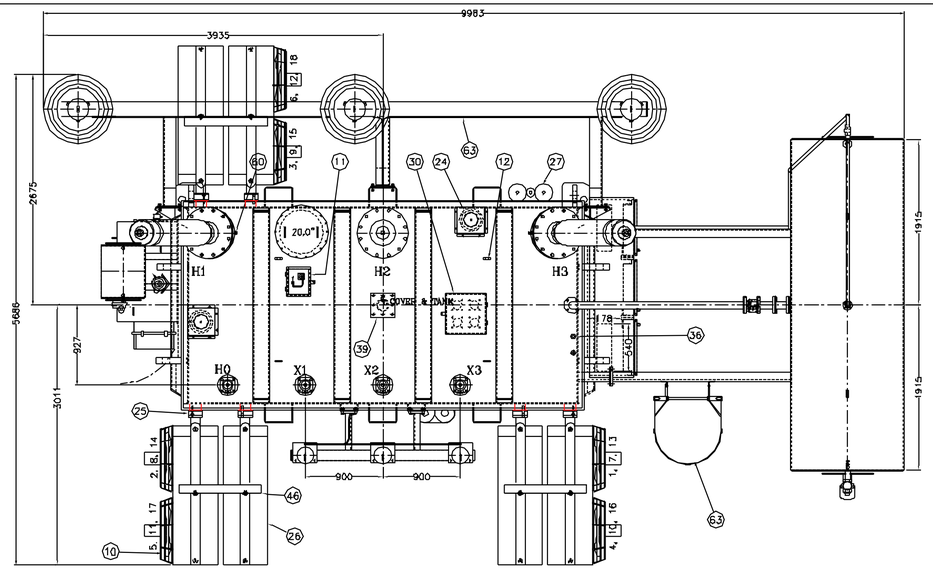
FARID ALFONSO
PROJECT MANAGER
SIEMENS TRANSFORMADORES S.A. de C.V.
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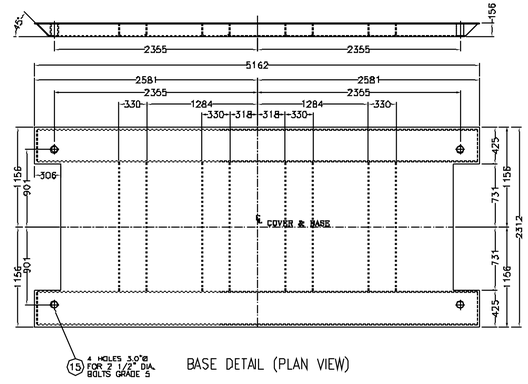


HV, LV & HO EXTERNAL CONNECTOR DETAIL



FALL ARREST. (DETAIL).



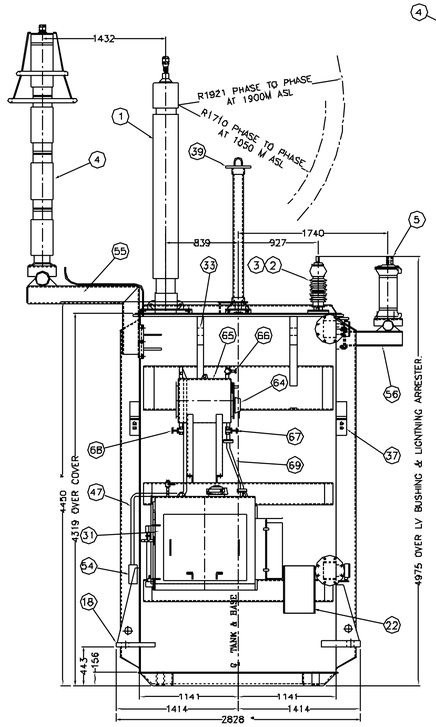


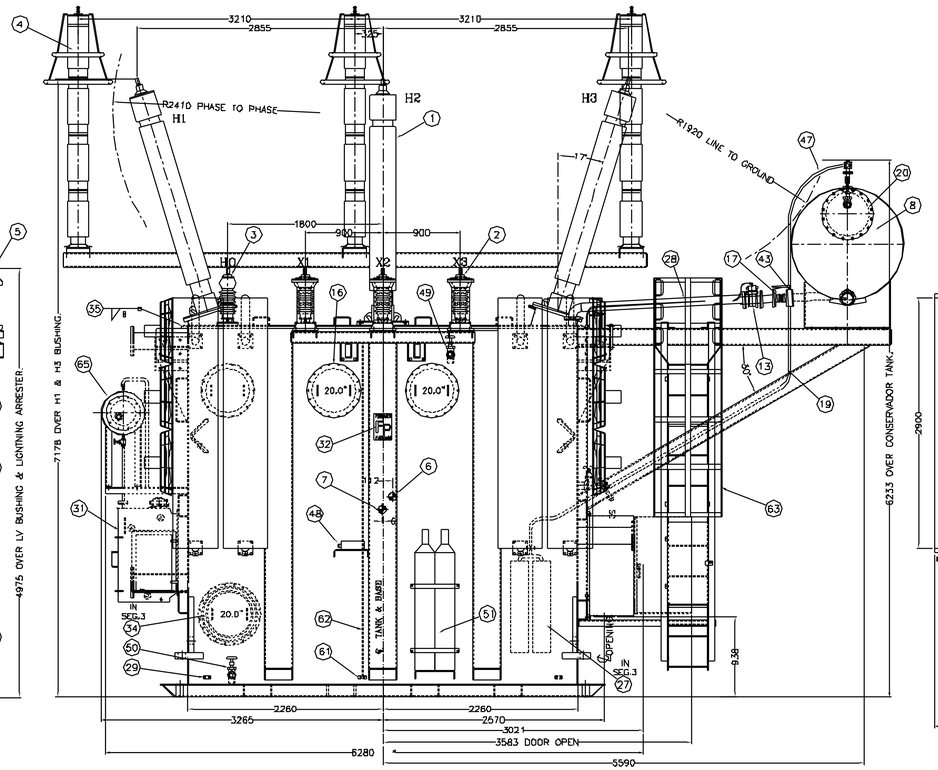
BASE DETAIL (PLAN VIEW)

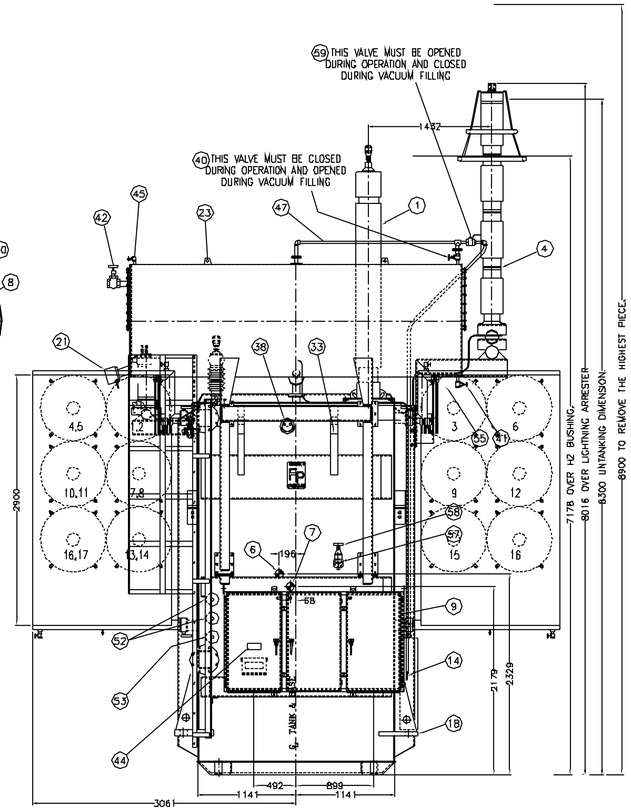
LEGEND

ITEMS CIRCLED REMOVED FOR SHIPPING

1. (3) H.V. BUSHINGS 230 KV CLASS, 900 KV. BIL, 800 A. COLOR GRAY TRENCH LIMITED STYLE NUMBER 900-H016-23-AG3-01-ALR WITH STUD 1.60" DIA.-12UN-2A x 2.5" USABLE THD SILVER PLATED, TOP TERMINAL TORQUE 100 FT-LB. EXTERNAL CONNECTOR: INCLUDED INTERNAL CONNECTOR: DRAW LEAD. MOUNTING TORQUE: 45 FT-LB INTERNAL BUSHING SHIELD: INCLUDED GASKET: O' RING, NITRILE BUNA N, COLOR BLACK.
2. (3) L.V. BUSHINGS 34.5 KV CLASS, 200 KV BIL, 2000 A, COLOR GRAY TRENCH LIMITED STYLE NUMBER 200-F020-21-AG3-01-AYS, WITH STUD 1.5" DIA.-12UN-2A x 2.5" USABLE THD SILVER PLATED, TOP TERMINAL TORQUE 100 FT-LB. EXTERNAL CONNECTOR: INCLUDED INTERNAL CONNECTOR: INCLUDED. MOUNTING TORQUE: 35 FT-LB INTERNAL BUSHING SHIELD: NONE. GASKET: O' RING, VITON ORANGE COLOR.
3. (1) HO BUSHING 34.5 KV CLASS, 200 KV BIL, 2000 A, COLOR GRAY TRENCH LIMITED STYLE NUMBER 200-F020-21-AG3-01-AYS, WITH STUD 1.5" DIA.-12UN-2A x 2.5" USABLE THD SILVER PLATED, TOP TERMINAL TORQUE 100 FT-LB. EXTERNAL CONNECTOR:INCLUDED INTERNAL CONNECTOR: INCLUDED. MOUNTING TORQUE: 35 FT-LB INTERNAL BUSHING SHIELD: NONE. GASKET: O' RING, NITRILE BUNA N, COLOR BLACK.
4. (3) HV LIGHTNING ARRESTERS 240 Kv RATING, 190 Kv MCOV. ABB STATION CLASS, POLYMER HOUSED, COLOR GREY STYLE: 0240SA190B
5. (3) LV LIGHTNING ARRESTERS 38 Kv RATING, 29 Kv MCOV. OHIO BRASS STATION CLASS, PORCELAIN HOUSED, COLOR GREY TYPE: VL CAT. No. 219529
6. CENTER OF GRAVITY, OPERATING.
7. CENTER OF GRAVITY, SHIPPING.
8. CONSERVATOR TANK C/W AIR BLADDER.
9. COOLING CONTROL CABINET, WITH (2) 7 x 21.25 OPENING IN BOTTOM WITH COVER PLATE.
10. (18) COOLING FANS 240 VOLTS, 1 PH, 60 HZ, 1/2 HP, 1750 RPM.
11. CORE GROUND HOUSING TROUGH 1.2 KV BUSHING (MAIN UNIT).
12. (5) COVER LIFTING LUGS.
13. BUCHHOLZ RELAY, EMB GmbH MARK, TYPE: BF80/10/8 # 09-22-26-236
14. GAS SAMPLING VALVE, FOR BUCHHOLZ 5/16" DIA.
15. (4) HOLES 3" DIA. FOR TIE DOWN.
16. (4) MANHOLES FOR ACCESS TO BUSHINGS CONNECTIONS.
17. EXPANSION JOINT OF 3" NOMINAL DIA.
18. (4) JACKING STEPS.
19. CONSERVATOR SUPPORT BRACKETS.
20. (2) MANHOLE FOR ACCESS TO CONSERVATOR TANK.
21. LIQUID LEVEL GAUGE FOR CONSERVATOR OF MAIN TANK, MAGNETIC WITH ALARM CONTACTS, QUALITROL # 042-054-03 CS-3348T R=1556
22. NAME PLATE.
23. (2) CONSERVATOR LIFTING LUGS.
24. (2) PRESSURE RELIEF VALVE, QUALITROL # XPRD. WITH ALARM CONTACTS SET AT 10 PSI.
25. RADIATOR VALVE (2 PER RADIATOR), BUTTERFLY TYPE, SUITABLE FOR PADLOCK IN OPEN AND CLOSED POSITION.
26. (8) RADIATORS. DETACHABLE, WITH 1"DIA. NPT DRAIN PLUG AND 1"DIA. NPT VENT.
27. SILICA GEL, BREATHER, HAWKE, SIZE HB66.
28. STEEL PIPE OF 3" DIA. NOMINAL.
29. (2) TRANSFORMER GROUNDING PAD 1/2" x 2" x 3.1/2" COPPER BAR WITH 1/2"-UNC TAPPED HOLES AT 1.3/4" CENTRES, LOCATED DIAGONALLY OPPOSITE AT BOTTOM OF TANK.
30. TERMINAL BOX FOR CT LEADS CONTINUED TO MAIN CONTROL CABINET.
31. LOAD TAP CHANGER ABB TYPE UZERT 250/150 KV BIL.
32. (2) TRADEMARK PLAQUE "FERRANTI PACKARD".
33. (4) TRANSFORMER LIFTING LUGS.
34. MANHOLE FOR ACCES TO THE INTERIOR OF THE TRANSFORMER.
35. WELDED TO TANK COVER.
36. WELL FOR THERMOMETER.
37. (4) LUGS FOR SHIPPING TIE.
38. THERMAL PLATE
39. FALL ARREST. (WITH 1"-8 GRADE 8 BOLTS).
40. 1" DIA. GLOBE VALVE FOR VACUUM WITH BRASS PLUG.
41. 1" DIA. GLOBE VALVE WITH BRASS PLUG, CONSERVATOR DRAIN
42. 2" DIA. GLOBE VALVE FOR VACUUM WITH BRASS PLUG.
43. 3" DIA. CONSERVATOR SHUT OFF BUTTERFLY VALVE.
44. WARNING PLATE:"CONDENSATION MAY OCCUR IF THE CABINET HEATERS ARE NOT ENERGIZED:ENERGIZE THE HEATERS ON RECEIPT, SEE OPERATION MANUAL
45. 1/4 " DIA. GLOBE BLEEDER VALVE WITH BRASS PLUG.
46. CROSS-BRACE FOR SEISMIC
47. LIQUIDTIGHT PIPE FOR SILICA GEL.
48. IMPACT RECORDER FOR SHIPPING.
49. 2" DIA. GLOBE VALVE FOR FILTER PRESS WITH BRASS PLUG.
50. 2" DIA. GLOBE VALVE, FILTER PRESS AND DRAIN C/W 3/8" DIA. SAMPLING DEVICE AND BRASS PLUG.
51. (2) DRY AIR CYLINDERS FOR SHIPPING.
52. (2) THERMOMETER FOR OIL TEMPERATURE DIAL TYPE, WITH ALARM CONTACTS. QUALITROL TR-6000 SERIES
53. WINDING TEMPERATURE INDICATOR WITH CONTACTS. QUALITROL TR-6000 SERIES
54. SILICA GEL, BREATHER, HAWKE, SIZE HB1.
55. HV LIGHTNING ARRESTERS SUPPORT BRACKETS.
56. LV LIGHTNING ARRESTERS SUPPORT BRACKETS.
57. SUDDEN PRESSURE RELAY SHUT-OFF VALVE 2.1/2" DIA. GATE TYPE
58. SUDDEN PRESSURE RELAY QUALITROL 900-004-03
59. 1" DIA BALL VALVE FOR VACUUM FILLING CONNECTION.
60. (3) BLEEDER.
61. LIGHTNING ARRESTER GROUNDING PAD, 1/2" x 2" x 3 1/2" COPPER BAR WITH 1/2"-UNC TAPPED HOLES AT 1.3/4" CENTRES.
62. 4/0 AWG INSULATED CABLE FOR LIGHTNING ARRESTER GROUNDING.
63. LADDER WITH WITH SAFETY CAGE, CLIMBING GUARD AND LOCKABLE ARM.
64. LIQUID LEVEL GAUGE FOR CONSERVATOR OF LTC , MAGNETIC WITH ALARM CONTACTS, QUALITROL # 032-058-03 CS-33005
65. LTC CONSERVATOR TANK.
66. 1" DIA GLOBE BLEEDER VALVE WITH BRASS PLUG.
67. 1" DIA GLOBE VALVE FOR LTC CONSERVATOR.
68. 1" DIA GLOBE VALVE FOR LTC CONSERVATOR DRAIN, WITH BRASS PLUG.
69. 1" DIA STEEL PIPE.







NOTES:

1.-THIS DRAWING WHEN CERTIFIED, MAY BE USED FOR CONSTRUCTION SUBJECT TO STANDARD TOLERANCE ON ALL DIMENSIONS OF +/- 1 % OR 1/4", WHICHEVER IS GREATER.
2.-HARDWARE: STAINLESS STEEL TYPE 316.
3.-TRANSFORMER TO BE SHIPPED DRY AIR FILLED.
4.-MAIN TANK AND CONSERVATOR TANK DESIGNED TO WITHSTAND FULL VACUUM. AT SEA LEVEL.
5.-USE ALL 4 LUGS TO LIFT TRANSFORMER.
6.-USE ALL 4 LUGS TO LIFT CORE AND COILS.
7.-USE ALL 4 LUGS TO LIFT COVER.
8.-DO NOT LIFT CONSERVATOR TANK WHEN FILLED WITH OIL.
9.-SHIPPING DIMENSIONS ARE MARKED THUS *

DESIGN DEPARTMENT MEXICO

CERTIFIED BY :

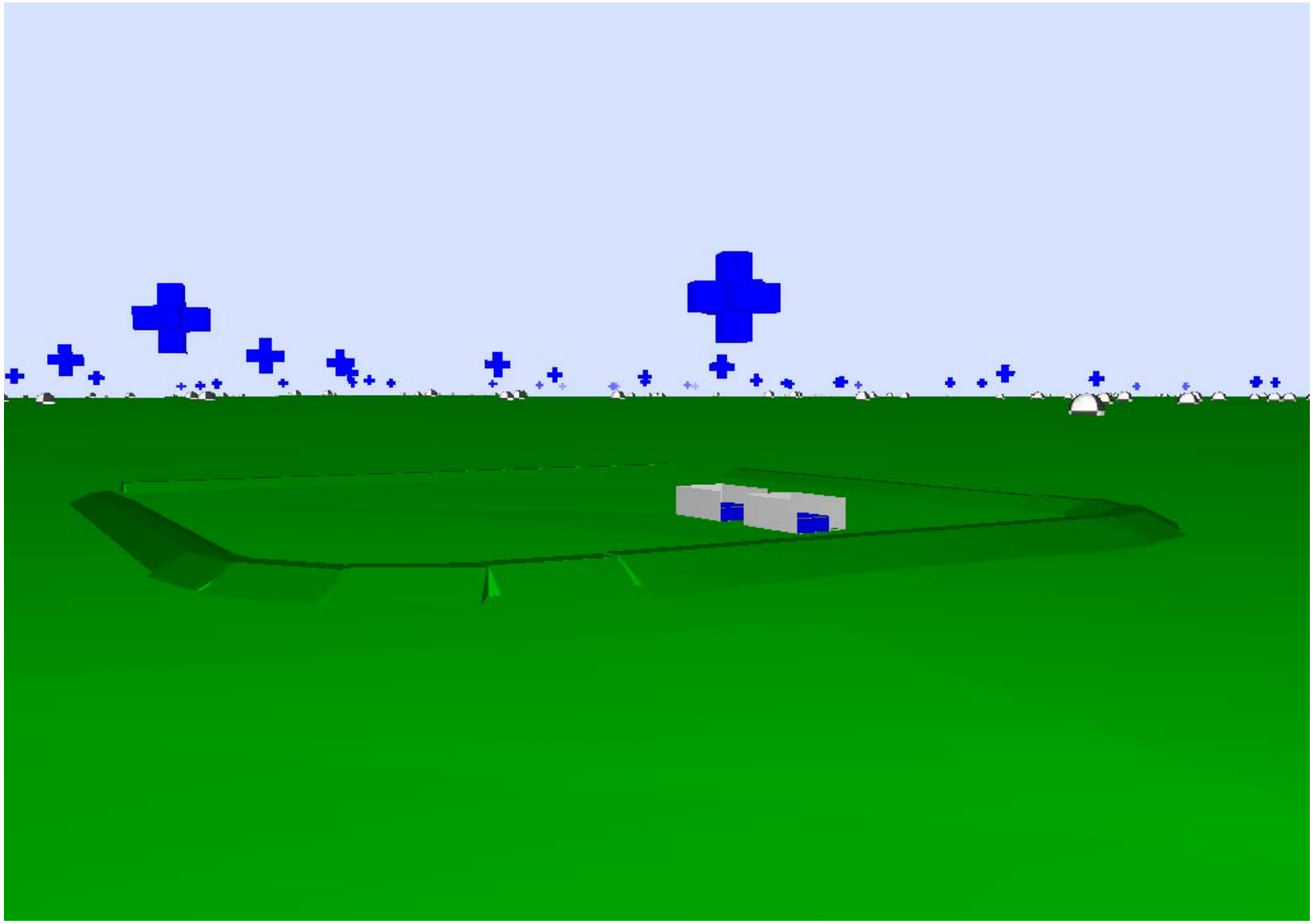
TANK DIMS: 2262 x 4500 x 4150		CERTIFIED FOR : CANADIAN HYDRO DEVELOPERS, INC.	ALL DIMENSIONS ARE MILIMETER
TANK STRENGTH		CUST. ORDER : 4500449803	OIL FILLED TRANSFORMER
+14.7 PSI	-14.7 PSI	F. P. ORDER : TP-783/765	TYPE : ONAN/ONAF/ONAF
REVISIONS		ESTIMATED MASS IN KILOGRAMS	MVA : 80/80/100
		CORE AND COILS 57000	H.V. : 240 kV. ±10% IN +/- 8 STEPS WYE, L.V. : 34.5 kV. DELTA
		TANK AND FITTINGS 15460	3 PHASE 60 Hz. 65 °C RISE
		REMOVABLE RADIATORS 6400	PAINT : LIGHT BLUE GREY ANSI #70.
		CONSERVATOR TANK 1300	
		LIQUID IN TRANSFORMER 32920 LITRES 28310	OUTLINE DIMENSIONS
		LIQUID IN RADIATORS 2200 LITRES 1895	
		LIQUID IN MAIN CONSERVATOR TANK 2150 LITRES 1850	
		LIQUID IN LTC CONSERVATOR TANK 45 LITRES 40	
		LIQUID IN LTC 500 LITRES 430	DATE MAY.24/2006
		TOTAL 37815 LITRES 112685	SPEC
		SHIPPING WEIGHT 73500	P.O.

VA TECH FERRANTI-PACKARD DE MEXICO S.A. DE C.V.

D.R. S. RANGEL CH. APP.

DWG. NO.: D-4430 REV 0

Transformer Substation 3D model view



ATTACHMENT E

SOUND PRESSURE LEVELS PREDICTED BY AERCOUSTICS SOUND PROPAGATION MODEL

JUNE 2007

Cadna/A-Berechnung
Version 3.6.119 (32 Bit)
Datei: J:\Kevin_Smith\Projects\2006\2006_189_Wolfe_Windfarm\Outputs Wolfe\Cadna_Wolfe\Cadna_W14\Fig 2_6 June_Lw103p1_6mps_Turbines Trans measure at 2m.cna
Start: 11.06.07 17:11:20
Berechnungsparameter:

General		
"Country"	International	
"Max. Error (dB)"	0.00	
"Max. Search Radius (m)"	11000.00	
"Min. Dist Src to Rcvr"	5.00	
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"	0	
"Search Radius Src/Rcvr"	100.00	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	
"Barrier Coefficients C1,2,3"	3.0	20.0 0.0
"Temperature (°C)"	15	
"rel. Humidity (%)"	80	
"Ground Absorption G"	1.00	
"Wind Speed for Dir.(m/s)"	3.0	
"Meteorology"	Wind Statistics	
Roads (RLS-90)		
Strictly acc. to RLS-90		
Railways (Schall 03)		
Strictly acc. to Schall 03 / Schall-Transrapid		
Aircraft (AzB)		
Strictly acc. to AzB		

Receiver: R30 Wind @ 300 degrees +/- 30 degrees
ID: 30
X: 383636
Y: 4889815
Z: 85.14
Ground: 80.64

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	73.3	73.3	1	643.75	42.25	32	67.17	0	-3	0	0	0.02	0	0	0	0	0	0	9.11	9.11
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	83.4	83.4	1	643.75	42.25	63	67.17	0	-3	0	0	0.06	0	0	0	0	0	0	19.17	19.17
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	91.5	91.5	1	643.75	42.25	125	67.17	0	3.54	0	0	0.22	0	0	0	0	0	0	20.57	20.57
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	97.9	97.9	1	643.75	42.25	250	67.17	0	1.39	0	0	0.69	0	0	0	0	0	0	28.64	28.64
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	99.4	99.4	1	643.75	42.25	500	67.17	0	0	0	0	1.54	0	0	0	0	0	0	30.68	30.68
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	95.6	95.6	1	643.75	42.25	1000	67.17	0	0	0	0	2.67	0	0	0	0	0	0	25.75	25.75
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	91	91	1	643.75	42.25	2000	67.17	0	0	0	0	5.35	0	0	0	0	0	0	18.47	18.47
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	86.1	86.1	1	643.75	42.25	4000	67.17	0	0	0	0	15.24	0	0	0	0	0	0	3.69	3.69
R30	T80	QU_80.0	384263	4889938	163.58	83.58	0	81.1	81.1	1	643.75	42.25	8000	67.17	0	0	0	0	53.32	0	0	0	0	0	0	-39.4	-39.4
R30	T81	QU_81.0	384157	4890367	165	85	0	73.3	73.3	1	763.23	42.25	32	68.65	0	-3	0	0	0.02	0	0	0	0	0	0	7.63	7.63
R30	T81	QU_81.0	384157	4890367	165	85	0	83.4	83.4	1	763.23	42.25	63	68.65	0	-3	0	0	0.07	0	0	0	0	0	0	17.68	17.68
R30	T81	QU_81.0	384157	4890367	165	85	0	91.5	91.5	1	763.23	42.25	125	68.65	0	3.65	0	0	0.26	0	0	0	0	0	0	18.94	18.94
R30	T81	QU_81.0	384157	4890367	165	85	0	97.9	97.9	1	763.23	42.25	250	68.65	0	1.39	0	0	0.82	0	0	0	0	0	0	27.04	27.04
R30	T81	QU_81.0	384157	4890367	165	85	0	99.4	99.4	1	763.23	42.25	500	68.65	0	0	0	0	1.83	0	0	0	0	0	0	28.91	28.91
R30	T81	QU_81.0	384157	4890367	165	85	0	95.6	95.6	1	763.23	42.25	1000	68.65	0	0	0	0	3.17	0	0	0	0	0	0	23.78	23.78
R30	T81	QU_81.0	384157	4890367	165	85	0	91	91	1	763.23	42.25	2000	68.65	0	0	0	0	6.34	0	0	0	0	0	0	16	16
R30	T81	QU_81.0	384157	4890367	165	85	0	86.1	86.1	1	763.23	42.25	4000	68.65	0	0	0	0	18.07	0	0	0	0	0	0	-0.62	-0.62
R30	T81	QU_81.0	384157	4890367	165	85	0	81.1	81.1	1	763.23	42.25	8000	68.65	0	0	0	0	63.22	0	0	0	0	0	0	-50.77	-50.77
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	73.3	73.3	1	930.47	42.25	32	70.37	0	-3	0	0	0.02	0	0	0	0	0	0	5.9	5.9
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	83.4	83.4	1	930.47	42.25	63	70.37	0	-3	0	0	0.09	0	0	0	0	0	0	15.94	15.94
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	91.5	91.5	1	930.47	42.25	125	70.37	0	3.75	0	0	0.32	0	0	0	0	0	0	17.05	17.05
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	97.9	97.9	1	930.47	42.25	250	70.37	0	1.39	0	0	1	0	0	0	0	0	0	25.13	25.13
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	99.4	99.4	1	930.47	42.25	500	70.37	0	0	0	0	2.23	0	0	0	0	0	0	26.79	26.79
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	95.6	95.6	1	930.47	42.25	1000	70.37	0	0	0	0	3.86	0	0	0	0	0	0	21.36	21.36
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	91	91	1	930.47	42.25	2000	70.37	0	0	0	0	7.73	0	0	0	0	0	0	12.89	12.89
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	86.1	86.1	1	930.47	42.25	4000	70.37	0	0	0	0	22.02	0	0	0	0	0	0	-6.3	-6.3
R30	T24	QU_24.0	382735	4890034	162.66	82.66	0	81.1	81.1	1	930.47	42.25	8000	70.37	0	0	0	0	77.07	0	0	0	0	0	0	-66.35	-66.35
R30	T25	QU_25.0	382725	4890491	165	85	0	73.3	73.3	1	1137.22	42.25	32	72.12	0	-3	0	0	0.03	0	0	0	0	0	0	4.16	4.16
R30	T25	QU_25.0	382725	4890491	165	85	0	83.4	83.4	1	1137.22	42.25	63	72.12	0	-3	0	0	0.11	0	0	0	0	0	0	14.18	14.18
R30	T25	QU_25.0	382725	4890491	165	85	0	91.5	91.5	1	1137.22	42.25	125	72.12	0	3.81	0	0	0.39	0	0	0	0	0	0	15.19	15.19
R30	T25	QU_25.0	382725	4890491	165	85	0	97.9	97.9	1	1137.22	42.25	250	72.12	0	1.39	0	0	1.22	0	0	0	0	0	0	23.17	23.17
R30	T25	QU_25.0	382725	4890491	165	85	0	99.4	99.4	1	1137.22	42.25	500	72.12	0	0	0	0	2.73	0	0	0	0	0	0	24.55	24.55
R30	T25	QU_25.0	382725	4890491	165	85	0	95.6	95.6	1	1137.22	42.25	1000	72.12	0	0	0	0	4.72	0	0	0	0	0	0	18.76	18.76
R30	T25	QU_25.0	382725	4890491	165	85	0	91	91	1	1137.22	42.25	2000	72.12	0	0	0	0	9.45	0	0	0	0	0	0	9.43	9.43
R30	T25	QU_25.0	382725	4890491	165	85	0	86.1	86.1	1	1137.22	42.25	4000	72.12	0	0	0	0	26.92	0	0	0	0	0	0	-12.94	-12.94
R30	T25	QU_25.0	382725	4890491	165	85	0	81.1	81.1	1	1137.22	42.25	8000	72.12	0	0	0	0	94.2	0	0	0	0	0	0	-85.21	-85.21
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	73.3	73.3	1	1143.96	42.25	32	72.17	0	-3	0	0	0.03	0	0	0.11	0.11	0	0	3.99	3.99
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	83.4	83.4	1	1143.96	42.25	63	72.17	0	-3	0	0	0.11	0	0	0.11	0.11	0	0	14.01	14.01
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	91.5	91.5	1	1143.96	42.25	125	72.17	0	3.81	0	0	0.39	0	0	0.11	0.11	0	0	15.02	15.02
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	97.9	97.9	1	1143.96	42.25	250	72.17	0	1.39	0	0	1.23	0	0	0.11	0.11	0	0	23	23
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	99.4	99.4	1	1143.96	42.25	500	72.17	0	0	0	0	2.74	0	0	0.11	0.11	0	0	24.38	24.38
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	95.6	95.6	1	1143.96	42.25	1000	72.17	0	0	0	0	4.75	0	0	0.11	0.11	0	0	18.57	18.57
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	91	91	1	1143.96	42.25	2000	72.17	0	0	0	0	9.51	0	0	0.11	0.11	0	0	9.21	9.21
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	86.1	86.1	1	1143.96	42.25	4000	72.17	0	0	0	0	27.08	0	0	0.11	0.11	0	0	-13.26	-13.26
R30	T26	QU_26.0	383140	4890843	161.53	81.53	0	81.1	81.1	1	1143.96	42.25	8000	72.17	0	0	0	0	94.76	0	0	0.11	0.11	0	0	-85.93	-85.93

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	73.3	73.3	1	1259.77	42.48	32	73.01	0	-3	0	0	0.03	0	0	0.29	0.29	0	0	2.97	2.97
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	83.4	83.4	1	1259.77	42.48	63	73.01	0	-3	0	0	0.12	0	0	0.29	0.29	0	0	12.98	12.98
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	91.5	91.5	1	1259.77	42.48	125	73.01	0	3.82	0	0	0.43	0	0	0.29	0.29	0	0	13.95	13.95
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	97.9	97.9	1	1259.77	42.48	250	73.01	0	1.39	0	0	1.35	0	0	0.29	0.29	0	0	21.86	21.86
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	99.4	99.4	1	1259.77	42.48	500	73.01	0	0	0	0	3.02	0	0	0.29	0.29	0	0	23.08	23.08
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	95.6	95.6	1	1259.77	42.48	1000	73.01	0	0	0	0	5.23	0	0	0.29	0.29	0	0	17.07	17.07
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	91	91	1	1259.77	42.48	2000	73.01	0	0	0	0	10.47	0	0	0.29	0.29	0	0	7.23	7.23
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	86.1	86.1	1	1259.77	42.48	4000	73.01	0	0	0	0	29.82	0	0	0.29	0.29	0	0	-17.02	-17.02
R30	T21	QU_21.0	382480	4889320	160.38	80.38	0	81.1	81.1	1	1259.77	42.48	8000	73.01	0	0	0	0	104.35	0	0	0.29	0.29	0	0	-96.55	-96.55
R30	T79	QU_79.0	384859	4889375	160	80	0	73.3	73.3	1	1301.9	42.51	32	73.29	0	-3	0	0	0.03	0	0	3.5	3.5	0	0	-0.52	-0.52
R30	T79	QU_79.0	384859	4889375	160	80	0	83.4	83.4	1	1301.9	42.51	63	73.29	0	-3	0	0	0.12	0	0	3.5	3.5	0	0	9.49	9.49
R30	T79	QU_79.0	384859	4889375	160	80	0	91.5	91.5	1	1301.9	42.51	125	73.29	0	3.82	0	0	0.45	0	0	3.5	3.5	0	0	10.44	10.44
R30	T79	QU_79.0	384859	4889375	160	80	0	97.9	97.9	1	1301.9	42.51	250	73.29	0	1.39	0	0	1.4	0	0	3.5	3.5	0	0	18.32	18.32
R30	T79	QU_79.0	384859	4889375	160	80	0	99.4	99.4	1	1301.9	42.51	500	73.29	0	0	0	0	3.12	0	0	3.5	3.5	0	0	19.49	19.49
R30	T79	QU_79.0	384859	4889375	160	80	0	95.6	95.6	1	1301.9	42.51	1000	73.29	0	0	0	0	5.4	0	0	3.5	3.5	0	0	13.41	13.41
R30	T79	QU_79.0	384859	4889375	160	80	0	91	91	1	1301.9	42.51	2000	73.29	0	0	0	0	10.82	0	0	3.5	3.5	0	0	3.39	3.39
R30	T79	QU_79.0	384859	4889375	160	80	0	86.1	86.1	1	1301.9	42.51	4000	73.29	0	0	0	0	30.82	0	0	3.5	3.5	0	0	-21.51	-21.51
R30	T79	QU_79.0	384859	4889375	160	80	0	81.1	81.1	1	1301.9	42.51	8000	73.29	0	0	0	0	107.84	0	0	3.5	3.5	0	0	-103.53	-103.53
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	73.3	73.3	1	1381.45	42.25	32	73.81	0	-3	0	0	0.03	0	0	0.18	0.18	0	0	2.28	2.28
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	83.4	83.4	1	1381.45	42.25	63	73.81	0	-3	0	0	0.13	0	0	0.18	0.18	0	0	12.29	12.29
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	91.5	91.5	1	1381.45	42.25	125	73.81	0	3.83	0	0	0.47	0	0	0.18	0.18	0	0	13.21	13.21
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	97.9	97.9	1	1381.45	42.25	250	73.81	0	1.39	0	0	1.48	0	0	0.18	0.18	0	0	21.04	21.04
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	99.4	99.4	1	1381.45	42.25	500	73.81	0	0	0	0	3.31	0	0	0.18	0.18	0	0	22.1	22.1
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	95.6	95.6	1	1381.45	42.25	1000	73.81	0	0	0	0	5.73	0	0	0.18	0.18	0	0	15.88	15.88
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	91	91	1	1381.45	42.25	2000	73.81	0	0	0	0	11.48	0	0	0.18	0.18	0	0	5.53	5.53
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	86.1	86.1	1	1381.45	42.25	4000	73.81	0	0	0	0	32.7	0	0	0.18	0.18	0	0	-20.58	-20.58
R30	T22	QU_22.0	382263	4889684	163.31	83.31	0	81.1	81.1	1	1381.45	42.25	8000	73.81	0	0	0	0	114.43	0	0	0.18	0.18	0	0	-107.31	-107.31
R30	T13	QU_13.0	382379	4890517	165	85	0	73.3	73.3	1	1441.95	41.87	32	74.18	0	-3	0	0	0.03	0	0	0	0	0	0	2.09	2.09
R30	T13	QU_13.0	382379	4890517	165	85	0	83.4	83.4	1	1441.95	41.87	63	74.18	0	-3	0	0	0.13	0	0	0	0	0	0	12.09	12.09
R30	T13	QU_13.0	382379	4890517	165	85	0	91.5	91.5	1	1441.95	41.87	125	74.18	0	3.83	0	0	0.5	0	0	0	0	0	0	13	13
R30	T13	QU_13.0	382379	4890517	165	85	0	97.9	97.9	1	1441.95	41.87	250	74.18	0	1.39	0	0	1.55	0	0	0	0	0	0	20.78	20.78
R30	T13	QU_13.0	382379	4890517	165	85	0	99.4	99.4	1	1441.95	41.87	500	74.18	0	0	0	0	3.46	0	0	0	0	0	0	21.76	21.76
R30	T13	QU_13.0	382379	4890517	165	85	0	95.6	95.6	1	1441.95	41.87	1000	74.18	0	0	0	0	5.99	0	0	0	0	0	0	15.44	15.44
R30	T13	QU_13.0	382379	4890517	165	85	0	91	91	1	1441.95	41.87	2000	74.18	0	0	0	0	11.99	0	0	0	0	0	0	4.83	4.83
R30	T13	QU_13.0	382379	4890517	165	85	0	86.1	86.1	1	1441.95	41.87	4000	74.18	0	0	0	0	34.13	0	0	0	0	0	0	-22.21	-22.21
R30	T13	QU_13.0	382379	4890517	165	85	0	81.1	81.1	1	1441.95	41.87	8000	74.18	0	0	0	0	119.44	0	0	0	0	0	0	-112.52	-112.52
R30	T23	QU_23.0	382130	4890170	165	85	0	73.3	73.3	1	1549.33	41.98	32	74.8	0	-3	0	0	0.04	0	0	0.02	0.02	0	0	1.44	1.44
R30	T23	QU_23.0	382130	4890170	165	85	0	83.4	83.4	1	1549.33	41.98	63	74.8	0	-3	0	0	0.14	0	0	0.02	0.02	0	0	11.44	11.44
R30	T23	QU_23.0	382130	4890170	165	85	0	91.5	91.5	1	1549.33	41.98	125	74.8	0	3.83	0	0	0.53	0	0	0.02	0.02	0	0	12.32	12.32
R30	T23	QU_23.0	382130	4890170	165	85	0	97.9	97.9	1	1549.33	41.98	250	74.8	0	1.39	0	0	1.66	0	0	0.02	0.02	0	0	20.03	20.03
R30	T23	QU_23.0	382130	4890170	165	85	0	99.4	99.4	1	1549.33	41.98	500	74.8	0	0	0	0	3.72	0	0	0.02	0.02	0	0	20.86	20.86
R30	T23	QU_23.0	382130	4890170	165	85	0	95.6	95.6	1	1549.33	41.98	1000	74.8	0	0	0	0	6.43	0	0	0.02	0.02	0	0	14.35	14.35
R30	T23	QU_23.0	382130	4890170	165	85	0	91	91	1	1549.33	41.98	2000	74.8	0	0	0	0	12.88	0	0	0.02	0.02	0	0	3.3	3.3
R30	T23	QU_23.0	382130	4890170	165	85	0	86.1	86.1	1	1549.33	41.98	4000	74.8	0	0	0	0	36.67	0	0	0.02	0.02	0	0	-25.39	-25.39
R30	T23	QU_23.0	382130	4890170	165	85	0	81.1	81.1	1	1549.33	41.98	8000	74.8	0	0	0	0	128.33	0	0	0.02	0.02	0	0	-122.05	-122.05
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	73.3	73.3	1	1814.63	40.41	32	76.18	0	-3	0	0	0.04	0	0	0	0	0	0	0.08	0.08
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	83.4	83.4	1	1814.63	40.41	63	76.18	0	-3	0	0	0.17	0	0	0	0	0	0	10.06	10.06
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	91.5	91.5	1	1814.63	40.41	125	76.18	0	3.83	0	0	0.62	0	0	0	0	0	0	10.87	10.87
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	97.9	97.9	1	1814.63	40.41	250	76.18	0	1.39	0	0	1.95	0	0	0	0	0	0	18.38	18.38
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	99.4	99.4	1	1814.63	40.41	500	76.18	0	0	0	0	4.35	0	0	0	0	0	0	18.87	18.87
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	95.6	95.6	1	1814.63	40.41	1000	76.18	0	0	0	0	7.53	0	0	0	0	0	0	11.89	11.89
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	91	91	1	1814.63	40.41	2000	76.18	0	0	0	0	15.08	0	0	0	0	0	0	-0.26	-0.26
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	86.1	86.1	1	1814.63	40.41	4000	76.18	0	0	0	0	42.95	0	0	0	0	0	0	-33.03	-33.03
R30	T14	QU_14.0	382188	4890906	162.05	82.05	0	81.1	81.1	1	1814.63	40.41	8000	76.18	0	0	0	0	150.31	0	0	0	0	0	0	-145.38	-145.38

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T12	QU_12.0	381835	4890321	165	85	0	73.3	73.3	1	1872.44	41.62	32	76.45	0	-3	0	0	0.04	0	0	0	0	0	0	-0.19	-0.19
R30	T12	QU_12.0	381835	4890321	165	85	0	83.4	83.4	1	1872.44	41.62	63	76.45	0	-3	0	0	0.17	0	0	0	0	0	0	9.78	9.78
R30	T12	QU_12.0	381835	4890321	165	85	0	91.5	91.5	1	1872.44	41.62	125	76.45	0	3.83	0	0	0.64	0	0	0	0	0	0	10.58	10.58
R30	T12	QU_12.0	381835	4890321	165	85	0	97.9	97.9	1	1872.44	41.62	250	76.45	0	1.39	0	0	2.01	0	0	0	0	0	0	18.05	18.05
R30	T12	QU_12.0	381835	4890321	165	85	0	99.4	99.4	1	1872.44	41.62	500	76.45	0	0	0	0	4.49	0	0	0	0	0	0	18.46	18.46
R30	T12	QU_12.0	381835	4890321	165	85	0	95.6	95.6	1	1872.44	41.62	1000	76.45	0	0	0	0	7.77	0	0	0	0	0	0	11.38	11.38
R30	T12	QU_12.0	381835	4890321	165	85	0	91	91	1	1872.44	41.62	2000	76.45	0	0	0	0	15.56	0	0	0	0	0	0	-1.01	-1.01
R30	T12	QU_12.0	381835	4890321	165	85	0	86.1	86.1	1	1872.44	41.62	4000	76.45	0	0	0	0	44.32	0	0	0	0	0	0	-34.67	-34.67
R30	T12	QU_12.0	381835	4890321	165	85	0	81.1	81.1	1	1872.44	41.62	8000	76.45	0	0	0	0	155.1	0	0	0	0	0	0	-150.44	-150.44
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	73.3	73.3	1	1918.65	42.68	32	76.66	0	-3	0	0	0.05	0	0	0.41	0.41	0	0	-0.82	-0.82
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	83.4	83.4	1	1918.65	42.68	63	76.66	0	-3	0	0	0.18	0	0	0.41	0.41	0	0	9.15	9.15
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	91.5	91.5	1	1918.65	42.68	125	76.66	0	3.83	0	0	0.66	0	0	0.41	0.41	0	0	9.94	9.94
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	97.9	97.9	1	1918.65	42.68	250	76.66	0	1.39	0	0	2.06	0	0	0.41	0.41	0	0	17.38	17.38
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	99.4	99.4	1	1918.65	42.68	500	76.66	0	0	0	0	4.6	0	0	0.41	0.41	0	0	17.72	17.72
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	95.6	95.6	1	1918.65	42.68	1000	76.66	0	0	0	0	7.96	0	0	0.41	0.41	0	0	10.56	10.56
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	91	91	1	1918.65	42.68	2000	76.66	0	0	0	0	15.95	0	0	0.41	0.41	0	0	-2.02	-2.02
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	86.1	86.1	1	1918.65	42.68	4000	76.66	0	0	0	0	45.42	0	0	0.41	0.41	0	0	-36.39	-36.39
R30	T20	QU_20.0	381804	4889250	161.04	81.04	0	81.1	81.1	1	1918.65	42.68	8000	76.66	0	0	0	0	158.92	0	0	0.41	0.41	0	0	-154.9	-154.9
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	73.3	73.3	1	1947.02	41.89	32	76.79	0	-3	0	0	0.05	0	0	0.71	0.71	0	0	-1.24	-1.24
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	83.4	83.4	1	1947.02	41.89	63	76.79	0	-3	0	0	0.18	0	0	0.71	0.71	0	0	8.72	8.72
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	91.5	91.5	1	1947.02	41.89	125	76.79	0	3.83	0	0	0.67	0	0	0.71	0.71	0	0	9.5	9.5
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	97.9	97.9	1	1947.02	41.89	250	76.79	0	1.39	0	0	2.09	0	0	0.71	0.71	0	0	16.92	16.92
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	99.4	99.4	1	1947.02	41.89	500	76.79	0	0	0	0	4.67	0	0	0.71	0.71	0	0	17.23	17.23
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	95.6	95.6	1	1947.02	41.89	1000	76.79	0	0	0	0	8.08	0	0	0.71	0.71	0	0	10.02	10.02
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	91	91	1	1947.02	41.89	2000	76.79	0	0	0	0	16.18	0	0	0.71	0.71	0	0	-2.68	-2.68
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	86.1	86.1	1	1947.02	41.89	4000	76.79	0	0	0	0	46.09	0	0	0.71	0.71	0	0	-37.48	-37.48
R30	T19	QU_19.0	382071	4888659	158.24	78.24	0	81.1	81.1	1	1947.02	41.89	8000	76.79	0	0	0	0	161.27	0	0	0.71	0.71	0	0	-157.67	-157.67
R30	T78	QU_78.0	385215	4890994	170	90	0	73.3	73.3	1	1972.43	41.3	32	76.9	0	-3	0	0	0.05	0	0	1.17	1.17	0	0	-1.82	-1.82
R30	T78	QU_78.0	385215	4890994	170	90	0	83.4	83.4	1	1972.43	41.3	63	76.9	0	-3	0	0	0.18	0	0	1.17	1.17	0	0	8.15	8.15
R30	T78	QU_78.0	385215	4890994	170	90	0	91.5	91.5	1	1972.43	41.3	125	76.9	0	3.83	0	0	0.68	0	0	1.17	1.17	0	0	8.92	8.92
R30	T78	QU_78.0	385215	4890994	170	90	0	97.9	97.9	1	1972.43	41.3	250	76.9	0	1.39	0	0	2.12	0	0	1.17	1.17	0	0	16.32	16.32
R30	T78	QU_78.0	385215	4890994	170	90	0	99.4	99.4	1	1972.43	41.3	500	76.9	0	0	0	0	4.73	0	0	1.17	1.17	0	0	16.6	16.6
R30	T78	QU_78.0	385215	4890994	170	90	0	95.6	95.6	1	1972.43	41.3	1000	76.9	0	0	0	0	8.19	0	0	1.17	1.17	0	0	9.34	9.34
R30	T78	QU_78.0	385215	4890994	170	90	0	91	91	1	1972.43	41.3	2000	76.9	0	0	0	0	16.4	0	0	1.17	1.17	0	0	-3.46	-3.46
R30	T78	QU_78.0	385215	4890994	170	90	0	86.1	86.1	1	1972.43	41.3	4000	76.9	0	0	0	0	46.69	0	0	1.17	1.17	0	0	-38.66	-38.66
R30	T78	QU_78.0	385215	4890994	170	90	0	81.1	81.1	1	1972.43	41.3	8000	76.9	0	0	0	0	163.38	0	0	1.17	1.17	0	0	-160.35	-160.35
R30	T27	QU_27.0	382239	4891316	160	80	0	73.3	73.3	1	2051.88	42.34	32	77.24	0	-3	0	0	0.05	0	0	0.03	0.03	0	0	-1.02	-1.02
R30	T27	QU_27.0	382239	4891316	160	80	0	83.4	83.4	1	2051.88	42.34	63	77.24	0	-3	0	0	0.19	0	0	0.03	0.03	0	0	8.94	8.94
R30	T27	QU_27.0	382239	4891316	160	80	0	91.5	91.5	1	2051.88	42.34	125	77.24	0	3.83	0	0	0.7	0	0	0.03	0.03	0	0	9.69	9.69
R30	T27	QU_27.0	382239	4891316	160	80	0	97.9	97.9	1	2051.88	42.34	250	77.24	0	1.39	0	0	2.2	0	0	0.03	0.03	0	0	17.04	17.04
R30	T27	QU_27.0	382239	4891316	160	80	0	99.4	99.4	1	2051.88	42.34	500	77.24	0	0	0	0	4.92	0	0	0.03	0.03	0	0	17.21	17.21
R30	T27	QU_27.0	382239	4891316	160	80	0	95.6	95.6	1	2051.88	42.34	1000	77.24	0	0	0	0	8.52	0	0	0.03	0.03	0	0	9.81	9.81
R30	T27	QU_27.0	382239	4891316	160	80	0	91	91	1	2051.88	42.34	2000	77.24	0	0	0	0	17.06	0	0	0.03	0.03	0	0	-3.33	-3.33
R30	T27	QU_27.0	382239	4891316	160	80	0	86.1	86.1	1	2051.88	42.34	4000	77.24	0	0	0	0	48.57	0	0	0.03	0.03	0	0	-39.74	-39.74
R30	T27	QU_27.0	382239	4891316	160	80	0	81.1	81.1	1	2051.88	42.34	8000	77.24	0	0	0	0	169.96	0	0	0.03	0.03	0	0	-166.13	-166.13
R30	T11	QU_11.0	381585	4889978	165	85	0	73.3	73.3	1	2059.02	41.62	32	77.27	0	-3	0	0	0.05	0	0	0.13	0.13	0	0	-1.16	-1.16
R30	T11	QU_11.0	381585	4889978	165	85	0	83.4	83.4	1	2059.02	41.62	63	77.27	0	-3	0	0	0.19	0	0	0.13	0.13	0	0	8.8	8.8
R30	T11	QU_11.0	381585	4889978	165	85	0	91.5	91.5	1	2059.02	41.62	125	77.27	0	3.83	0	0	0.71	0	0	0.13	0.13	0	0	9.55	9.55
R30	T11	QU_11.0	381585	4889978	165	85	0	97.9	97.9	1	2059.02	41.62	250	77.27	0	1.39	0	0	2.21	0	0	0.13	0.13	0	0	16.89	16.89
R30	T11	QU_11.0	381585	4889978	165	85	0	99.4	99.4	1	2059.02	41.62	500	77.27	0	0	0	0	4.94	0	0	0.13	0.13	0	0	17.05	17.05
R30	T11	QU_11.0	381585	4889978	165	85	0	95.6	95.6	1	2059.02	41.62	1000	77.27	0	0	0	0	8.55	0	0	0.13	0.13	0	0	9.65	9.65
R30	T11	QU_11.0	381585	4889978	165	85	0	91	91	1	2059.02	41.62	2000	77.27	0	0	0	0	17.12	0	0	0.13	0.13	0	0	-3.52	-3.52
R30	T11	QU_11.0	381585	4889978	165	85	0	86.1	86.1	1	2059.02	41.62	4000	77.27	0	0	0	0	48.74	0	0	0.13	0.13	0	0	-40.05	-40.05
R30	T11	QU_11.0	381585	4889978	165	85	0	81.1	81.1	1	2059.02	41.62	8000	77.27	0	0	0	0	170.55	0	0	0.13	0.13	0	0	-166.86	-166.86

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T35	QU_35.0	384255	4887842	160	80	0	73.3	73.3	1	2069.18	44.7	32	77.32	0	-3	0	0	0.05	0	0	2.49	2.49	0	0	-3.55	-3.55
R30	T35	QU_35.0	384255	4887842	160	80	0	83.4	83.4	1	2069.18	44.7	63	77.32	0	-3	0	0	0.19	0	0	2.49	2.49	0	0	6.4	6.4
R30	T35	QU_35.0	384255	4887842	160	80	0	91.5	91.5	1	2069.18	44.7	125	77.32	0	3.81	0	0	0.71	0	0	2.49	2.49	0	0	7.18	7.18
R30	T35	QU_35.0	384255	4887842	160	80	0	97.9	97.9	1	2069.18	44.7	250	77.32	0	1.36	0	0	2.22	0	0	2.49	2.49	0	0	14.51	14.51
R30	T35	QU_35.0	384255	4887842	160	80	0	99.4	99.4	1	2069.18	44.7	500	77.32	0	-0.02	0	0	4.96	0	0	2.49	2.49	0	0	14.66	14.66
R30	T35	QU_35.0	384255	4887842	160	80	0	95.6	95.6	1	2069.18	44.7	1000	77.32	0	-0.03	0	0	8.59	0	0	2.49	2.49	0	0	7.23	7.23
R30	T35	QU_35.0	384255	4887842	160	80	0	91	91	1	2069.18	44.7	2000	77.32	0	-0.03	0	0	17.2	0	0	2.49	2.49	0	0	-5.98	-5.98
R30	T35	QU_35.0	384255	4887842	160	80	0	86.1	86.1	1	2069.18	44.7	4000	77.32	0	-0.03	0	0	48.98	0	0	2.49	2.49	0	0	-42.66	-42.66
R30	T35	QU_35.0	384255	4887842	160	80	0	81.1	81.1	1	2069.18	44.7	8000	77.32	0	-0.03	0	0	171.39	0	0	2.49	2.49	0	0	-170.07	-170.07
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	73.3	73.3	1	2239.25	41.11	32	78	0	-3	0	0	0.05	0	0	2.76	2.76	0	0	-4.51	-4.51
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	83.4	83.4	1	2239.25	41.11	63	78	0	-3	0	0	0.21	0	0	2.76	2.76	0	0	5.43	5.43
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	91.5	91.5	1	2239.25	41.11	125	78	0	3.83	0	0	0.77	0	0	2.76	2.76	0	0	6.14	6.14
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	97.9	97.9	1	2239.25	41.11	250	78	0	1.39	0	0	2.41	0	0	2.76	2.76	0	0	13.34	13.34
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	99.4	99.4	1	2239.25	41.11	500	78	0	0	0	0	5.37	0	0	2.76	2.76	0	0	13.26	13.26
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	95.6	95.6	1	2239.25	41.11	1000	78	0	0	0	0	9.3	0	0	2.76	2.76	0	0	5.54	5.54
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	91	91	1	2239.25	41.11	2000	78	0	0	0	0	18.61	0	0	2.76	2.76	0	0	-8.38	-8.38
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	86.1	86.1	1	2239.25	41.11	4000	78	0	0	0	0	53	0	0	2.76	2.76	0	0	-47.67	-47.67
R30	T56	QU_56.0	385835	4890230	165.14	85.14	0	81.1	81.1	1	2239.25	41.11	8000	78	0	0	0	0	185.48	0	0	2.76	2.76	0	0	-185.14	-185.14
R30	T18	QU_18.0	381653	4888713	160	80	0	73.3	73.3	1	2269.87	42.43	32	78.12	0	-3	0	0	0.05	0	0	0.66	0.66	0	0	-2.53	-2.53
R30	T18	QU_18.0	381653	4888713	160	80	0	83.4	83.4	1	2269.87	42.43	63	78.12	0	-3	0	0	0.21	0	0	0.66	0.66	0	0	7.41	7.41
R30	T18	QU_18.0	381653	4888713	160	80	0	91.5	91.5	1	2269.87	42.43	125	78.12	0	3.83	0	0	0.78	0	0	0.66	0.66	0	0	8.11	8.11
R30	T18	QU_18.0	381653	4888713	160	80	0	97.9	97.9	1	2269.87	42.43	250	78.12	0	1.39	0	0	2.44	0	0	0.66	0.66	0	0	15.29	15.29
R30	T18	QU_18.0	381653	4888713	160	80	0	99.4	99.4	1	2269.87	42.43	500	78.12	0	0	0	0	5.45	0	0	0.66	0.66	0	0	15.18	15.18
R30	T18	QU_18.0	381653	4888713	160	80	0	95.6	95.6	1	2269.87	42.43	1000	78.12	0	0	0	0	9.42	0	0	0.66	0.66	0	0	7.4	7.4
R30	T18	QU_18.0	381653	4888713	160	80	0	91	91	1	2269.87	42.43	2000	78.12	0	0	0	0	18.87	0	0	0.66	0.66	0	0	-6.65	-6.65
R30	T18	QU_18.0	381653	4888713	160	80	0	86.1	86.1	1	2269.87	42.43	4000	78.12	0	0	0	0	53.73	0	0	0.66	0.66	0	0	-46.41	-46.41
R30	T18	QU_18.0	381653	4888713	160	80	0	81.1	81.1	1	2269.87	42.43	8000	78.12	0	0	0	0	188.02	0	0	0.66	0.66	0	0	-185.69	-185.69
R30	T28	QU_28.0	382110	4891661	160	80	0	73.3	73.3	1	2396.25	42.37	32	78.59	0	-3	0	0	0.06	0	0	0.08	0.08	0	0	-2.42	-2.42
R30	T28	QU_28.0	382110	4891661	160	80	0	83.4	83.4	1	2396.25	42.37	63	78.59	0	-3	0	0	0.22	0	0	0.08	0.08	0	0	7.51	7.51
R30	T28	QU_28.0	382110	4891661	160	80	0	91.5	91.5	1	2396.25	42.37	125	78.59	0	3.83	0	0	0.82	0	0	0.08	0.08	0	0	8.18	8.18
R30	T28	QU_28.0	382110	4891661	160	80	0	97.9	97.9	1	2396.25	42.37	250	78.59	0	1.39	0	0	2.57	0	0	0.08	0.08	0	0	15.27	15.27
R30	T28	QU_28.0	382110	4891661	160	80	0	99.4	99.4	1	2396.25	42.37	500	78.59	0	0	0	0	5.75	0	0	0.08	0.08	0	0	14.98	14.98
R30	T28	QU_28.0	382110	4891661	160	80	0	95.6	95.6	1	2396.25	42.37	1000	78.59	0	0	0	0	9.95	0	0	0.08	0.08	0	0	6.99	6.99
R30	T28	QU_28.0	382110	4891661	160	80	0	91	91	1	2396.25	42.37	2000	78.59	0	0	0	0	19.92	0	0	0.08	0.08	0	0	-7.58	-7.58
R30	T28	QU_28.0	382110	4891661	160	80	0	86.1	86.1	1	2396.25	42.37	4000	78.59	0	0	0	0	56.72	0	0	0.08	0.08	0	0	-49.29	-49.29
R30	T28	QU_28.0	382110	4891661	160	80	0	81.1	81.1	1	2396.25	42.37	8000	78.59	0	0	0	0	198.48	0	0	0.08	0.08	0	0	-196.05	-196.05
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	73.3	73.3	1	2422.91	41.12	32	78.69	0	-3	0	0	0.06	0	0	0.08	0.08	0	0	-2.52	-2.52
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	83.4	83.4	1	2422.91	41.12	63	78.69	0	-3	0	0	0.22	0	0	0.08	0.08	0	0	7.41	7.41
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	91.5	91.5	1	2422.91	41.12	125	78.69	0	3.83	0	0	0.83	0	0	0.08	0.08	0	0	8.07	8.07
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	97.9	97.9	1	2422.91	41.12	250	78.69	0	1.39	0	0	2.6	0	0	0.08	0.08	0	0	15.14	15.14
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	99.4	99.4	1	2422.91	41.12	500	78.69	0	0	0	0	5.81	0	0	0.08	0.08	0	0	14.82	14.82
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	95.6	95.6	1	2422.91	41.12	1000	78.69	0	0	0	0	10.06	0	0	0.08	0.08	0	0	6.78	6.78
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	91	91	1	2422.91	41.12	2000	78.69	0	0	0	0	20.14	0	0	0.08	0.08	0	0	-7.9	-7.9
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	86.1	86.1	1	2422.91	41.12	4000	78.69	0	0	0	0	57.35	0	0	0.08	0.08	0	0	-50.01	-50.01
R30	T10	QU_10.0	381248	4890217	164.71	84.71	0	81.1	81.1	1	2422.91	41.12	8000	78.69	0	0	0	0	200.69	0	0	0.08	0.08	0	0	-198.35	-198.35
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	73.3	73.3	1	2450.09	41.77	32	78.78	0	-3	0	0	0.06	0	0	0.26	0.26	0	0	-2.8	-2.8
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	83.4	83.4	1	2450.09	41.77	63	78.78	0	-3	0	0	0.23	0	0	0.26	0.26	0	0	7.13	7.13
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	91.5	91.5	1	2450.09	41.77	125	78.78	0	3.83	0	0	0.84	0	0	0.26	0.26	0	0	7.79	7.79
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	97.9	97.9	1	2450.09	41.77	250	78.78	0	1.39	0	0	2.63	0	0	0.26	0.26	0	0	14.84	14.84
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	99.4	99.4	1	2450.09	41.77	500	78.78	0	0	0	0	5.88	0	0	0.26	0.26	0	0	14.48	14.48
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	95.6	95.6	1	2450.09	41.77	1000	78.78	0	0	0	0	10.17	0	0	0.26	0.26	0	0	6.39	6.39
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	91	91	1	2450.09	41.77	2000	78.78	0	0	0	0	20.37	0	0	0.26	0.26	0	0	-8.41	-8.41
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	86.1	86.1	1	2450.09	41.77	4000	78.78	0	0	0	0	58	0	0	0.26	0.26	0	0	-50.94	-50.94
R30	T8	QU_8.0	381190	4889698	164.75	84.75	0	81.1	81.1	1	2450.09	41.77	8000	78.78	0	0	0	0	202.94	0	0	0.26	0.26	0	0	-200.88	-200.88

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	73.3	73.3	1	2472.74	41.77	32	78.86	0	-3	0	0	0.06	0	0	0.99	0.99	0	0	-3.61	-3.61
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	83.4	83.4	1	2472.74	41.77	63	78.86	0	-3	0	0	0.23	0	0	0.99	0.99	0	0	6.32	6.32
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	91.5	91.5	1	2472.74	41.77	125	78.86	0	3.83	0	0	0.85	0	0	0.99	0.99	0	0	6.97	6.97
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	97.9	97.9	1	2472.74	41.77	250	78.86	0	1.39	0	0	2.66	0	0	0.99	0.99	0	0	14	14
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	99.4	99.4	1	2472.74	41.77	500	78.86	0	0	0	0	5.93	0	0	0.99	0.99	0	0	13.62	13.62
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	95.6	95.6	1	2472.74	41.77	1000	78.86	0	0	0	0	10.26	0	0	0.99	0.99	0	0	5.48	5.48
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	91	91	1	2472.74	41.77	2000	78.86	0	0	0	0	20.55	0	0	0.99	0.99	0	0	-9.41	-9.41
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	86.1	86.1	1	2472.74	41.77	4000	78.86	0	0	0	0	58.53	0	0	0.99	0.99	0	0	-52.28	-52.28
R30	T77	QU_77.0	384485	4892136	166.48	86.48	0	81.1	81.1	1	2472.74	41.77	8000	78.86	0	0	0	0	204.82	0	0	0.99	0.99	0	0	-203.57	-203.57
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	73.3	73.3	1	2630.91	41.72	32	79.4	0	-3.11	0	0	0.06	0	0	0.88	0.88	0	0	-3.93	-3.93
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	83.4	83.4	1	2630.91	41.72	63	79.4	0	-3.11	0	0	0.24	0	0	0.88	0.88	0	0	5.99	5.99
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	91.5	91.5	1	2630.91	41.72	125	79.4	0	3.83	0	0	0.9	0	0	0.88	0.88	0	0	6.49	6.49
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	97.9	97.9	1	2630.91	41.72	250	79.4	0	1.39	0	0	2.83	0	0	0.88	0.88	0	0	13.41	13.41
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	99.4	99.4	1	2630.91	41.72	500	79.4	0	0	0	0	6.31	0	0	0.88	0.88	0	0	12.81	12.81
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	95.6	95.6	1	2630.91	41.72	1000	79.4	0	0	0	0	10.92	0	0	0.88	0.88	0	0	4.4	4.4
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	91	91	1	2630.91	41.72	2000	79.4	0	0	0	0	21.87	0	0	0.88	0.88	0	0	-11.15	-11.15
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	86.1	86.1	1	2630.91	41.72	4000	79.4	0	0	0	0	62.28	0	0	0.88	0.88	0	0	-56.45	-56.45
R30	T15	QU_15.0	381558	4888203	156.36	76.36	0	81.1	81.1	1	2630.91	41.72	8000	79.4	0	0	0	0	217.92	0	0	0.88	0.88	0	0	-217.1	-217.1
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	73.3	73.3	1	2631.71	41.88	32	79.4	0	-3.11	0	0	0.06	0	0	0.64	0.64	0	0	-3.7	-3.7
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	83.4	83.4	1	2631.71	41.88	63	79.4	0	-3.11	0	0	0.24	0	0	0.64	0.64	0	0	6.22	6.22
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	91.5	91.5	1	2631.71	41.88	125	79.4	0	3.83	0	0	0.9	0	0	0.64	0.64	0	0	6.71	6.71
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	97.9	97.9	1	2631.71	41.88	250	79.4	0	1.39	0	0	2.83	0	0	0.64	0.64	0	0	13.63	13.63
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	99.4	99.4	1	2631.71	41.88	500	79.4	0	0	0	0	6.31	0	0	0.64	0.64	0	0	13.04	13.04
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	95.6	95.6	1	2631.71	41.88	1000	79.4	0	0	0	0	10.92	0	0	0.64	0.64	0	0	4.63	4.63
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	91	91	1	2631.71	41.88	2000	79.4	0	0	0	0	21.88	0	0	0.64	0.64	0	0	-10.93	-10.93
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	86.1	86.1	1	2631.71	41.88	4000	79.4	0	0	0	0	62.29	0	0	0.64	0.64	0	0	-56.24	-56.24
R30	T16	QU_16.0	381258	4888690	158.72	78.72	0	81.1	81.1	1	2631.71	41.88	8000	79.4	0	0	0	0	217.99	0	0	0.64	0.64	0	0	-216.94	-216.94
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	73.3	73.3	1	2644.86	45.3	32	79.45	0	-3.12	0	0	0.06	0	0	2.26	2.26	0	0	-5.35	-5.35
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	83.4	83.4	1	2644.86	45.3	63	79.45	0	-3.12	0	0	0.25	0	0	2.26	2.26	0	0	4.57	4.57
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	91.5	91.5	1	2644.86	45.3	125	79.45	0	3.7	0	0	0.91	0	0	2.26	2.26	0	0	5.18	5.18
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	97.9	97.9	1	2644.86	45.3	250	79.45	0	1.26	0	0	2.84	0	0	2.26	2.26	0	0	12.09	12.09
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	99.4	99.4	1	2644.86	45.3	500	79.45	0	-0.13	0	0	6.35	0	0	2.26	2.26	0	0	11.48	11.48
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	95.6	95.6	1	2644.86	45.3	1000	79.45	0	-0.13	0	0	10.98	0	0	2.26	2.26	0	0	3.04	3.04
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	91	91	1	2644.86	45.3	2000	79.45	0	-0.13	0	0	21.99	0	0	2.26	2.26	0	0	-12.56	-12.56
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	86.1	86.1	1	2644.86	45.3	4000	79.45	0	-0.13	0	0	62.61	0	0	2.26	2.26	0	0	-58.08	-58.08
R30	T34	QU_34.0	384045	4887203	159.08	79.08	0	81.1	81.1	1	2644.86	45.3	8000	79.45	0	-0.13	0	0	219.08	0	0	2.26	2.26	0	0	-219.55	-219.55
R30	T1	QU_1.0	381096	4890718	160	80	0	73.3	73.3	1	2696.78	39.29	32	79.62	0	-3.18	0	0	0.06	0	0	0	0	0	0	-3.2	-3.2
R30	T1	QU_1.0	381096	4890718	160	80	0	83.4	83.4	1	2696.78	39.29	63	79.62	0	-3.18	0	0	0.25	0	0	0	0	0	0	6.71	6.71
R30	T1	QU_1.0	381096	4890718	160	80	0	91.5	91.5	1	2696.78	39.29	125	79.62	0	3.83	0	0	0.93	0	0	0	0	0	0	7.12	7.12
R30	T1	QU_1.0	381096	4890718	160	80	0	97.9	97.9	1	2696.78	39.29	250	79.62	0	1.39	0	0	2.9	0	0	0	0	0	0	14	14
R30	T1	QU_1.0	381096	4890718	160	80	0	99.4	99.4	1	2696.78	39.29	500	79.62	0	0	0	0	6.47	0	0	0	0	0	0	13.31	13.31
R30	T1	QU_1.0	381096	4890718	160	80	0	95.6	95.6	1	2696.78	39.29	1000	79.62	0	0	0	0	11.19	0	0	0	0	0	0	4.79	4.79
R30	T1	QU_1.0	381096	4890718	160	80	0	91	91	1	2696.78	39.29	2000	79.62	0	0	0	0	22.42	0	0	0	0	0	0	-11.03	-11.03
R30	T1	QU_1.0	381096	4890718	160	80	0	86.1	86.1	1	2696.78	39.29	4000	79.62	0	0	0	0	63.83	0	0	0	0	0	0	-57.35	-57.35
R30	T1	QU_1.0	381096	4890718	160	80	0	81.1	81.1	1	2696.78	39.29	8000	79.62	0	0	0	0	223.38	0	0	0	0	0	0	-221.89	-221.89
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	73.3	73.3	1	2702.62	42.23	32	79.64	0	-3.19	0	0	0.06	0	0	0.52	0.52	0	0	-3.74	-3.74
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	83.4	83.4	1	2702.62	42.23	63	79.64	0	-3.19	0	0	0.25	0	0	0.52	0.52	0	0	6.18	6.18
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	91.5	91.5	1	2702.62	42.23	125	79.64	0	3.83	0	0	0.93	0	0	0.52	0.52	0	0	6.58	6.58
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	97.9	97.9	1	2702.62	42.23	250	79.64	0	1.39	0	0	2.9	0	0	0.52	0.52	0	0	13.45	13.45
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	99.4	99.4	1	2702.62	42.23	500	79.64	0	0	0	0	6.48	0	0	0.52	0.52	0	0	12.76	12.76
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	95.6	95.6	1	2702.62	42.23	1000	79.64	0	0	0	0	11.22	0	0	0.52	0.52	0	0	4.22	4.22
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	91	91	1	2702.62	42.23	2000	79.64	0	0	0	0	22.47	0	0	0.52	0.52	0	0	-11.62	-11.62
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	86.1	86.1	1	2702.62	42.23	4000	79.64	0	0	0	0	63.97	0	0	0.52	0.52	0	0	-58.03	-58.03
R30	T17	QU_17.0	381067	4888979	159.44	79.44	0	81.1	81.1	1	2702.62	42.23	8000	79.64	0	0	0	0	223.86	0	0	0.52	0.52	0	0	-222.92	-222.92

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T84	QU_84.0	382011	4891987	160	80	0	73.3	73.3	1	2713.63	42.4	32	79.67	0	-3.2	0	0	0.06	0	0	0.12	0.12	0	0	-3.36	-3.36
R30	T84	QU_84.0	382011	4891987	160	80	0	83.4	83.4	1	2713.63	42.4	63	79.67	0	-3.2	0	0	0.25	0	0	0.12	0.12	0	0	6.55	6.55
R30	T84	QU_84.0	382011	4891987	160	80	0	91.5	91.5	1	2713.63	42.4	125	79.67	0	3.83	0	0	0.93	0	0	0.12	0.12	0	0	6.94	6.94
R30	T84	QU_84.0	382011	4891987	160	80	0	97.9	97.9	1	2713.63	42.4	250	79.67	0	1.39	0	0	2.92	0	0	0.12	0.12	0	0	13.8	13.8
R30	T84	QU_84.0	382011	4891987	160	80	0	99.4	99.4	1	2713.63	42.4	500	79.67	0	0	0	0	6.51	0	0	0.12	0.12	0	0	13.1	13.1
R30	T84	QU_84.0	382011	4891987	160	80	0	95.6	95.6	1	2713.63	42.4	1000	79.67	0	0	0	0	11.26	0	0	0.12	0.12	0	0	4.54	4.54
R30	T84	QU_84.0	382011	4891987	160	80	0	91	91	1	2713.63	42.4	2000	79.67	0	0	0	0	22.56	0	0	0.12	0.12	0	0	-11.35	-11.35
R30	T84	QU_84.0	382011	4891987	160	80	0	86.1	86.1	1	2713.63	42.4	4000	79.67	0	0	0	0	64.23	0	0	0.12	0.12	0	0	-57.93	-57.93
R30	T84	QU_84.0	382011	4891987	160	80	0	81.1	81.1	1	2713.63	42.4	8000	79.67	0	0	0	0	224.77	0	0	0.12	0.12	0	0	-223.47	-223.47
R30	T33	QU_33.0	384487	4887236	160	80	0	73.3	73.3	1	2716.81	44.22	32	79.68	0	-3.2	0	0	0.06	0	0	2.97	2.97	0	0	-6.21	-6.21
R30	T33	QU_33.0	384487	4887236	160	80	0	83.4	83.4	1	2716.81	44.22	63	79.68	0	-3.2	0	0	0.25	0	0	2.97	2.97	0	0	3.7	3.7
R30	T33	QU_33.0	384487	4887236	160	80	0	91.5	91.5	1	2716.81	44.22	125	79.68	0	3.81	0	0	0.93	0	0	2.97	2.97	0	0	4.1	4.1
R30	T33	QU_33.0	384487	4887236	160	80	0	97.9	97.9	1	2716.81	44.22	250	79.68	0	1.37	0	0	2.92	0	0	2.97	2.97	0	0	10.96	10.96
R30	T33	QU_33.0	384487	4887236	160	80	0	99.4	99.4	1	2716.81	44.22	500	79.68	0	-0.02	0	0	6.52	0	0	2.97	2.97	0	0	10.25	10.25
R30	T33	QU_33.0	384487	4887236	160	80	0	95.6	95.6	1	2716.81	44.22	1000	79.68	0	-0.02	0	0	11.28	0	0	2.97	2.97	0	0	1.69	1.69
R30	T33	QU_33.0	384487	4887236	160	80	0	91	91	1	2716.81	44.22	2000	79.68	0	-0.02	0	0	22.58	0	0	2.97	2.97	0	0	-14.21	-14.21
R30	T33	QU_33.0	384487	4887236	160	80	0	86.1	86.1	1	2716.81	44.22	4000	79.68	0	-0.02	0	0	64.31	0	0	2.97	2.97	0	0	-60.84	-60.84
R30	T33	QU_33.0	384487	4887236	160	80	0	81.1	81.1	1	2716.81	44.22	8000	79.68	0	-0.02	0	0	225.04	0	0	2.97	2.97	0	0	-226.57	-226.57
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	73.3	73.3	1	2749.13	39.76	32	79.78	0	-3.23	0	0	0.07	0	0	0.15	0.15	0	0	-3.47	-3.47
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	83.4	83.4	1	2749.13	39.76	63	79.78	0	-3.23	0	0	0.25	0	0	0.15	0.15	0	0	6.44	6.44
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	91.5	91.5	1	2749.13	39.76	125	79.78	0	3.83	0	0	0.94	0	0	0.15	0.15	0	0	6.79	6.79
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	97.9	97.9	1	2749.13	39.76	250	79.78	0	1.39	0	0	2.95	0	0	0.15	0.15	0	0	13.62	13.62
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	99.4	99.4	1	2749.13	39.76	500	79.78	0	0	0	0	6.6	0	0	0.15	0.15	0	0	12.87	12.87
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	95.6	95.6	1	2749.13	39.76	1000	79.78	0	0	0	0	11.41	0	0	0.15	0.15	0	0	4.25	4.25
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	91	91	1	2749.13	39.76	2000	79.78	0	0	0	0	22.85	0	0	0.15	0.15	0	0	-11.79	-11.79
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	86.1	86.1	1	2749.13	39.76	4000	79.78	0	0	0	0	65.07	0	0	0.15	0.15	0	0	-58.91	-58.91
R30	T9	QU_9.0	380898	4890050	161.71	81.71	0	81.1	81.1	1	2749.13	39.76	8000	79.78	0	0	0	0	227.71	0	0	0.15	0.15	0	0	-226.55	-226.55
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	73.3	73.3	1	2767.2	42.61	32	79.84	0	-3.25	0	0	0.07	0	0	6.95	6.95	0	0	-10.3	-10.3
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	83.4	83.4	1	2767.2	42.61	63	79.84	0	-3.25	0	0	0.26	0	0	6.95	6.95	0	0	-0.39	-0.39
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	91.5	91.5	1	2767.2	42.61	125	79.84	0	3.83	0	0	0.95	0	0	6.95	6.95	0	0	-0.07	-0.07
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	97.9	97.9	1	2767.2	42.61	250	79.84	0	1.39	0	0	2.97	0	0	6.95	6.95	0	0	6.75	6.75
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	99.4	99.4	1	2767.2	42.61	500	79.84	0	0	0	0	6.64	0	0	6.95	6.95	0	0	5.97	5.97
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	95.6	95.6	1	2767.2	42.61	1000	79.84	0	0	0	0	11.49	0	0	6.95	6.95	0	0	-2.67	-2.67
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	91	91	1	2767.2	42.61	2000	79.84	0	0	0	0	23	0	0	6.95	6.95	0	0	-18.79	-18.79
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	86.1	86.1	1	2767.2	42.61	4000	79.84	0	0	0	0	65.5	0	0	6.95	6.95	0	0	-66.19	-66.19
R30	T42	QU_42.0	386303	4889081	161.09	81.09	0	81.1	81.1	1	2767.2	42.61	8000	79.84	0	0	0	0	229.21	0	0	6.95	6.95	0	0	-234.9	-234.9
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	73.3	73.3	1	2882.16	42.25	32	80.19	0	-3.36	0	0	0.07	0	0	0.36	0.36	0	0	-3.97	-3.97
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	83.4	83.4	1	2882.16	42.25	63	80.19	0	-3.36	0	0	0.27	0	0	0.36	0.36	0	0	5.93	5.93
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	91.5	91.5	1	2882.16	42.25	125	80.19	0	3.83	0	0	0.99	0	0	0.36	0.36	0	0	6.12	6.12
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	97.9	97.9	1	2882.16	42.25	250	80.19	0	1.39	0	0	3.1	0	0	0.36	0.36	0	0	12.85	12.85
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	99.4	99.4	1	2882.16	42.25	500	80.19	0	0	0	0	6.91	0	0	0.36	0.36	0	0	11.93	11.93
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	95.6	95.6	1	2882.16	42.25	1000	80.19	0	0	0	0	11.96	0	0	0.36	0.36	0	0	3.08	3.08
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	91	91	1	2882.16	42.25	2000	80.19	0	0	0	0	23.96	0	0	0.36	0.36	0	0	-13.52	-13.52
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	86.1	86.1	1	2882.16	42.25	4000	80.19	0	0	0	0	68.22	0	0	0.36	0.36	0	0	-62.68	-62.68
R30	T6	QU_6.0	380783	4889413	160.23	80.23	0	81.1	81.1	1	2882.16	42.25	8000	80.19	0	0	0	0	238.73	0	0	0.36	0.36	0	0	-238.19	-238.19
R30	T83	QU_83.0	382824	4892624	165	85	0	73.3	73.3	1	2925.1	43.71	32	80.32	0	-3.4	0	0	0.07	0	0	0.47	0.47	0	0	-4.16	-4.16
R30	T83	QU_83.0	382824	4892624	165	85	0	83.4	83.4	1	2925.1	43.71	63	80.32	0	-3.4	0	0	0.27	0	0	0.47	0.47	0	0	5.74	5.74
R30	T83	QU_83.0	382824	4892624	165	85	0	91.5	91.5	1	2925.1	43.71	125	80.32	0	3.83	0	0	1	0	0	0.47	0.47	0	0	5.87	5.87
R30	T83	QU_83.0	382824	4892624	165	85	0	97.9	97.9	1	2925.1	43.71	250	80.32	0	1.39	0	0	3.14	0	0	0.47	0.47	0	0	12.58	12.58
R30	T83	QU_83.0	382824	4892624	165	85	0	99.4	99.4	1	2925.1	43.71	500	80.32	0	0	0	0	7.02	0	0	0.47	0.47	0	0	11.59	11.59
R30	T83	QU_83.0	382824	4892624	165	85	0	95.6	95.6	1	2925.1	43.71	1000	80.32	0	0	0	0	12.14	0	0	0.47	0.47	0	0	2.67	2.67
R30	T83	QU_83.0	382824	4892624	165	85	0	91	91	1	2925.1	43.71	2000	80.32	0	0	0	0	24.32	0	0	0.47	0.47	0	0	-14.11	-14.11
R30	T83	QU_83.0	382824	4892624	165	85	0	86.1	86.1	1	2925.1	43.71	4000	80.32	0	0	0	0	69.24	0	0	0.47	0.47	0	0	-63.93	-63.93
R30	T83	QU_83.0	382824	4892624	165	85	0	81.1	81.1	1	2925.1	43.71	8000	80.32	0	0	0	0	242.29	0	0	0.47	0.47	0	0	-241.98	-241.98

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	73.3	73.3	1	2947.68	42.55	32	80.39	0	-3.42	0	0	0.07	0	0	1.07	1.07	0	0	-4.81	-4.81
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	83.4	83.4	1	2947.68	42.55	63	80.39	0	-3.42	0	0	0.27	0	0	1.07	1.07	0	0	5.09	5.09
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	91.5	91.5	1	2947.68	42.55	125	80.39	0	3.83	0	0	1.01	0	0	1.07	1.07	0	0	5.2	5.2
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	97.9	97.9	1	2947.68	42.55	250	80.39	0	1.39	0	0	3.17	0	0	1.07	1.07	0	0	11.88	11.88
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	99.4	99.4	1	2947.68	42.55	500	80.39	0	0	0	0	7.07	0	0	1.07	1.07	0	0	10.87	10.87
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	95.6	95.6	1	2947.68	42.55	1000	80.39	0	0	0	0	12.24	0	0	1.07	1.07	0	0	1.9	1.9
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	91	91	1	2947.68	42.55	2000	80.39	0	0	0	0	24.5	0	0	1.07	1.07	0	0	-14.96	-14.96
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	86.1	86.1	1	2947.68	42.55	4000	80.39	0	0	0	0	69.77	0	0	1.07	1.07	0	0	-65.13	-65.13
R30	T75	QU_75.0	384516	4892627	169.28	89.28	0	81.1	81.1	1	2947.68	42.55	8000	80.39	0	0	0	0	244.16	0	0	1.07	1.07	0	0	-244.52	-244.52
R30	T2	QU_2.0	380970	4891106	160	80	0	73.3	73.3	1	2963.08	39.92	32	80.43	0	-3.43	0	0	0.07	0	0	0	0	0	0	-3.77	-3.77
R30	T2	QU_2.0	380970	4891106	160	80	0	83.4	83.4	1	2963.08	39.92	63	80.43	0	-3.43	0	0	0.27	0	0	0	0	0	0	6.12	6.12
R30	T2	QU_2.0	380970	4891106	160	80	0	91.5	91.5	1	2963.08	39.92	125	80.43	0	3.83	0	0	1.02	0	0	0	0	0	0	6.22	6.22
R30	T2	QU_2.0	380970	4891106	160	80	0	97.9	97.9	1	2963.08	39.92	250	80.43	0	1.39	0	0	3.18	0	0	0	0	0	0	12.89	12.89
R30	T2	QU_2.0	380970	4891106	160	80	0	99.4	99.4	1	2963.08	39.92	500	80.43	0	0	0	0	7.11	0	0	0	0	0	0	11.86	11.86
R30	T2	QU_2.0	380970	4891106	160	80	0	95.6	95.6	1	2963.08	39.92	1000	80.43	0	0	0	0	12.3	0	0	0	0	0	0	2.86	2.86
R30	T2	QU_2.0	380970	4891106	160	80	0	91	91	1	2963.08	39.92	2000	80.43	0	0	0	0	24.63	0	0	0	0	0	0	-14.07	-14.07
R30	T2	QU_2.0	380970	4891106	160	80	0	86.1	86.1	1	2963.08	39.92	4000	80.43	0	0	0	0	70.14	0	0	0	0	0	0	-64.47	-64.47
R30	T2	QU_2.0	380970	4891106	160	80	0	81.1	81.1	1	2963.08	39.92	8000	80.43	0	0	0	0	245.43	0	0	0	0	0	0	-244.77	-244.77
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	73.3	73.3	1	3006.92	43.3	32	80.56	0	-3.47	0	0	0.07	0	0	0.15	0.15	0	0	-4.01	-4.01
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	83.4	83.4	1	3006.92	43.3	63	80.56	0	-3.47	0	0	0.28	0	0	0.15	0.15	0	0	5.88	5.88
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	91.5	91.5	1	3006.92	43.3	125	80.56	0	3.83	0	0	1.03	0	0	0.15	0.15	0	0	5.92	5.92
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	97.9	97.9	1	3006.92	43.3	250	80.56	0	1.39	0	0	3.23	0	0	0.15	0.15	0	0	12.57	12.57
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	99.4	99.4	1	3006.92	43.3	500	80.56	0	0	0	0	7.21	0	0	0.15	0.15	0	0	11.47	11.47
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	95.6	95.6	1	3006.92	43.3	1000	80.56	0	0	0	0	12.48	0	0	0.15	0.15	0	0	2.41	2.41
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	91	91	1	3006.92	43.3	2000	80.56	0	0	0	0	25	0	0	0.15	0.15	0	0	-14.71	-14.71
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	86.1	86.1	1	3006.92	43.3	4000	80.56	0	0	0	0	71.18	0	0	0.15	0.15	0	0	-65.79	-65.79
R30	T85	QU_85.0	381893	4892264	161.97	81.97	0	81.1	81.1	1	3006.92	43.3	8000	80.56	0	0	0	0	249.07	0	0	0.15	0.15	0	0	-248.68	-248.68
R30	T7	QU_7.0	380588	4889742	160	80	0	73.3	73.3	1	3049.79	39.36	32	80.69	0	-3.51	0	0	0.07	0	0	0.26	0.26	0	0	-4.21	-4.21
R30	T7	QU_7.0	380588	4889742	160	80	0	83.4	83.4	1	3049.79	39.36	63	80.69	0	-3.51	0	0	0.28	0	0	0.26	0.26	0	0	5.68	5.68
R30	T7	QU_7.0	380588	4889742	160	80	0	91.5	91.5	1	3049.79	39.36	125	80.69	0	3.83	0	0	1.05	0	0	0.26	0.26	0	0	5.67	5.67
R30	T7	QU_7.0	380588	4889742	160	80	0	97.9	97.9	1	3049.79	39.36	250	80.69	0	1.39	0	0	3.28	0	0	0.26	0.26	0	0	12.29	12.29
R30	T7	QU_7.0	380588	4889742	160	80	0	99.4	99.4	1	3049.79	39.36	500	80.69	0	0	0	0	7.32	0	0	0.26	0.26	0	0	11.14	11.14
R30	T7	QU_7.0	380588	4889742	160	80	0	95.6	95.6	1	3049.79	39.36	1000	80.69	0	0	0	0	12.66	0	0	0.26	0.26	0	0	1.99	1.99
R30	T7	QU_7.0	380588	4889742	160	80	0	91	91	1	3049.79	39.36	2000	80.69	0	0	0	0	25.35	0	0	0.26	0.26	0	0	-15.3	-15.3
R30	T7	QU_7.0	380588	4889742	160	80	0	86.1	86.1	1	3049.79	39.36	4000	80.69	0	0	0	0	72.19	0	0	0.26	0.26	0	0	-67.04	-67.04
R30	T7	QU_7.0	380588	4889742	160	80	0	81.1	81.1	1	3049.79	39.36	8000	80.69	0	0	0	0	252.62	0	0	0.26	0.26	0	0	-252.46	-252.46
R30	T29	QU_29.0	384739	4886915	160	80	0	73.3	73.3	1	3103.58	43.99	32	80.84	0	-3.55	0	0	0.07	0	0	3.36	3.36	0	0	-7.43	-7.43
R30	T29	QU_29.0	384739	4886915	160	80	0	83.4	83.4	1	3103.58	43.99	63	80.84	0	-3.55	0	0	0.29	0	0	3.36	3.36	0	0	2.46	2.46
R30	T29	QU_29.0	384739	4886915	160	80	0	91.5	91.5	1	3103.58	43.99	125	80.84	0	3.83	0	0	1.07	0	0	3.36	3.36	0	0	2.4	2.4
R30	T29	QU_29.0	384739	4886915	160	80	0	97.9	97.9	1	3103.58	43.99	250	80.84	0	1.39	0	0	3.33	0	0	3.36	3.36	0	0	8.98	8.98
R30	T29	QU_29.0	384739	4886915	160	80	0	99.4	99.4	1	3103.58	43.99	500	80.84	0	0	0	0	7.45	0	0	3.36	3.36	0	0	7.76	7.76
R30	T29	QU_29.0	384739	4886915	160	80	0	95.6	95.6	1	3103.58	43.99	1000	80.84	0	0	0	0	12.88	0	0	3.36	3.36	0	0	-1.48	-1.48
R30	T29	QU_29.0	384739	4886915	160	80	0	91	91	1	3103.58	43.99	2000	80.84	0	0	0	0	25.8	0	0	3.36	3.36	0	0	-19	-19
R30	T29	QU_29.0	384739	4886915	160	80	0	86.1	86.1	1	3103.58	43.99	4000	80.84	0	0	0	0	73.46	0	0	3.36	3.36	0	0	-71.56	-71.56
R30	T29	QU_29.0	384739	4886915	160	80	0	81.1	81.1	1	3103.58	43.99	8000	80.84	0	0	0	0	257.07	0	0	3.36	3.36	0	0	-260.17	-260.17
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	73.3	73.3	1	3109.42	39.51	32	80.85	0	-3.55	0	0	0.07	0	0	0	0	0	0	-4.07	-4.07
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	83.4	83.4	1	3109.42	39.51	63	80.85	0	-3.55	0	0	0.29	0	0	0	0	0	0	5.81	5.81
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	91.5	91.5	1	3109.42	39.51	125	80.85	0	3.83	0	0	1.07	0	0	0	0	0	0	5.75	5.75
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	97.9	97.9	1	3109.42	39.51	250	80.85	0	1.39	0	0	3.34	0	0	0	0	0	0	12.32	12.32
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	99.4	99.4	1	3109.42	39.51	500	80.85	0	0	0	0	7.46	0	0	0	0	0	0	11.09	11.09
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	95.6	95.6	1	3109.42	39.51	1000	80.85	0	0	0	0	12.91	0	0	0	0	0	0	1.84	1.84
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	91	91	1	3109.42	39.51	2000	80.85	0	0	0	0	25.85	0	0	0	0	0	0	-15.7	-15.7
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	86.1	86.1	1	3109.42	39.51	4000	80.85	0	0	0	0	73.6	0	0	0	0	0	0	-68.36	-68.36
R30	T5	QU_5.0	380642	4890651	159.63	79.63	0	81.1	81.1	1	3109.42	39.51	8000	80.85	0	0	0	0	257.56	0	0	0	0	0	0	-257.31	-257.31

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	73.3	73.3	1	3167.43	44.12	32	81.01	0	-3.6	0	0	0.08	0	0	0.29	0.29	0	0	-4.48	-4.48
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	83.4	83.4	1	3167.43	44.12	63	81.01	0	-3.6	0	0	0.29	0	0	0.29	0.29	0	0	5.4	5.4
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	91.5	91.5	1	3167.43	44.12	125	81.01	0	3.83	0	0	1.09	0	0	0.29	0.29	0	0	5.28	5.28
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	97.9	97.9	1	3167.43	44.12	250	81.01	0	1.39	0	0	3.4	0	0	0.29	0.29	0	0	11.8	11.8
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	99.4	99.4	1	3167.43	44.12	500	81.01	0	0	0	0	7.6	0	0	0.29	0.29	0	0	10.5	10.5
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	95.6	95.6	1	3167.43	44.12	1000	81.01	0	0	0	0	13.15	0	0	0.29	0.29	0	0	1.15	1.15
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	91	91	1	3167.43	44.12	2000	81.01	0	0	0	0	26.33	0	0	0.29	0.29	0	0	-16.63	-16.63
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	86.1	86.1	1	3167.43	44.12	4000	81.01	0	0	0	0	74.98	0	0	0.29	0.29	0	0	-70.18	-70.18
R30	T86	QU_86.0	382192	4892633	164.82	84.82	0	81.1	81.1	1	3167.43	44.12	8000	81.01	0	0	0	0	262.36	0	0	0.29	0.29	0	0	-262.57	-262.57
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	73.3	73.3	1	3236.89	42.26	32	81.2	0	-3.65	0	0	0.08	0	0	1.1	1.1	0	0	-5.43	-5.43
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	83.4	83.4	1	3236.89	42.26	63	81.2	0	-3.65	0	0	0.3	0	0	1.1	1.1	0	0	4.45	4.45
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	91.5	91.5	1	3236.89	42.26	125	81.2	0	3.83	0	0	1.11	0	0	1.1	1.1	0	0	4.25	4.25
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	97.9	97.9	1	3236.89	42.26	250	81.2	0	1.39	0	0	3.48	0	0	1.1	1.1	0	0	10.73	10.73
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	99.4	99.4	1	3236.89	42.26	500	81.2	0	0	0	0	7.77	0	0	1.1	1.1	0	0	9.33	9.33
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	95.6	95.6	1	3236.89	42.26	1000	81.2	0	0	0	0	13.44	0	0	1.1	1.1	0	0	-0.14	-0.14
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	91	91	1	3236.89	42.26	2000	81.2	0	0	0	0	26.91	0	0	1.1	1.1	0	0	-18.21	-18.21
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	86.1	86.1	1	3236.89	42.26	4000	81.2	0	0	0	0	76.62	0	0	1.1	1.1	0	0	-72.82	-72.82
R30	T74	QU_74.0	384449	4892947	169.17	89.17	0	81.1	81.1	1	3236.89	42.26	8000	81.2	0	0	0	0	268.11	0	0	1.1	1.1	0	0	-269.32	-269.32
R30	T76	QU_76.0	383914	4893048	165	85	0	73.3	73.3	1	3245.91	40.73	32	81.23	0	-3.66	0	0	0.08	0	0	0.89	0.89	0	0	-5.24	-5.24
R30	T76	QU_76.0	383914	4893048	165	85	0	83.4	83.4	1	3245.91	40.73	63	81.23	0	-3.66	0	0	0.3	0	0	0.89	0.89	0	0	4.63	4.63
R30	T76	QU_76.0	383914	4893048	165	85	0	91.5	91.5	1	3245.91	40.73	125	81.23	0	3.83	0	0	1.11	0	0	0.89	0.89	0	0	4.43	4.43
R30	T76	QU_76.0	383914	4893048	165	85	0	97.9	97.9	1	3245.91	40.73	250	81.23	0	1.39	0	0	3.49	0	0	0.89	0.89	0	0	10.9	10.9
R30	T76	QU_76.0	383914	4893048	165	85	0	99.4	99.4	1	3245.91	40.73	500	81.23	0	0	0	0	7.79	0	0	0.89	0.89	0	0	9.49	9.49
R30	T76	QU_76.0	383914	4893048	165	85	0	95.6	95.6	1	3245.91	40.73	1000	81.23	0	0	0	0	13.47	0	0	0.89	0.89	0	0	0	0
R30	T76	QU_76.0	383914	4893048	165	85	0	91	91	1	3245.91	40.73	2000	81.23	0	0	0	0	26.98	0	0	0.89	0.89	0	0	-18.1	-18.1
R30	T76	QU_76.0	383914	4893048	165	85	0	86.1	86.1	1	3245.91	40.73	4000	81.23	0	0	0	0	76.83	0	0	0.89	0.89	0	0	-72.85	-72.85
R30	T76	QU_76.0	383914	4893048	165	85	0	81.1	81.1	1	3245.91	40.73	8000	81.23	0	0	0	0	268.86	0	0	0.89	0.89	0	0	-269.88	-269.88
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	73.3	73.3	1	3260.62	43.59	32	81.27	0	-3.67	0	0	0.08	0	0	0.6	0.6	0	0	-4.98	-4.98
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	83.4	83.4	1	3260.62	43.59	63	81.27	0	-3.67	0	0	0.3	0	0	0.6	0.6	0	0	4.9	4.9
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	91.5	91.5	1	3260.62	43.59	125	81.27	0	3.83	0	0	1.12	0	0	0.6	0.6	0	0	4.68	4.68
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	97.9	97.9	1	3260.62	43.59	250	81.27	0	1.39	0	0	3.5	0	0	0.6	0.6	0	0	11.14	11.14
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	99.4	99.4	1	3260.62	43.59	500	81.27	0	0	0	0	7.82	0	0	0.6	0.6	0	0	9.71	9.71
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	95.6	95.6	1	3260.62	43.59	1000	81.27	0	0	0	0	13.54	0	0	0.6	0.6	0	0	0.2	0.2
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	91	91	1	3260.62	43.59	2000	81.27	0	0	0	0	27.1	0	0	0.6	0.6	0	0	-17.97	-17.97
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	86.1	86.1	1	3260.62	43.59	4000	81.27	0	0	0	0	77.18	0	0	0.6	0.6	0	0	-72.95	-72.95
R30	T82	QU_82.0	383075	4893026	165.24	85.24	0	81.1	81.1	1	3260.62	43.59	8000	81.27	0	0	0	0	270.08	0	0	0.6	0.6	0	0	-270.85	-270.85
R30	T3	QU_3.0	380532	4891086	160	80	0	73.3	73.3	1	3354.98	40.03	32	81.51	0	-3.73	0	0	0.08	0	0	0	0	0	0	-4.56	-4.56
R30	T3	QU_3.0	380532	4891086	160	80	0	83.4	83.4	1	3354.98	40.03	63	81.51	0	-3.73	0	0	0.31	0	0	0	0	0	0	5.31	5.31
R30	T3	QU_3.0	380532	4891086	160	80	0	91.5	91.5	1	3354.98	40.03	125	81.51	0	3.83	0	0	1.15	0	0	0	0	0	0	5	5
R30	T3	QU_3.0	380532	4891086	160	80	0	97.9	97.9	1	3354.98	40.03	250	81.51	0	1.39	0	0	3.61	0	0	0	0	0	0	11.39	11.39
R30	T3	QU_3.0	380532	4891086	160	80	0	99.4	99.4	1	3354.98	40.03	500	81.51	0	0	0	0	8.05	0	0	0	0	0	0	9.84	9.84
R30	T3	QU_3.0	380532	4891086	160	80	0	95.6	95.6	1	3354.98	40.03	1000	81.51	0	0	0	0	13.93	0	0	0	0	0	0	0.16	0.16
R30	T3	QU_3.0	380532	4891086	160	80	0	91	91	1	3354.98	40.03	2000	81.51	0	0	0	0	27.89	0	0	0	0	0	0	-18.4	-18.4
R30	T3	QU_3.0	380532	4891086	160	80	0	86.1	86.1	1	3354.98	40.03	4000	81.51	0	0	0	0	79.41	0	0	0	0	0	0	-74.83	-74.83
R30	T3	QU_3.0	380532	4891086	160	80	0	81.1	81.1	1	3354.98	40.03	8000	81.51	0	0	0	0	277.9	0	0	0	0	0	0	-278.31	-278.31
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	73.3	73.3	1	3462.57	41.18	32	81.79	0	-3.8	0	0	0.08	0	0	1.59	1.59	0	0	-6.35	-6.35
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	83.4	83.4	1	3462.57	41.18	63	81.79	0	-3.8	0	0	0.32	0	0	1.59	1.59	0	0	3.51	3.51
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	91.5	91.5	1	3462.57	41.18	125	81.79	0	3.83	0	0	1.19	0	0	1.59	1.59	0	0	3.1	3.1
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	97.9	97.9	1	3462.57	41.18	250	81.79	0	1.39	0	0	3.72	0	0	1.59	1.59	0	0	9.42	9.42
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	99.4	99.4	1	3462.57	41.18	500	81.79	0	0	0	0	8.31	0	0	1.59	1.59	0	0	7.72	7.72
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	95.6	95.6	1	3462.57	41.18	1000	81.79	0	0	0	0	14.37	0	0	1.59	1.59	0	0	-2.15	-2.15
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	91	91	1	3462.57	41.18	2000	81.79	0	0	0	0	28.78	0	0	1.59	1.59	0	0	-21.16	-21.16
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	86.1	86.1	1	3462.57	41.18	4000	81.79	0	0	0	0	81.96	0	0	1.59	1.59	0	0	-79.24	-79.24
R30	T68	QU_68.0	386436	4891850	175.59	95.59	0	81.1	81.1	1	3462.57	41.18	8000	81.79	0	0	0	0	286.81	0	0	1.59	1.59	0	0	-289.08	-289.08

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	73.3	73.3	1	3484.72	39.01	32	81.84	0	-3.82	0	0	0.08	0	0	0.01	0.01	0	0	-4.81	-4.81
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	83.4	83.4	1	3484.72	39.01	63	81.84	0	-3.82	0	0	0.32	0	0	0.01	0.01	0	0	5.04	5.04
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	91.5	91.5	1	3484.72	39.01	125	81.84	0	3.83	0	0	1.2	0	0	0.01	0.01	0	0	4.62	4.62
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	97.9	97.9	1	3484.72	39.01	250	81.84	0	1.39	0	0	3.74	0	0	0.01	0.01	0	0	10.92	10.92
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	99.4	99.4	1	3484.72	39.01	500	81.84	0	0	0	0	8.36	0	0	0.01	0.01	0	0	9.19	9.19
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	95.6	95.6	1	3484.72	39.01	1000	81.84	0	0	0	0	14.47	0	0	0.01	0.01	0	0	-0.71	-0.71
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	91	91	1	3484.72	39.01	2000	81.84	0	0	0	0	28.97	0	0	0.01	0.01	0	0	-19.82	-19.82
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	86.1	86.1	1	3484.72	39.01	4000	81.84	0	0	0	0	82.49	0	0	0.01	0.01	0	0	-78.24	-78.24
R30	T4	QU_4.0	380265	4890695	157.46	77.46	0	81.1	81.1	1	3484.72	39.01	8000	81.84	0	0	0	0	288.64	0	0	0.01	0.01	0	0	-289.39	-289.39
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	73.3	73.3	1	3486.8	39.52	32	81.85	0	-3.82	0	0	0.08	0	0	2.28	2.28	0	0	-7.1	-7.1
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	83.4	83.4	1	3486.8	39.52	63	81.85	0	-3.82	0	0	0.32	0	0	2.28	2.28	0	0	2.76	2.76
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	91.5	91.5	1	3486.8	39.52	125	81.85	0	3.83	0	0	1.2	0	0	2.28	2.28	0	0	2.34	2.34
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	97.9	97.9	1	3486.8	39.52	250	81.85	0	1.39	0	0	3.75	0	0	2.28	2.28	0	0	8.63	8.63
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	99.4	99.4	1	3486.8	39.52	500	81.85	0	0	0	0	8.37	0	0	2.28	2.28	0	0	6.9	6.9
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	95.6	95.6	1	3486.8	39.52	1000	81.85	0	0	0	0	14.47	0	0	2.28	2.28	0	0	-3.01	-3.01
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	91	91	1	3486.8	39.52	2000	81.85	0	0	0	0	28.98	0	0	2.28	2.28	0	0	-22.12	-22.12
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	86.1	86.1	1	3486.8	39.52	4000	81.85	0	0	0	0	82.54	0	0	2.28	2.28	0	0	-80.57	-80.57
R30	T67	QU_67.0	386810	4891256	168.84	88.84	0	81.1	81.1	1	3486.8	39.52	8000	81.85	0	0	0	0	288.82	0	0	2.28	2.28	0	0	-291.85	-291.85
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	73.3	73.3	1	3567.64	41.56	32	82.05	0	-3.87	0	0	0.08	0	0	1.25	1.25	0	0	-6.21	-6.21
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	83.4	83.4	1	3567.64	41.56	63	82.05	0	-3.87	0	0	0.33	0	0	1.25	1.25	0	0	3.64	3.64
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	91.5	91.5	1	3567.64	41.56	125	82.05	0	3.83	0	0	1.23	0	0	1.25	1.25	0	0	3.14	3.14
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	97.9	97.9	1	3567.64	41.56	250	82.05	0	1.39	0	0	3.83	0	0	1.25	1.25	0	0	9.38	9.38
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	99.4	99.4	1	3567.64	41.56	500	82.05	0	0	0	0	8.56	0	0	1.25	1.25	0	0	7.54	7.54
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	95.6	95.6	1	3567.64	41.56	1000	82.05	0	0	0	0	14.81	0	0	1.25	1.25	0	0	-2.51	-2.51
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	91	91	1	3567.64	41.56	2000	82.05	0	0	0	0	29.66	0	0	1.25	1.25	0	0	-21.95	-21.95
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	86.1	86.1	1	3567.64	41.56	4000	82.05	0	0	0	0	84.45	0	0	1.25	1.25	0	0	-81.65	-81.65
R30	T69	QU_69.0	386252	4892239	179.07	99.07	0	81.1	81.1	1	3567.64	41.56	8000	82.05	0	0	0	0	295.51	0	0	1.25	1.25	0	0	-297.71	-297.71
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	73.3	73.3	1	3575.64	43.72	32	82.07	0	-3.87	0	0	0.08	0	0	3.25	3.25	0	0	-8.23	-8.23
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	83.4	83.4	1	3575.64	43.72	63	82.07	0	-3.87	0	0	0.33	0	0	3.25	3.25	0	0	1.63	1.63
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	91.5	91.5	1	3575.64	43.72	125	82.07	0	3.81	0	0	1.23	0	0	3.25	3.25	0	0	1.15	1.15
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	97.9	97.9	1	3575.64	43.72	250	82.07	0	1.36	0	0	3.84	0	0	3.25	3.25	0	0	7.38	7.38
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	99.4	99.4	1	3575.64	43.72	500	82.07	0	-0.03	0	0	8.58	0	0	3.25	3.25	0	0	5.53	5.53
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	95.6	95.6	1	3575.64	43.72	1000	82.07	0	-0.03	0	0	14.84	0	0	3.25	3.25	0	0	-4.53	-4.53
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	91	91	1	3575.64	43.72	2000	82.07	0	-0.03	0	0	29.72	0	0	3.25	3.25	0	0	-24.01	-24.01
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	86.1	86.1	1	3575.64	43.72	4000	82.07	0	-0.03	0	0	84.64	0	0	3.25	3.25	0	0	-83.82	-83.82
R30	T30	QU_30.0	384728	4886411	159.66	79.66	0	81.1	81.1	1	3575.64	43.72	8000	82.07	0	-0.03	0	0	296.17	0	0	3.25	3.25	0	0	-300.36	-300.36
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	73.3	73.3	1	3640.95	40.94	32	82.22	0	-3.91	0	0	0.09	0	0	1.04	1.04	0	0	-6.14	-6.14
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	83.4	83.4	1	3640.95	40.94	63	82.22	0	-3.91	0	0	0.34	0	0	1.04	1.04	0	0	3.71	3.71
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	91.5	91.5	1	3640.95	40.94	125	82.22	0	3.83	0	0	1.25	0	0	1.04	1.04	0	0	3.16	3.16
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	97.9	97.9	1	3640.95	40.94	250	82.22	0	1.39	0	0	3.91	0	0	1.04	1.04	0	0	9.34	9.34
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	99.4	99.4	1	3640.95	40.94	500	82.22	0	0	0	0	8.73	0	0	1.04	1.04	0	0	7.4	7.4
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	95.6	95.6	1	3640.95	40.94	1000	82.22	0	0	0	0	15.11	0	0	1.04	1.04	0	0	-2.77	-2.77
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	91	91	1	3640.95	40.94	2000	82.22	0	0	0	0	30.27	0	0	1.04	1.04	0	0	-22.53	-22.53
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	86.1	86.1	1	3640.95	40.94	4000	82.22	0	0	0	0	86.18	0	0	1.04	1.04	0	0	-83.34	-83.34
R30	T73	QU_73.0	384261	4893401	165.67	85.67	0	81.1	81.1	1	3640.95	40.94	8000	82.22	0	0	0	0	301.58	0	0	1.04	1.04	0	0	-303.74	-303.74
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	73.3	73.3	1	3655.71	41.21	32	82.26	0	-3.92	0	0	0.09	0	0	3.13	3.13	0	0	-8.26	-8.26
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	83.4	83.4	1	3655.71	41.21	63	82.26	0	-3.92	0	0	0.34	0	0	3.13	3.13	0	0	1.59	1.59
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	91.5	91.5	1	3655.71	41.21	125	82.26	0	3.83	0	0	1.26	0	0	3.13	3.13	0	0	1.02	1.02
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	97.9	97.9	1	3655.71	41.21	250	82.26	0	1.39	0	0	3.93	0	0	3.13	3.13	0	0	7.19	7.19
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	99.4	99.4	1	3655.71	41.21	500	82.26	0	0	0	0	8.77	0	0	3.13	3.13	0	0	5.24	5.24
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	95.6	95.6	1	3655.71	41.21	1000	82.26	0	0	0	0	15.18	0	0	3.13	3.13	0	0	-4.97	-4.97
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	91	91	1	3655.71	41.21	2000	82.26	0	0	0	0	30.39	0	0	3.13	3.13	0	0	-24.78	-24.78
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	86.1	86.1	1	3655.71	41.21	4000	82.26	0	0	0	0	86.53	0	0	3.13	3.13	0	0	-85.83	-85.83
R30	T52	QU_52.0	387186	4890684	166.22	86.22	0	81.1	81.1	1	3655.71	41.21	8000	82.26	0	0	0	0	302.81	0	0	3.13	3.13	0	0	-307.1	-307.1

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T32	QU_32.0	385244	4886397	165	85	0	73.3	73.3	1	3778.2	45.79	32	82.55	0	-3.99	0	0	0.09	0	0	4.05	4.05	0	0	-9.4	-9.4
R30	T32	QU_32.0	385244	4886397	165	85	0	83.4	83.4	1	3778.2	45.79	63	82.55	0	-3.99	0	0	0.35	0	0	4.05	4.05	0	0	0.44	0.44
R30	T32	QU_32.0	385244	4886397	165	85	0	91.5	91.5	1	3778.2	45.79	125	82.55	0	3.83	0	0	1.3	0	0	4.05	4.05	0	0	-0.23	-0.23
R30	T32	QU_32.0	385244	4886397	165	85	0	97.9	97.9	1	3778.2	45.79	250	82.55	0	1.39	0	0	4.06	0	0	4.05	4.05	0	0	5.85	5.85
R30	T32	QU_32.0	385244	4886397	165	85	0	99.4	99.4	1	3778.2	45.79	500	82.55	0	0	0	0	9.06	0	0	4.05	4.05	0	0	3.74	3.74
R30	T32	QU_32.0	385244	4886397	165	85	0	95.6	95.6	1	3778.2	45.79	1000	82.55	0	0	0	0	15.68	0	0	4.05	4.05	0	0	-6.68	-6.68
R30	T32	QU_32.0	385244	4886397	165	85	0	91	91	1	3778.2	45.79	2000	82.55	0	0	0	0	31.41	0	0	4.05	4.05	0	0	-27	-27
R30	T32	QU_32.0	385244	4886397	165	85	0	86.1	86.1	1	3778.2	45.79	4000	82.55	0	0	0	0	89.43	0	0	4.05	4.05	0	0	-89.93	-89.93
R30	T32	QU_32.0	385244	4886397	165	85	0	81.1	81.1	1	3778.2	45.79	8000	82.55	0	0	0	0	312.95	0	0	4.05	4.05	0	0	-318.45	-318.45
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	73.3	73.3	1	3845.15	41.51	32	82.7	0	-4.02	0	0	0.09	0	0	1.17	1.17	0	0	-6.64	-6.64
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	83.4	83.4	1	3845.15	41.51	63	82.7	0	-4.02	0	0	0.36	0	0	1.17	1.17	0	0	3.2	3.2
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	91.5	91.5	1	3845.15	41.51	125	82.7	0	3.83	0	0	1.32	0	0	1.17	1.17	0	0	2.48	2.48
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	97.9	97.9	1	3845.15	41.51	250	82.7	0	1.39	0	0	4.13	0	0	1.17	1.17	0	0	8.51	8.51
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	99.4	99.4	1	3845.15	41.51	500	82.7	0	0	0	0	9.22	0	0	1.17	1.17	0	0	6.31	6.31
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	95.6	95.6	1	3845.15	41.51	1000	82.7	0	0	0	0	15.96	0	0	1.17	1.17	0	0	-4.23	-4.23
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	91	91	1	3845.15	41.51	2000	82.7	0	0	0	0	31.96	0	0	1.17	1.17	0	0	-24.83	-24.83
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	86.1	86.1	1	3845.15	41.51	4000	82.7	0	0	0	0	91.02	0	0	1.17	1.17	0	0	-88.79	-88.79
R30	T72	QU_72.0	385835	4892968	175.43	95.43	0	81.1	81.1	1	3845.15	41.51	8000	82.7	0	0	0	0	318.5	0	0	1.17	1.17	0	0	-321.27	-321.27
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	73.3	73.3	1	3877.37	43.68	32	82.77	0	-4.04	0	0	0.09	0	0	3.4	3.4	0	0	-8.92	-8.92
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	83.4	83.4	1	3877.37	43.68	63	82.77	0	-4.04	0	0	0.36	0	0	3.4	3.4	0	0	0.91	0.91
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	91.5	91.5	1	3877.37	43.68	125	82.77	0	3.81	0	0	1.33	0	0	3.4	3.4	0	0	0.19	0.19
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	97.9	97.9	1	3877.37	43.68	250	82.77	0	1.37	0	0	4.17	0	0	3.4	3.4	0	0	6.2	6.2
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	99.4	99.4	1	3877.37	43.68	500	82.77	0	-0.02	0	0	9.3	0	0	3.4	3.4	0	0	3.95	3.95
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	95.6	95.6	1	3877.37	43.68	1000	82.77	0	-0.02	0	0	16.1	0	0	3.4	3.4	0	0	-6.64	-6.64
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	91	91	1	3877.37	43.68	2000	82.77	0	-0.02	0	0	32.23	0	0	3.4	3.4	0	0	-27.38	-27.38
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	86.1	86.1	1	3877.37	43.68	4000	82.77	0	-0.02	0	0	91.78	0	0	3.4	3.4	0	0	-91.83	-91.83
R30	T31	QU_31.0	384870	4886140	159.89	79.89	0	81.1	81.1	1	3877.37	43.68	8000	82.77	0	-0.02	0	0	321.17	0	0	3.4	3.4	0	0	-326.21	-326.21
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	73.3	73.3	1	3897.14	41.8	32	82.81	0	-4.05	0	0	0.09	0	0	4.5	4.5	0	0	-10.05	-10.05
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	83.4	83.4	1	3897.14	41.8	63	82.81	0	-4.05	0	0	0.36	0	0	4.5	4.5	0	0	-0.22	-0.22
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	91.5	91.5	1	3897.14	41.8	125	82.81	0	3.83	0	0	1.34	0	0	4.5	4.5	0	0	-0.98	-0.98
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	97.9	97.9	1	3897.14	41.8	250	82.81	0	1.39	0	0	4.19	0	0	4.5	4.5	0	0	5.01	5.01
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	99.4	99.4	1	3897.14	41.8	500	82.81	0	0	0	0	9.35	0	0	4.5	4.5	0	0	2.74	2.74
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	95.6	95.6	1	3897.14	41.8	1000	82.81	0	0	0	0	16.18	0	0	4.5	4.5	0	0	-7.89	-7.89
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	91	91	1	3897.14	41.8	2000	82.81	0	0	0	0	32.4	0	0	4.5	4.5	0	0	-28.71	-28.71
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	86.1	86.1	1	3897.14	41.8	4000	82.81	0	0	0	0	92.25	0	0	4.5	4.5	0	0	-93.46	-93.46
R30	T55	QU_55.0	387531	4889914	167.87	87.87	0	81.1	81.1	1	3897.14	41.8	8000	82.81	0	0	0	0	322.8	0	0	4.5	4.5	0	0	-329.01	-329.01
R30	T38	QU_38.0	387285	4888063	170	90	0	73.3	73.3	1	4048.69	45.28	32	83.15	0	-4.12	0	0	0.1	0	0	7.91	7.91	0	0	-13.73	-13.73
R30	T38	QU_38.0	387285	4888063	170	90	0	83.4	83.4	1	4048.69	45.28	63	83.15	0	-4.12	0	0	0.38	0	0	7.91	7.91	0	0	-3.91	-3.91
R30	T38	QU_38.0	387285	4888063	170	90	0	91.5	91.5	1	4048.69	45.28	125	83.15	0	3.83	0	0	1.39	0	0	7.91	7.91	0	0	-4.78	-4.78
R30	T38	QU_38.0	387285	4888063	170	90	0	97.9	97.9	1	4048.69	45.28	250	83.15	0	1.39	0	0	4.35	0	0	7.91	7.91	0	0	1.1	1.1
R30	T38	QU_38.0	387285	4888063	170	90	0	99.4	99.4	1	4048.69	45.28	500	83.15	0	0	0	0	9.71	0	0	7.91	7.91	0	0	-1.37	-1.37
R30	T38	QU_38.0	387285	4888063	170	90	0	95.6	95.6	1	4048.69	45.28	1000	83.15	0	0	0	0	16.81	0	0	7.91	7.91	0	0	-12.27	-12.27
R30	T38	QU_38.0	387285	4888063	170	90	0	91	91	1	4048.69	45.28	2000	83.15	0	0	0	0	33.66	0	0	7.91	7.91	0	0	-33.71	-33.71
R30	T38	QU_38.0	387285	4888063	170	90	0	86.1	86.1	1	4048.69	45.28	4000	83.15	0	0	0	0	95.84	0	0	7.91	7.91	0	0	-100.79	-100.79
R30	T38	QU_38.0	387285	4888063	170	90	0	81.1	81.1	1	4048.69	45.28	8000	83.15	0	0	0	0	335.36	0	0	7.91	7.91	0	0	-345.32	-345.32
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	73.3	73.3	1	4121.82	43.21	32	83.3	0	-4.15	0	0	0.1	0	0	5.22	5.22	0	0	-11.16	-11.16
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	83.4	83.4	1	4121.82	43.21	63	83.3	0	-4.15	0	0	0.38	0	0	5.22	5.22	0	0	-1.35	-1.35
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	91.5	91.5	1	4121.82	43.21	125	83.3	0	3.83	0	0	1.42	0	0	5.22	5.22	0	0	-2.27	-2.27
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	97.9	97.9	1	4121.82	43.21	250	83.3	0	1.39	0	0	4.43	0	0	5.22	5.22	0	0	3.56	3.56
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	99.4	99.4	1	4121.82	43.21	500	83.3	0	0	0	0	9.89	0	0	5.22	5.22	0	0	0.99	0.99
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	95.6	95.6	1	4121.82	43.21	1000	83.3	0	0	0	0	17.11	0	0	5.22	5.22	0	0	-10.03	-10.03
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	91	91	1	4121.82	43.21	2000	83.3	0	0	0	0	34.26	0	0	5.22	5.22	0	0	-31.78	-31.78
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	86.1	86.1	1	4121.82	43.21	4000	83.3	0	0	0	0	97.57	0	0	5.22	5.22	0	0	-99.99	-99.99
R30	T54	QU_54.0	387751	4889593	168.25	88.25	0	81.1	81.1	1	4121.82	43.21	8000	83.3	0	0	0	0	341.41	0	0	5.22	5.22	0	0	-348.83	-348.83

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T51	QU_51.0	387725	4890476	170	90	0	73.3	73.3	1	4142.95	42.55	32	83.35	0	-4.16	0	0	0.1	0	0	3.68	3.68	0	0	-9.66	-9.66
R30	T51	QU_51.0	387725	4890476	170	90	0	83.4	83.4	1	4142.95	42.55	63	83.35	0	-4.16	0	0	0.38	0	0	3.68	3.68	0	0	0.15	0.15
R30	T51	QU_51.0	387725	4890476	170	90	0	91.5	91.5	1	4142.95	42.55	125	83.35	0	3.83	0	0	1.42	0	0	3.68	3.68	0	0	-0.78	-0.78
R30	T51	QU_51.0	387725	4890476	170	90	0	97.9	97.9	1	4142.95	42.55	250	83.35	0	1.39	0	0	4.45	0	0	3.68	3.68	0	0	5.03	5.03
R30	T51	QU_51.0	387725	4890476	170	90	0	99.4	99.4	1	4142.95	42.55	500	83.35	0	0	0	0	9.94	0	0	3.68	3.68	0	0	2.43	2.43
R30	T51	QU_51.0	387725	4890476	170	90	0	95.6	95.6	1	4142.95	42.55	1000	83.35	0	0	0	0	17.2	0	0	3.68	3.68	0	0	-8.62	-8.62
R30	T51	QU_51.0	387725	4890476	170	90	0	91	91	1	4142.95	42.55	2000	83.35	0	0	0	0	34.44	0	0	3.68	3.68	0	0	-30.46	-30.46
R30	T51	QU_51.0	387725	4890476	170	90	0	86.1	86.1	1	4142.95	42.55	4000	83.35	0	0	0	0	98.07	0	0	3.68	3.68	0	0	-98.99	-98.99
R30	T51	QU_51.0	387725	4890476	170	90	0	81.1	81.1	1	4142.95	42.55	8000	83.35	0	0	0	0	343.16	0	0	3.68	3.68	0	0	-349.09	-349.09
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	73.3	73.3	1	4292.85	42.94	32	83.65	0	-4.23	0	0	0.1	0	0	8.03	8.03	0	0	-14.26	-14.26
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	83.4	83.4	1	4292.85	42.94	63	83.65	0	-4.23	0	0	0.4	0	0	8.03	8.03	0	0	-4.46	-4.46
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	91.5	91.5	1	4292.85	42.94	125	83.65	0	3.83	0	0	1.47	0	0	8.03	8.03	0	0	-5.49	-5.49
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	97.9	97.9	1	4292.85	42.94	250	83.65	0	1.39	0	0	4.61	0	0	8.03	8.03	0	0	0.21	0.21
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	99.4	99.4	1	4292.85	42.94	500	83.65	0	0	0	0	10.3	0	0	8.03	8.03	0	0	-2.59	-2.59
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	95.6	95.6	1	4292.85	42.94	1000	83.65	0	0	0	0	17.82	0	0	8.03	8.03	0	0	-13.91	-13.91
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	91	91	1	4292.85	42.94	2000	83.65	0	0	0	0	35.68	0	0	8.03	8.03	0	0	-36.37	-36.37
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	86.1	86.1	1	4292.85	42.94	4000	83.65	0	0	0	0	101.62	0	0	8.03	8.03	0	0	-107.2	-107.2
R30	T39	QU_39.0	387296	4887573	165.35	85.35	0	81.1	81.1	1	4292.85	42.94	8000	83.65	0	0	0	0	355.58	0	0	8.03	8.03	0	0	-366.17	-366.17
R30	T53	QU_53.0	388107	4889392	170	90	0	73.3	73.3	1	4491.77	43.44	32	84.05	0	-4.31	0	0	0.11	0	0	5.72	5.72	0	0	-12.27	-12.27
R30	T53	QU_53.0	388107	4889392	170	90	0	83.4	83.4	1	4491.77	43.44	63	84.05	0	-4.31	0	0	0.42	0	0	5.72	5.72	0	0	-2.48	-2.48
R30	T53	QU_53.0	388107	4889392	170	90	0	91.5	91.5	1	4491.77	43.44	125	84.05	0	3.83	0	0	1.54	0	0	5.72	5.72	0	0	-3.65	-3.65
R30	T53	QU_53.0	388107	4889392	170	90	0	97.9	97.9	1	4491.77	43.44	250	84.05	0	1.39	0	0	4.83	0	0	5.72	5.72	0	0	1.91	1.91
R30	T53	QU_53.0	388107	4889392	170	90	0	99.4	99.4	1	4491.77	43.44	500	84.05	0	0	0	0	10.78	0	0	5.72	5.72	0	0	-1.15	-1.15
R30	T53	QU_53.0	388107	4889392	170	90	0	95.6	95.6	1	4491.77	43.44	1000	84.05	0	0	0	0	18.65	0	0	5.72	5.72	0	0	-12.82	-12.82
R30	T53	QU_53.0	388107	4889392	170	90	0	91	91	1	4491.77	43.44	2000	84.05	0	0	0	0	37.34	0	0	5.72	5.72	0	0	-36.11	-36.11
R30	T53	QU_53.0	388107	4889392	170	90	0	86.1	86.1	1	4491.77	43.44	4000	84.05	0	0	0	0	106.32	0	0	5.72	5.72	0	0	-110	-110
R30	T53	QU_53.0	388107	4889392	170	90	0	81.1	81.1	1	4491.77	43.44	8000	84.05	0	0	0	0	372.06	0	0	5.72	5.72	0	0	-380.73	-380.73
R30	T50	QU_50.0	388202	4890596	170	90	0	73.3	73.3	1	4633.09	42.06	32	84.32	0	-4.36	0	0	0.11	0	0	3.72	3.72	0	0	-10.49	-10.49
R30	T50	QU_50.0	388202	4890596	170	90	0	83.4	83.4	1	4633.09	42.06	63	84.32	0	-4.36	0	0	0.43	0	0	3.72	3.72	0	0	-0.71	-0.71
R30	T50	QU_50.0	388202	4890596	170	90	0	91.5	91.5	1	4633.09	42.06	125	84.32	0	3.83	0	0	1.59	0	0	3.72	3.72	0	0	-1.97	-1.97
R30	T50	QU_50.0	388202	4890596	170	90	0	97.9	97.9	1	4633.09	42.06	250	84.32	0	1.39	0	0	4.98	0	0	3.72	3.72	0	0	3.49	3.49
R30	T50	QU_50.0	388202	4890596	170	90	0	99.4	99.4	1	4633.09	42.06	500	84.32	0	0	0	0	11.12	0	0	3.72	3.72	0	0	0.24	0.24
R30	T50	QU_50.0	388202	4890596	170	90	0	95.6	95.6	1	4633.09	42.06	1000	84.32	0	0	0	0	19.23	0	0	3.72	3.72	0	0	-11.67	-11.67
R30	T50	QU_50.0	388202	4890596	170	90	0	91	91	1	4633.09	42.06	2000	84.32	0	0	0	0	38.51	0	0	3.72	3.72	0	0	-35.56	-35.56
R30	T50	QU_50.0	388202	4890596	170	90	0	86.1	86.1	1	4633.09	42.06	4000	84.32	0	0	0	0	109.67	0	0	3.72	3.72	0	0	-111.61	-111.61
R30	T50	QU_50.0	388202	4890596	170	90	0	81.1	81.1	1	4633.09	42.06	8000	84.32	0	0	0	0	383.76	0	0	3.72	3.72	0	0	-390.71	-390.71
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	73.3	73.3	1	4793.69	44.34	32	84.61	0	-4.41	0	0	0.11	0	0	2.82	2.82	0	0	-9.84	-9.84
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	83.4	83.4	1	4793.69	44.34	63	84.61	0	-4.41	0	0	0.44	0	0	2.82	2.82	0	0	-0.07	-0.07
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	91.5	91.5	1	4793.69	44.34	125	84.61	0	3.83	0	0	1.65	0	0	2.82	2.82	0	0	-1.42	-1.42
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	97.9	97.9	1	4793.69	44.34	250	84.61	0	1.39	0	0	5.15	0	0	2.82	2.82	0	0	3.92	3.92
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	99.4	99.4	1	4793.69	44.34	500	84.61	0	0	0	0	11.5	0	0	2.82	2.82	0	0	0.46	0.46
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	95.6	95.6	1	4793.69	44.34	1000	84.61	0	0	0	0	19.9	0	0	2.82	2.82	0	0	-11.74	-11.74
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	91	91	1	4793.69	44.34	2000	84.61	0	0	0	0	39.85	0	0	2.82	2.82	0	0	-36.28	-36.28
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	86.1	86.1	1	4793.69	44.34	4000	84.61	0	0	0	0	113.47	0	0	2.82	2.82	0	0	-114.81	-114.81
R30	T66	QU_66.0	388141	4891451	174.24	94.24	0	81.1	81.1	1	4793.69	44.34	8000	84.61	0	0	0	0	397.07	0	0	2.82	2.82	0	0	-403.4	-403.4
R30	T41	QU_41.0	387583	4886726	160	80	0	73.3	73.3	1	5012.62	41.4	32	85	0	-4.48	0	0	0.12	0	0	8.31	8.31	0	0	-15.65	-15.65
R30	T41	QU_41.0	387583	4886726	160	80	0	83.4	83.4	1	5012.62	41.4	63	85	0	-4.48	0	0	0.46	0	0	8.31	8.31	0	0	-5.9	-5.9
R30	T41	QU_41.0	387583	4886726	160	80	0	91.5	91.5	1	5012.62	41.4	125	85	0	3.83	0	0	1.72	0	0	8.31	8.31	0	0	-7.37	-7.37
R30	T41	QU_41.0	387583	4886726	160	80	0	97.9	97.9	1	5012.62	41.4	250	85	0	1.39	0	0	5.39	0	0	8.31	8.31	0	0	-2.19	-2.19
R30	T41	QU_41.0	387583	4886726	160	80	0	99.4	99.4	1	5012.62	41.4	500	85	0	0	0	0	12.03	0	0	8.31	8.31	0	0	-5.94	-5.94
R30	T41	QU_41.0	387583	4886726	160	80	0	95.6	95.6	1	5012.62	41.4	1000	85	0	0	0	0	20.81	0	0	8.31	8.31	0	0	-18.52	-18.52
R30	T41	QU_41.0	387583	4886726	160	80	0	91	91	1	5012.62	41.4	2000	85	0	0	0	0	41.67	0	0	8.31	8.31	0	0	-43.98	-43.98
R30	T41	QU_41.0	387583	4886726	160	80	0	86.1	86.1	1	5012.62	41.4	4000	85	0	0	0	0	118.65	0	0	8.31	8.31	0	0	-125.87	-125.87
R30	T41	QU_41.0	387583	4886726	160	80	0	81.1	81.1	1	5012.62	41.4	8000	85	0	0	0	0	415.2	0	0	8.31	8.31	0	0	-427.42	-427.42

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T49	QU_49.0	388637	4890406	170	90	0	73.3	73.3	1	5036.52	42.08	32	85.04	0	-4.49	0	0	0.12	0	0	4.12	4.12	0	0	-11.49	-11.49
R30	T49	QU_49.0	388637	4890406	170	90	0	83.4	83.4	1	5036.52	42.08	63	85.04	0	-4.49	0	0	0.47	0	0	4.12	4.12	0	0	-1.74	-1.74
R30	T49	QU_49.0	388637	4890406	170	90	0	91.5	91.5	1	5036.52	42.08	125	85.04	0	3.83	0	0	1.73	0	0	4.12	4.12	0	0	-3.22	-3.22
R30	T49	QU_49.0	388637	4890406	170	90	0	97.9	97.9	1	5036.52	42.08	250	85.04	0	1.39	0	0	5.41	0	0	4.12	4.12	0	0	1.94	1.94
R30	T49	QU_49.0	388637	4890406	170	90	0	99.4	99.4	1	5036.52	42.08	500	85.04	0	0	0	0	12.08	0	0	4.12	4.12	0	0	-1.84	-1.84
R30	T49	QU_49.0	388637	4890406	170	90	0	95.6	95.6	1	5036.52	42.08	1000	85.04	0	0	0	0	20.91	0	0	4.12	4.12	0	0	-14.47	-14.47
R30	T49	QU_49.0	388637	4890406	170	90	0	91	91	1	5036.52	42.08	2000	85.04	0	0	0	0	41.87	0	0	4.12	4.12	0	0	-40.02	-40.02
R30	T49	QU_49.0	388637	4890406	170	90	0	86.1	86.1	1	5036.52	42.08	4000	85.04	0	0	0	0	119.22	0	0	4.12	4.12	0	0	-122.28	-122.28
R30	T49	QU_49.0	388637	4890406	170	90	0	81.1	81.1	1	5036.52	42.08	8000	85.04	0	0	0	0	417.18	0	0	4.12	4.12	0	0	-425.24	-425.24
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	73.3	73.3	1	5047.19	39	32	85.06	0	-4.49	0	0	0.12	0	0	1.25	1.25	0	0	-8.64	-8.64
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	83.4	83.4	1	5047.19	39	63	85.06	0	-4.49	0	0	0.47	0	0	1.25	1.25	0	0	1.12	1.12
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	91.5	91.5	1	5047.19	39	125	85.06	0	3.83	0	0	1.73	0	0	1.25	1.25	0	0	-0.38	-0.38
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	97.9	97.9	1	5047.19	39	250	85.06	0	1.39	0	0	5.42	0	0	1.25	1.25	0	0	4.78	4.78
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	99.4	99.4	1	5047.19	39	500	85.06	0	0	0	0	12.11	0	0	1.25	1.25	0	0	0.98	0.98
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	95.6	95.6	1	5047.19	39	1000	85.06	0	0	0	0	20.95	0	0	1.25	1.25	0	0	-11.66	-11.66
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	91	91	1	5047.19	39	2000	85.06	0	0	0	0	41.96	0	0	1.25	1.25	0	0	-37.27	-37.27
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	86.1	86.1	1	5047.19	39	4000	85.06	0	0	0	0	119.47	0	0	1.25	1.25	0	0	-119.68	-119.68
R30	T71	QU_71.0	386332	4894081	168.5	88.5	0	81.1	81.1	1	5047.19	39	8000	85.06	0	0	0	0	418.06	0	0	1.25	1.25	0	0	-423.27	-423.27
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	73.3	73.3	1	5127.95	38.86	32	85.2	0	-4.52	0	0	0.12	0	0	1.67	1.67	0	0	-9.18	-9.18
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	83.4	83.4	1	5127.95	38.86	63	85.2	0	-4.52	0	0	0.48	0	0	1.67	1.67	0	0	0.57	0.57
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	91.5	91.5	1	5127.95	38.86	125	85.2	0	3.83	0	0	1.76	0	0	1.67	1.67	0	0	-0.97	-0.97
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	97.9	97.9	1	5127.95	38.86	250	85.2	0	1.39	0	0	5.51	0	0	1.67	1.67	0	0	4.13	4.13
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	99.4	99.4	1	5127.95	38.86	500	85.2	0	0	0	0	12.3	0	0	1.67	1.67	0	0	0.22	0.22
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	95.6	95.6	1	5127.95	38.86	1000	85.2	0	0	0	0	21.29	0	0	1.67	1.67	0	0	-12.56	-12.56
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	91	91	1	5127.95	38.86	2000	85.2	0	0	0	0	42.63	0	0	1.67	1.67	0	0	-38.5	-38.5
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	86.1	86.1	1	5127.95	38.86	4000	85.2	0	0	0	0	121.38	0	0	1.67	1.67	0	0	-122.16	-122.16
R30	T65	QU_65.0	387713	4892924	175.07	95.07	0	81.1	81.1	1	5127.95	38.86	8000	85.2	0	0	0	0	424.75	0	0	1.67	1.67	0	0	-430.53	-430.53
R30	T40	QU_40.0	388007	4886993	160	80	0	73.3	73.3	1	5203.36	40.38	32	85.33	0	-4.54	0	0	0.12	0	0	8.38	8.38	0	0	-15.99	-15.99
R30	T40	QU_40.0	388007	4886993	160	80	0	83.4	83.4	1	5203.36	40.38	63	85.33	0	-4.54	0	0	0.48	0	0	8.38	8.38	0	0	-6.25	-6.25
R30	T40	QU_40.0	388007	4886993	160	80	0	91.5	91.5	1	5203.36	40.38	125	85.33	0	3.83	0	0	1.79	0	0	8.38	8.38	0	0	-7.82	-7.82
R30	T40	QU_40.0	388007	4886993	160	80	0	97.9	97.9	1	5203.36	40.38	250	85.33	0	1.39	0	0	5.59	0	0	8.38	8.38	0	0	-2.78	-2.78
R30	T40	QU_40.0	388007	4886993	160	80	0	99.4	99.4	1	5203.36	40.38	500	85.33	0	0	0	0	12.48	0	0	8.38	8.38	0	0	-6.79	-6.79
R30	T40	QU_40.0	388007	4886993	160	80	0	95.6	95.6	1	5203.36	40.38	1000	85.33	0	0	0	0	21.6	0	0	8.38	8.38	0	0	-19.7	-19.7
R30	T40	QU_40.0	388007	4886993	160	80	0	91	91	1	5203.36	40.38	2000	85.33	0	0	0	0	43.25	0	0	8.38	8.38	0	0	-45.96	-45.96
R30	T40	QU_40.0	388007	4886993	160	80	0	86.1	86.1	1	5203.36	40.38	4000	85.33	0	0	0	0	123.17	0	0	8.38	8.38	0	0	-130.77	-130.77
R30	T40	QU_40.0	388007	4886993	160	80	0	81.1	81.1	1	5203.36	40.38	8000	85.33	0	0	0	0	431	0	0	8.38	8.38	0	0	-443.6	-443.6
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	73.3	73.3	1	5263.02	37.64	32	85.42	0	-4.55	0	0	0.12	0	0	1.26	1.26	0	0	-8.95	-8.95
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	83.4	83.4	1	5263.02	37.64	63	85.42	0	-4.55	0	0	0.49	0	0	1.26	1.26	0	0	0.78	0.78
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	91.5	91.5	1	5263.02	37.64	125	85.42	0	3.83	0	0	1.81	0	0	1.26	1.26	0	0	-0.82	-0.82
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	97.9	97.9	1	5263.02	37.64	250	85.42	0	1.39	0	0	5.66	0	0	1.26	1.26	0	0	4.17	4.17
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	99.4	99.4	1	5263.02	37.64	500	85.42	0	0	0	0	12.63	0	0	1.26	1.26	0	0	0.09	0.09
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	95.6	95.6	1	5263.02	37.64	1000	85.42	0	0	0	0	21.85	0	0	1.26	1.26	0	0	-12.93	-12.93
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	91	91	1	5263.02	37.64	2000	85.42	0	0	0	0	43.75	0	0	1.26	1.26	0	0	-39.43	-39.43
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	86.1	86.1	1	5263.02	37.64	4000	85.42	0	0	0	0	124.58	0	0	1.26	1.26	0	0	-125.16	-125.16
R30	T70	QU_70.0	386887	4893953	170.67	90.67	0	81.1	81.1	1	5263.02	37.64	8000	85.42	0	0	0	0	435.94	0	0	1.26	1.26	0	0	-441.53	-441.53
R30	East Transform	QFA	382316	4892811	86.98	82	0	56.4	56.4	20.89	3273.87	6.38	32	81.3	0	-5.74	10.57	0.72	0.08	0	0	0.46	0.46	0	0	-30.25	-30.25
R30	East Transform	QFA	382316	4892811	86.98	82	0	63.6	63.6	20.89	3273.87	6.38	63	81.3	0	-5.74	10.62	0.72	0.3	0	0	0.46	0.46	0	0	-23.33	-23.33
R30	East Transform	QFA	382316	4892811	86.98	82	0	80.7	80.7	20.89	3273.87	6.38	125	81.3	0	5.76	0	0.72	1.12	0	0	0.46	0.46	0	0	-7.93	-7.93
R30	East Transform	QFA	382316	4892811	86.98	82	0	85.2	85.2	20.89	3273.87	6.38	250	81.3	0	1.51	3.69	0.72	3.52	0	0	0.46	0.46	0	0	-5.27	-5.27
R30	East Transform	QFA	382316	4892811	86.98	82	0	98.6	98.6	20.89	3273.87	6.38	500	81.3	0	-0.49	6.09	0.72	7.85	0	0	0.46	0.46	0	0	3.4	3.4
R30	East Transform	QFA	382316	4892811	86.98	82	0	87.8	87.8	20.89	3273.87	6.38	1000	81.3	0	-0.5	6.78	0.72	13.59	0	0	0.46	0.46	0	0	-13.82	-13.82
R30	East Transform	QFA	382316	4892811	86.98	82	0	70	70	20.89	3273.87	6.38	2000	81.3	0	-0.5	7.9	0.72	27.21	0	0	0.46	0.46	0	0	-46.37	-46.37
R30	East Transform	QFA	382316	4892811	86.98	82	0	65.8	65.8	20.89	3273.87	6.38	4000	81.3	0	-0.5	9.53	0.72	77.5	0	0	0.46	0.46	0	0	-102.48	-102.48
R30	East Transform	QFA	382316	4892811	86.98	82	0	59.7	59.7	20.89	3273.87	6.38	8000	81.3	0	-0.5	11.64	0.72	271.18	0	0	0.46	0.46	0	0	-304.37	-304.37

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	East Transform	QFA	382315	4892808	86.98	82	0	56.4	56.4	20.89	3271.89	6.37	32	81.3	0	-5.74	10.74	1.05	0.08	0	0	0.46	0.46	0	0	-30.42	-30.42
R30	East Transform	QFA	382315	4892808	86.98	82	0	63.6	63.6	20.89	3271.89	6.37	63	81.3	0	-5.74	10.96	1.05	0.3	0	0	0.46	0.46	0	0	-23.66	-23.66
R30	East Transform	QFA	382315	4892808	86.98	82	0	80.7	80.7	20.89	3271.89	6.37	125	81.3	0	5.76	0	1.05	1.12	0	0	0.46	0.46	0	0	-7.92	-7.92
R30	East Transform	QFA	382315	4892808	86.98	82	0	85.2	85.2	20.89	3271.89	6.37	250	81.3	0	1.51	4.82	1.05	3.52	0	0	0.46	0.46	0	0	-6.38	-6.38
R30	East Transform	QFA	382315	4892808	86.98	82	0	98.6	98.6	20.89	3271.89	6.37	500	81.3	0	-0.49	7.97	1.05	7.85	0	0	0.46	0.46	0	0	1.54	1.54
R30	East Transform	QFA	382315	4892808	86.98	82	0	87.8	87.8	20.89	3271.89	6.37	1000	81.3	0	-0.5	9.62	1.05	13.58	0	0	0.46	0.46	0	0	-16.65	-16.65
R30	East Transform	QFA	382315	4892808	86.98	82	0	70	70	20.89	3271.89	6.37	2000	81.3	0	-0.5	11.75	1.05	27.2	0	0	0.46	0.46	0	0	-50.19	-50.19
R30	East Transform	QFA	382315	4892808	86.98	82	0	65.8	65.8	20.89	3271.89	6.37	4000	81.3	0	-0.5	14.24	1.05	77.45	0	0	0.46	0.46	0	0	-107.14	-107.14
R30	East Transform	QFA	382315	4892808	86.98	82	0	59.7	59.7	20.89	3271.89	6.37	8000	81.3	0	-0.5	16.97	1.05	271.01	0	0	0.46	0.46	0	0	-309.53	-309.53
R30	West Transform	QFA	382298	4892805	86.98	82	0	56.4	56.4	20.89	3275.55	6.37	32	81.31	0	-5.74	10.57	0.72	0.08	0	0	0.45	0.45	0	0	-30.25	-30.25
R30	West Transform	QFA	382298	4892805	86.98	82	0	63.6	63.6	20.89	3275.55	6.37	63	81.31	0	-5.74	10.62	0.72	0.3	0	0	0.45	0.45	0	0	-23.33	-23.33
R30	West Transform	QFA	382298	4892805	86.98	82	0	80.7	80.7	20.89	3275.55	6.37	125	81.31	0	5.76	0	0.72	1.12	0	0	0.45	0.45	0	0	-7.92	-7.92
R30	West Transform	QFA	382298	4892805	86.98	82	0	85.2	85.2	20.89	3275.55	6.37	250	81.31	0	1.51	3.69	0.72	3.52	0	0	0.45	0.45	0	0	-5.26	-5.26
R30	West Transform	QFA	382298	4892805	86.98	82	0	98.6	98.6	20.89	3275.55	6.37	500	81.31	0	-0.49	6.09	0.72	7.86	0	0	0.45	0.45	0	0	3.41	3.41
R30	West Transform	QFA	382298	4892805	86.98	82	0	87.8	87.8	20.89	3275.55	6.37	1000	81.31	0	-0.5	6.78	0.72	13.6	0	0	0.45	0.45	0	0	-13.82	-13.82
R30	West Transform	QFA	382298	4892805	86.98	82	0	70	70	20.89	3275.55	6.37	2000	81.31	0	-0.5	7.9	0.72	27.23	0	0	0.45	0.45	0	0	-46.37	-46.37
R30	West Transform	QFA	382298	4892805	86.98	82	0	65.8	65.8	20.89	3275.55	6.37	4000	81.31	0	-0.5	9.52	0.72	77.53	0	0	0.45	0.45	0	0	-102.5	-102.5
R30	West Transform	QFA	382298	4892805	86.98	82	0	59.7	59.7	20.89	3275.55	6.37	8000	81.31	0	-0.5	11.63	0.72	271.32	0	0	0.45	0.45	0	0	-304.49	-304.49
R30	West Transform	QFA	382297	4892802	86.98	82	0	56.4	56.4	20.89	3273.59	6.37	32	81.3	0	-5.74	10.74	1.05	0.08	0	0	0.45	0.45	0	0	-30.42	-30.42
R30	West Transform	QFA	382297	4892802	86.98	82	0	63.6	63.6	20.89	3273.59	6.37	63	81.3	0	-5.74	10.96	1.05	0.3	0	0	0.45	0.45	0	0	-23.66	-23.66
R30	West Transform	QFA	382297	4892802	86.98	82	0	80.7	80.7	20.89	3273.59	6.37	125	81.3	0	5.76	0	1.05	1.12	0	0	0.45	0.45	0	0	-7.92	-7.92
R30	West Transform	QFA	382297	4892802	86.98	82	0	85.2	85.2	20.89	3273.59	6.37	250	81.3	0	1.51	4.81	1.05	3.52	0	0	0.45	0.45	0	0	-6.38	-6.38
R30	West Transform	QFA	382297	4892802	86.98	82	0	98.6	98.6	20.89	3273.59	6.37	500	81.3	0	-0.49	7.96	1.05	7.85	0	0	0.45	0.45	0	0	1.54	1.54
R30	West Transform	QFA	382297	4892802	86.98	82	0	87.8	87.8	20.89	3273.59	6.37	1000	81.3	0	-0.5	9.61	1.05	13.59	0	0	0.45	0.45	0	0	-16.65	-16.65
R30	West Transform	QFA	382297	4892802	86.98	82	0	70	70	20.89	3273.59	6.37	2000	81.3	0	-0.5	11.74	1.05	27.21	0	0	0.45	0.45	0	0	-50.2	-50.2
R30	West Transform	QFA	382297	4892802	86.98	82	0	65.8	65.8	20.89	3273.59	6.37	4000	81.3	0	-0.5	14.24	1.05	77.49	0	0	0.45	0.45	0	0	-107.16	-107.16
R30	West Transform	QFA	382297	4892802	86.98	82	0	59.7	59.7	20.89	3273.59	6.37	8000	81.3	0	-0.5	16.96	1.05	271.15	0	0	0.45	0.45	0	0	-309.66	-309.66
R30	T37	QU_37.0	388798	4887799	160	80	0	73.3	73.3	1	5542.21	39.49	32	85.87	0	-4.63	0	0	0.13	0	0	8.48	8.48	0	0	-16.55	-16.55
R30	T37	QU_37.0	388798	4887799	160	80	0	83.4	83.4	1	5542.21	39.49	63	85.87	0	-4.63	0	0	0.51	0	0	8.48	8.48	0	0	-6.84	-6.84
R30	T37	QU_37.0	388798	4887799	160	80	0	91.5	91.5	1	5542.21	39.49	125	85.87	0	3.83	0	0	1.9	0	0	8.48	8.48	0	0	-8.58	-8.58
R30	T37	QU_37.0	388798	4887799	160	80	0	97.9	97.9	1	5542.21	39.49	250	85.87	0	1.39	0	0	5.96	0	0	8.48	8.48	0	0	-3.79	-3.79
R30	T37	QU_37.0	388798	4887799	160	80	0	99.4	99.4	1	5542.21	39.49	500	85.87	0	0	0	0	13.3	0	0	8.48	8.48	0	0	-8.25	-8.25
R30	T37	QU_37.0	388798	4887799	160	80	0	95.6	95.6	1	5542.21	39.49	1000	85.87	0	0	0	0	23.01	0	0	8.48	8.48	0	0	-21.76	-21.76
R30	T37	QU_37.0	388798	4887799	160	80	0	91	91	1	5542.21	39.49	2000	85.87	0	0	0	0	46.07	0	0	8.48	8.48	0	0	-49.42	-49.42
R30	T37	QU_37.0	388798	4887799	160	80	0	86.1	86.1	1	5542.21	39.49	4000	85.87	0	0	0	0	131.19	0	0	8.48	8.48	0	0	-139.44	-139.44
R30	T37	QU_37.0	388798	4887799	160	80	0	81.1	81.1	1	5542.21	39.49	8000	85.87	0	0	0	0	459.07	0	0	8.48	8.48	0	0	-472.32	-472.32
R30	T48	QU_48.0	389199	4889695	166	86	0	73.3	73.3	1	5564.88	40.59	32	85.91	0	-4.63	0	0	0.13	0	0	5.27	5.27	0	0	-13.37	-13.37
R30	T48	QU_48.0	389199	4889695	166	86	0	83.4	83.4	1	5564.88	40.59	63	85.91	0	-4.63	0	0	0.52	0	0	5.27	5.27	0	0	-3.66	-3.66
R30	T48	QU_48.0	389199	4889695	166	86	0	91.5	91.5	1	5564.88	40.59	125	85.91	0	3.83	0	0	1.91	0	0	5.27	5.27	0	0	-5.42	-5.42
R30	T48	QU_48.0	389199	4889695	166	86	0	97.9	97.9	1	5564.88	40.59	250	85.91	0	1.39	0	0	5.98	0	0	5.27	5.27	0	0	-0.64	-0.64
R30	T48	QU_48.0	389199	4889695	166	86	0	99.4	99.4	1	5564.88	40.59	500	85.91	0	0	0	0	13.35	0	0	5.27	5.27	0	0	-5.13	-5.13
R30	T48	QU_48.0	389199	4889695	166	86	0	95.6	95.6	1	5564.88	40.59	1000	85.91	0	0	0	0	23.1	0	0	5.27	5.27	0	0	-18.68	-18.68
R30	T48	QU_48.0	389199	4889695	166	86	0	91	91	1	5564.88	40.59	2000	85.91	0	0	0	0	46.26	0	0	5.27	5.27	0	0	-46.43	-46.43
R30	T48	QU_48.0	389199	4889695	166	86	0	86.1	86.1	1	5564.88	40.59	4000	85.91	0	0	0	0	131.73	0	0	5.27	5.27	0	0	-136.8	-136.8
R30	T48	QU_48.0	389199	4889695	166	86	0	81.1	81.1	1	5564.88	40.59	8000	85.91	0	0	0	0	460.94	0	0	5.27	5.27	0	0	-471.02	-471.02
R30	T36	QU_36.0	388872	4887339	160	80	0	73.3	73.3	1	5792.4	39.58	32	86.26	0	-4.69	0	0	0.14	0	0	8.54	8.54	0	0	-16.95	-16.95
R30	T36	QU_36.0	388872	4887339	160	80	0	83.4	83.4	1	5792.4	39.58	63	86.26	0	-4.69	0	0	0.54	0	0	8.54	8.54	0	0	-7.25	-7.25
R30	T36	QU_36.0	388872	4887339	160	80	0	91.5	91.5	1	5792.4	39.58	125	86.26	0	3.83	0	0	1.99	0	0	8.54	8.54	0	0	-9.12	-9.12
R30	T36	QU_36.0	388872	4887339	160	80	0	97.9	97.9	1	5792.4	39.58	250	86.26	0	1.39	0	0	6.22	0	0	8.54	8.54	0	0	-4.51	-4.51
R30	T36	QU_36.0	388872	4887339	160	80	0	99.4	99.4	1	5792.4	39.58	500	86.26	0	0	0	0	13.9	0	0	8.54	8.54	0	0	-9.3	-9.3
R30	T36	QU_36.0	388872	4887339	160	80	0	95.6	95.6	1	5792.4	39.58	1000	86.26	0	0	0	0	24.05	0	0	8.54	8.54	0	0	-23.24	-23.24
R30	T36	QU_36.0	388872	4887339	160	80	0	91	91	1	5792.4	39.58	2000	86.26	0	0	0	0	48.15	0	0	8.54	8.54	0	0	-51.95	-51.95
R30	T36	QU_36.0	388872	4887339	160	80	0	86.1	86.1	1	5792.4	39.58	4000	86.26	0	0	0	0	137.11	0	0	8.54	8.54	0	0	-145.81	-145.81
R30	T36	QU_36.0	388872	4887339	160	80	0	81.1	81.1	1	5792.4	39.58	8000	86.26	0	0	0	0	479.79	0	0	8.54	8.54	0	0	-493.49	-493.49

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	52.6	52.6	6.69	3272.61	6.37	32	81.3	3	-5.81	11.43	2.52	0.08	0	0	0.46	0.46	0	0	-31.86	-31.86
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	59.8	59.8	6.69	3272.61	6.37	63	81.3	3	-5.81	12.13	2.52	0.3	0	0	0.46	0.46	0	0	-25.59	-25.59
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	76.9	76.9	6.69	3272.61	6.37	125	81.3	3	4.34	3.11	2.52	1.12	0	0	0.46	0.46	0	0	-10.43	-10.43
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	81.4	81.4	6.69	3272.61	6.37	250	81.3	3	2.01	7.08	2.52	3.52	0	0	0.46	0.46	0	0	-9.97	-9.97
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	94.8	94.8	6.69	3272.61	6.37	500	81.3	3	-0.71	11.93	2.52	7.85	0	0	0.46	0.46	0	0	-3.03	-3.03
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	84	84	6.69	3272.61	6.37	1000	81.3	3	-1.01	14.71	2.52	13.59	0	0	0.46	0.46	0	0	-22.05	-22.05
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	66.2	66.2	6.69	3272.61	6.37	2000	81.3	3	-1.01	17.44	2.52	27.2	0	0	0.46	0.46	0	0	-56.19	-56.19
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	62	62	6.69	3272.61	6.37	4000	81.3	3	-1.01	20.3	2.52	77.47	0	0	0.46	0.46	0	0	-113.51	-113.51
R30	East Tr East V/	QVA	382319	4892811	84.43	82	0	55.9	55.9	6.69	3272.61	6.37	8000	81.3	3	-1.01	21.01	2.52	271.07	0	0	0.46	0.46	0	0	-313.94	-313.94
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	52.6	52.6	6.69	3272.61	6.38	32	81.3	3	-5.75	10.74	1.17	0.08	0	0	0.46	0.46	0	0	-31.23	-31.23
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	59.8	59.8	6.69	3272.61	6.38	63	81.3	3	-5.75	10.95	1.17	0.3	0	0	0.46	0.46	0	0	-24.46	-24.46
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	76.9	76.9	6.69	3272.61	6.38	125	81.3	3	5.7	0	1.17	1.12	0	0	0.46	0.46	0	0	-8.69	-8.69
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	81.4	81.4	6.69	3272.61	6.38	250	81.3	3	1.76	4.5	1.17	3.52	0	0	0.46	0.46	0	0	-7.14	-7.14
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	94.8	94.8	6.69	3272.61	6.38	500	81.3	3	-0.55	7.93	1.17	7.85	0	0	0.46	0.46	0	0	0.82	0.82
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	84	84	6.69	3272.61	6.38	1000	81.3	3	-0.56	9.54	1.17	13.59	0	0	0.46	0.46	0	0	-17.33	-17.33
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	66.2	66.2	6.69	3272.61	6.38	2000	81.3	3	-0.56	11.64	1.17	27.2	0	0	0.46	0.46	0	0	-50.85	-50.85
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	62	62	6.69	3272.61	6.38	4000	81.3	3	-0.56	14.11	1.17	77.47	0	0	0.46	0.46	0	0	-107.78	-107.78
R30	East Tr East V/	QVA	382319	4892811	86.43	82	0	55.9	55.9	6.69	3272.61	6.38	8000	81.3	3	-0.56	16.82	1.17	271.07	0	0	0.46	0.46	0	0	-310.2	-310.2
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	52.6	52.6	6.69	3272.61	6.38	32	81.3	3	-5.78	11.05	1.8	0.08	0	0	0.46	0.46	0	0	-31.5	-31.5
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	59.8	59.8	6.69	3272.61	6.38	63	81.3	3	-5.78	11.49	1.8	0.3	0	0	0.46	0.46	0	0	-24.97	-24.97
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	76.9	76.9	6.69	3272.61	6.38	125	81.3	3	5.31	1.16	1.8	1.12	0	0	0.46	0.46	0	0	-9.45	-9.45
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	81.4	81.4	6.69	3272.61	6.38	250	81.3	3	2.22	5.45	1.8	3.52	0	0	0.46	0.46	0	0	-8.56	-8.56
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	94.8	94.8	6.69	3272.61	6.38	500	81.3	3	-0.69	10.09	1.8	7.85	0	0	0.46	0.46	0	0	-1.22	-1.22
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	84	84	6.69	3272.61	6.38	1000	81.3	3	-0.72	12.32	1.8	13.59	0	0	0.46	0.46	0	0	-19.94	-19.94
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	66.2	66.2	6.69	3272.61	6.38	2000	81.3	3	-0.72	14.85	1.8	27.2	0	0	0.46	0.46	0	0	-53.9	-53.9
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	62	62	6.69	3272.61	6.38	4000	81.3	3	-0.72	17.6	1.8	77.47	0	0	0.46	0.46	0	0	-111.11	-111.11
R30	East Tr East V/	QVA	382319	4892811	85.43	82	0	55.9	55.9	6.69	3272.61	6.38	8000	81.3	3	-0.72	20.47	1.8	271.07	0	0	0.46	0.46	0	0	-313.69	-313.69
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	52.6	52.6	6.69	3272.61	6.37	32	81.3	3	-5.84	11.85	3.3	0.08	0	0	0.47	0.47	0	0	-32.25	-32.25
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	59.8	59.8	6.69	3272.61	6.37	63	81.3	3	-5.84	12.81	3.3	0.3	0	0	0.47	0.47	0	0	-26.24	-26.24
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	76.9	76.9	6.69	3272.61	6.37	125	81.3	3	3.01	5.39	3.3	1.12	0	0	0.47	0.47	0	0	-11.39	-11.39
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	81.4	81.4	6.69	3272.61	6.37	250	81.3	3	0.74	9.61	3.3	3.52	0	0	0.47	0.47	0	0	-11.23	-11.23
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	94.8	94.8	6.69	3272.61	6.37	500	81.3	3	-0.82	13.53	3.3	7.85	0	0	0.47	0.47	0	0	-4.53	-4.53
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	84	84	6.69	3272.61	6.37	1000	81.3	3	-1.28	16.65	3.3	13.59	0	0	0.47	0.47	0	0	-23.71	-23.71
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	66.2	66.2	6.69	3272.61	6.37	2000	81.3	3	-1.36	19.54	3.3	27.2	0	0	0.47	0.47	0	0	-57.95	-57.95
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	62	62	6.69	3272.61	6.37	4000	81.3	3	-1.36	21.36	3.3	77.47	0	0	0.47	0.47	0	0	-114.23	-114.23
R30	East Tr East V/	QVA	382319	4892811	83.43	82	0	55.9	55.9	6.69	3272.61	6.37	8000	81.3	3	-1.36	21.36	3.3	271.07	0	0	0.47	0.47	0	0	-313.94	-313.94
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	52.6	52.6	6.69	3273.16	6.37	32	81.3	3	-5.81	12.7	2.96	0.08	0	0	0.46	0.46	0	0	-33.12	-33.12
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	59.8	59.8	6.69	3273.16	6.37	63	81.3	3	-5.81	14.16	2.96	0.3	0	0	0.46	0.46	0	0	-27.61	-27.61
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	76.9	76.9	6.69	3273.16	6.37	125	81.3	3	4.34	6.13	2.96	1.12	0	0	0.46	0.46	0	0	-13.45	-13.45
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	81.4	81.4	6.69	3273.16	6.37	250	81.3	3	2.01	11.57	2.96	3.52	0	0	0.46	0.46	0	0	-14.46	-14.46
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	94.8	94.8	6.69	3273.16	6.37	500	81.3	3	-0.71	18.44	2.96	7.85	0	0	0.46	0.46	0	0	-9.54	-9.54
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	84	84	6.69	3273.16	6.37	1000	81.3	3	-1.01	22.85	2.96	13.59	0	0	0.46	0.46	0	0	-30.2	-30.2
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	66.2	66.2	6.69	3273.16	6.37	2000	81.3	3	-1.01	26.01	2.96	27.21	0	0	0.46	0.46	0	0	-64.77	-64.77
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	62	62	6.69	3273.16	6.37	4000	81.3	3	-1.01	26.01	2.96	77.48	0	0	0.46	0.46	0	0	-119.24	-119.24
R30	East Tr West V.	QVA	382313	4892809	84.43	82	0	55.9	55.9	6.69	3273.16	6.37	8000	81.3	3	-1.01	26.01	2.96	271.12	0	0	0.46	0.46	0	0	-318.98	-318.98
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	52.6	52.6	6.69	3273.16	6.37	32	81.3	3	-5.75	11.61	1.17	0.08	0	0	0.46	0.46	0	0	-32.09	-32.09
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	59.8	59.8	6.69	3273.16	6.37	63	81.3	3	-5.75	12.5	1.17	0.3	0	0	0.46	0.46	0	0	-26.01	-26.01
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	76.9	76.9	6.69	3273.16	6.37	125	81.3	3	5.7	2.54	1.17	1.12	0	0	0.46	0.46	0	0	-11.22	-11.22
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	81.4	81.4	6.69	3273.16	6.37	250	81.3	3	1.76	9.01	1.17	3.52	0	0	0.46	0.46	0	0	-11.65	-11.65
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	94.8	94.8	6.69	3273.16	6.37	500	81.3	3	-0.55	15.08	1.17	7.85	0	0	0.46	0.46	0	0	-6.34	-6.34
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	84	84	6.69	3273.16	6.37	1000	81.3	3	-0.56	19.05	1.17	13.59	0	0	0.46	0.46	0	0	-26.84	-26.84
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	66.2	66.2	6.69	3273.16	6.37	2000	81.3	3	-0.56	22.49	1.17	27.21	0	0	0.46	0.46	0	0	-61.7	-61.7
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	62	62	6.69	3273.16	6.37	4000	81.3	3	-0.56	25.56	1.17	77.48	0	0	0.46	0.46	0	0	-119.24	-119.24
R30	East Tr West V.	QVA	382313	4892809	86.43	82	0	55.9	55.9	6.69	3273.16	6.37	8000	81.3	3	-0.56	25.56	1.17	271.12	0	0	0.46	0.46	0	0	-318.98	-318.98

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	52.6	52.6	6.69	3273.16	6.37	32	81.3	3	-5.84	13.2	3.94	0.08	0	0	0.46	0.46	0	0	-33.61	-33.61
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	59.8	59.8	6.69	3273.16	6.37	63	81.3	3	-5.84	14.87	3.94	0.3	0	0	0.46	0.46	0	0	-28.3	-28.3
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	76.9	76.9	6.69	3273.16	6.37	125	81.3	3	3.01	8.33	3.94	1.12	0	0	0.46	0.46	0	0	-14.32	-14.32
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	81.4	81.4	6.69	3273.16	6.37	250	81.3	3	0.74	13.86	3.94	3.52	0	0	0.46	0.46	0	0	-15.48	-15.48
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	94.8	94.8	6.69	3273.16	6.37	500	81.3	3	-0.82	19.64	3.94	7.85	0	0	0.46	0.46	0	0	-10.64	-10.64
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	84	84	6.69	3273.16	6.37	1000	81.3	3	-1.28	24.26	3.94	13.59	0	0	0.46	0.46	0	0	-31.33	-31.33
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	66.2	66.2	6.69	3273.16	6.37	2000	81.3	3	-1.36	26.36	3.94	27.21	0	0	0.46	0.46	0	0	-64.77	-64.77
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	62	62	6.69	3273.16	6.37	4000	81.3	3	-1.36	26.36	3.94	77.48	0	0	0.46	0.46	0	0	-119.24	-119.24
R30	East Tr West V.	QVA	382313	4892809	83.43	82	0	55.9	55.9	6.69	3273.16	6.37	8000	81.3	3	-1.36	26.36	3.94	271.12	0	0	0.46	0.46	0	0	-318.98	-318.98
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	52.6	52.6	6.69	3273.16	6.37	32	81.3	3	-5.78	12.14	2.01	0.08	0	0	0.46	0.46	0	0	-32.6	-32.6
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	59.8	59.8	6.69	3273.16	6.37	63	81.3	3	-5.78	13.34	2.01	0.3	0	0	0.46	0.46	0	0	-26.82	-26.82
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	76.9	76.9	6.69	3273.16	6.37	125	81.3	3	5.3	4.11	2.01	1.12	0	0	0.46	0.46	0	0	-12.39	-12.39
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	81.4	81.4	6.69	3273.16	6.37	250	81.3	3	2.22	10.07	2.01	3.52	0	0	0.46	0.46	0	0	-13.17	-13.17
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	94.8	94.8	6.69	3273.16	6.37	500	81.3	3	-0.69	16.98	2.01	7.85	0	0	0.46	0.46	0	0	-8.11	-8.11
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	84	84	6.69	3273.16	6.37	1000	81.3	3	-0.72	21.08	2.01	13.59	0	0	0.46	0.46	0	0	-28.71	-28.71
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	66.2	66.2	6.69	3273.16	6.37	2000	81.3	3	-0.72	24.56	2.01	27.21	0	0	0.46	0.46	0	0	-63.61	-63.61
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	62	62	6.69	3273.16	6.37	4000	81.3	3	-0.72	25.72	2.01	77.48	0	0	0.46	0.46	0	0	-119.24	-119.24
R30	East Tr West V.	QVA	382313	4892809	85.43	82	0	55.9	55.9	6.69	3273.16	6.37	8000	81.3	3	-0.72	25.72	2.01	271.12	0	0	0.46	0.46	0	0	-318.98	-318.98
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	52.6	52.6	6.69	3274.27	6.37	32	81.3	3	-5.84	11.84	3.3	0.08	0	0	0.46	0.46	0	0	-32.24	-32.24
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	59.8	59.8	6.69	3274.27	6.37	63	81.3	3	-5.84	12.8	3.3	0.3	0	0	0.46	0.46	0	0	-26.23	-26.23
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	76.9	76.9	6.69	3274.27	6.37	125	81.3	3	3.01	5.39	3.3	1.12	0	0	0.46	0.46	0	0	-11.38	-11.38
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	81.4	81.4	6.69	3274.27	6.37	250	81.3	3	0.74	9.61	3.3	3.52	0	0	0.46	0.46	0	0	-11.23	-11.23
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	94.8	94.8	6.69	3274.27	6.37	500	81.3	3	-0.81	13.53	3.3	7.86	0	0	0.46	0.46	0	0	-4.53	-4.53
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	84	84	6.69	3274.27	6.37	1000	81.3	3	-1.28	16.64	3.3	13.59	0	0	0.46	0.46	0	0	-23.71	-23.71
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	66.2	66.2	6.69	3274.27	6.37	2000	81.3	3	-1.36	19.53	3.3	27.22	0	0	0.46	0.46	0	0	-57.95	-57.95
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	62	62	6.69	3274.27	6.37	4000	81.3	3	-1.36	21.36	3.3	77.5	0	0	0.46	0.46	0	0	-114.26	-114.26
R30	West Tr East V.	QVA	382300	4892804	83.43	82	0	55.9	55.9	6.69	3274.27	6.37	8000	81.3	3	-1.36	21.36	3.3	271.21	0	0	0.46	0.46	0	0	-314.07	-314.07
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	52.6	52.6	6.69	3274.27	6.37	32	81.3	3	-5.75	10.74	1.17	0.08	0	0	0.45	0.45	0	0	-31.22	-31.22
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	59.8	59.8	6.69	3274.27	6.37	63	81.3	3	-5.75	10.95	1.17	0.3	0	0	0.45	0.45	0	0	-24.46	-24.46
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	76.9	76.9	6.69	3274.27	6.37	125	81.3	3	5.7	0	1.17	1.12	0	0	0.45	0.45	0	0	-8.68	-8.68
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	81.4	81.4	6.69	3274.27	6.37	250	81.3	3	1.76	4.5	1.17	3.52	0	0	0.45	0.45	0	0	-7.13	-7.13
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	94.8	94.8	6.69	3274.27	6.37	500	81.3	3	-0.55	7.92	1.17	7.86	0	0	0.45	0.45	0	0	0.82	0.82
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	84	84	6.69	3274.27	6.37	1000	81.3	3	-0.56	9.54	1.17	13.59	0	0	0.45	0.45	0	0	-17.33	-17.33
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	66.2	66.2	6.69	3274.27	6.37	2000	81.3	3	-0.56	11.63	1.17	27.22	0	0	0.45	0.45	0	0	-50.85	-50.85
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	62	62	6.69	3274.27	6.37	4000	81.3	3	-0.56	14.1	1.17	77.5	0	0	0.45	0.45	0	0	-107.81	-107.81
R30	West Tr East V.	QVA	382300	4892804	86.43	82	0	55.9	55.9	6.69	3274.27	6.37	8000	81.3	3	-0.56	16.81	1.17	271.21	0	0	0.45	0.45	0	0	-310.32	-310.32
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	52.6	52.6	6.69	3274.27	6.37	32	81.3	3	-5.78	11.04	1.8	0.08	0	0	0.46	0.46	0	0	-31.5	-31.5
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	59.8	59.8	6.69	3274.27	6.37	63	81.3	3	-5.78	11.49	1.8	0.3	0	0	0.46	0.46	0	0	-24.97	-24.97
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	76.9	76.9	6.69	3274.27	6.37	125	81.3	3	5.3	1.16	1.8	1.12	0	0	0.46	0.46	0	0	-9.44	-9.44
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	81.4	81.4	6.69	3274.27	6.37	250	81.3	3	2.22	5.45	1.8	3.52	0	0	0.46	0.46	0	0	-8.55	-8.55
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	94.8	94.8	6.69	3274.27	6.37	500	81.3	3	-0.69	10.08	1.8	7.86	0	0	0.46	0.46	0	0	-1.21	-1.21
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	84	84	6.69	3274.27	6.37	1000	81.3	3	-0.72	12.31	1.8	13.59	0	0	0.46	0.46	0	0	-19.94	-19.94
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	66.2	66.2	6.69	3274.27	6.37	2000	81.3	3	-0.72	14.84	1.8	27.22	0	0	0.46	0.46	0	0	-53.9	-53.9
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	62	62	6.69	3274.27	6.37	4000	81.3	3	-0.72	17.59	1.8	77.5	0	0	0.46	0.46	0	0	-111.13	-111.13
R30	West Tr East V.	QVA	382300	4892804	85.43	82	0	55.9	55.9	6.69	3274.27	6.37	8000	81.3	3	-0.72	20.47	1.8	271.21	0	0	0.46	0.46	0	0	-313.82	-313.82
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	52.6	52.6	6.69	3274.27	6.37	32	81.3	3	-5.81	11.42	2.52	0.08	0	0	0.46	0.46	0	0	-31.85	-31.85
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	59.8	59.8	6.69	3274.27	6.37	63	81.3	3	-5.81	12.13	2.52	0.3	0	0	0.46	0.46	0	0	-25.58	-25.58
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	76.9	76.9	6.69	3274.27	6.37	125	81.3	3	4.34	3.11	2.52	1.12	0	0	0.46	0.46	0	0	-10.43	-10.43
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	81.4	81.4	6.69	3274.27	6.37	250	81.3	3	2.01	7.08	2.52	3.52	0	0	0.46	0.46	0	0	-9.96	-9.96
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	94.8	94.8	6.69	3274.27	6.37	500	81.3	3	-0.72	11.92	2.52	7.86	0	0	0.46	0.46	0	0	-3.02	-3.02
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	84	84	6.69	3274.27	6.37	1000	81.3	3	-1.01	14.7	2.52	13.59	0	0	0.46	0.46	0	0	-22.04	-22.04
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	66.2	66.2	6.69	3274.27	6.37	2000	81.3	3	-1.02	17.43	2.52	27.22	0	0	0.46	0.46	0	0	-56.19	-56.19
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	62	62	6.69	3274.27	6.37	4000	81.3	3	-1.02	20.29	2.52	77.5	0	0	0.46	0.46	0	0	-113.54	-113.54
R30	West Tr East V.	QVA	382300	4892804	84.43	82	0	55.9	55.9	6.69	3274.27	6.37	8000	81.3	3	-1.02	21.02	2.52	271.21	0	0	0.46	0.46	0	0	-314.07	-314.07

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	52.6	52.6	6.69	3274.86	6.37	32	81.3	3	-5.75	11.63	1.17	0.08	0	0	0.45	0.45	0	0	-32.11	-32.11
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	59.8	59.8	6.69	3274.86	6.37	63	81.3	3	-5.75	12.54	1.17	0.3	0	0	0.45	0.45	0	0	-26.04	-26.04
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	76.9	76.9	6.69	3274.86	6.37	125	81.3	3	5.7	2.59	1.17	1.12	0	0	0.45	0.45	0	0	-11.27	-11.27
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	81.4	81.4	6.69	3274.86	6.37	250	81.3	3	1.76	9.09	1.17	3.52	0	0	0.45	0.45	0	0	-11.72	-11.72
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	94.8	94.8	6.69	3274.86	6.37	500	81.3	3	-0.55	15.17	1.17	7.86	0	0	0.45	0.45	0	0	-6.43	-6.43
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	84	84	6.69	3274.86	6.37	1000	81.3	3	-0.56	19.14	1.17	13.59	0	0	0.45	0.45	0	0	-26.93	-26.93
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	66.2	66.2	6.69	3274.86	6.37	2000	81.3	3	-0.56	22.58	1.17	27.22	0	0	0.45	0.45	0	0	-61.8	-61.8
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	62	62	6.69	3274.86	6.37	4000	81.3	3	-0.56	25.56	1.17	77.52	0	0	0.45	0.45	0	0	-119.27	-119.27
R30	West Tr West \	QVA	382294	4892802	86.43	82	0	55.9	55.9	6.69	3274.86	6.37	8000	81.3	3	-0.56	25.56	1.17	271.26	0	0	0.45	0.45	0	0	-319.12	-319.12
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	52.6	52.6	6.69	3274.86	6.37	32	81.3	3	-5.84	13.22	3.97	0.08	0	0	0.46	0.46	0	0	-33.62	-33.62
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	59.8	59.8	6.69	3274.86	6.37	63	81.3	3	-5.84	14.9	3.97	0.3	0	0	0.46	0.46	0	0	-28.32	-28.32
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	76.9	76.9	6.69	3274.86	6.37	125	81.3	3	3.01	8.37	3.97	1.12	0	0	0.46	0.46	0	0	-14.36	-14.36
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	81.4	81.4	6.69	3274.86	6.37	250	81.3	3	0.74	13.91	3.97	3.52	0	0	0.46	0.46	0	0	-15.53	-15.53
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	94.8	94.8	6.69	3274.86	6.37	500	81.3	3	-0.81	19.69	3.97	7.86	0	0	0.46	0.46	0	0	-10.7	-10.7
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	84	84	6.69	3274.86	6.37	1000	81.3	3	-1.28	24.31	3.97	13.59	0	0	0.46	0.46	0	0	-31.38	-31.38
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	66.2	66.2	6.69	3274.86	6.37	2000	81.3	3	-1.36	26.36	3.97	27.22	0	0	0.46	0.46	0	0	-64.78	-64.78
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	62	62	6.69	3274.86	6.37	4000	81.3	3	-1.36	26.36	3.97	77.52	0	0	0.46	0.46	0	0	-119.28	-119.28
R30	West Tr West \	QVA	382294	4892802	83.43	82	0	55.9	55.9	6.69	3274.86	6.37	8000	81.3	3	-1.36	26.36	3.97	271.26	0	0	0.46	0.46	0	0	-319.12	-319.12
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	52.6	52.6	6.69	3274.86	6.37	32	81.3	3	-5.78	12.17	2.02	0.08	0	0	0.45	0.45	0	0	-32.62	-32.62
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	59.8	59.8	6.69	3274.86	6.37	63	81.3	3	-5.78	13.38	2.02	0.3	0	0	0.45	0.45	0	0	-26.86	-26.86
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	76.9	76.9	6.69	3274.86	6.37	125	81.3	3	5.3	4.16	2.02	1.12	0	0	0.45	0.45	0	0	-12.44	-12.44
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	81.4	81.4	6.69	3274.86	6.37	250	81.3	3	2.22	10.15	2.02	3.52	0	0	0.45	0.45	0	0	-13.24	-13.24
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	94.8	94.8	6.69	3274.86	6.37	500	81.3	3	-0.69	17.06	2.02	7.86	0	0	0.45	0.45	0	0	-8.19	-8.19
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	84	84	6.69	3274.86	6.37	1000	81.3	3	-0.72	21.16	2.02	13.59	0	0	0.45	0.45	0	0	-28.79	-28.79
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	66.2	66.2	6.69	3274.86	6.37	2000	81.3	3	-0.72	24.63	2.02	27.22	0	0	0.45	0.45	0	0	-63.69	-63.69
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	62	62	6.69	3274.86	6.37	4000	81.3	3	-0.72	25.72	2.02	77.52	0	0	0.45	0.45	0	0	-119.28	-119.28
R30	West Tr West \	QVA	382294	4892802	85.43	82	0	55.9	55.9	6.69	3274.86	6.37	8000	81.3	3	-0.72	25.72	2.02	271.26	0	0	0.45	0.45	0	0	-319.12	-319.12
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	52.6	52.6	6.69	3274.86	6.37	32	81.3	3	-5.81	12.72	2.99	0.08	0	0	0.45	0.45	0	0	-33.14	-33.14
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	59.8	59.8	6.69	3274.86	6.37	63	81.3	3	-5.81	14.19	2.99	0.3	0	0	0.45	0.45	0	0	-27.64	-27.64
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	76.9	76.9	6.69	3274.86	6.37	125	81.3	3	4.34	6.17	2.99	1.12	0	0	0.45	0.45	0	0	-13.49	-13.49
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	81.4	81.4	6.69	3274.86	6.37	250	81.3	3	2.01	11.64	2.99	3.52	0	0	0.45	0.45	0	0	-14.52	-14.52
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	94.8	94.8	6.69	3274.86	6.37	500	81.3	3	-0.72	18.5	2.99	7.86	0	0	0.45	0.45	0	0	-9.6	-9.6
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	84	84	6.69	3274.86	6.37	1000	81.3	3	-1.01	22.92	2.99	13.59	0	0	0.45	0.45	0	0	-30.26	-30.26
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	66.2	66.2	6.69	3274.86	6.37	2000	81.3	3	-1.02	26.02	2.99	27.22	0	0	0.45	0.45	0	0	-64.78	-64.78
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	62	62	6.69	3274.86	6.37	4000	81.3	3	-1.02	26.02	2.99	77.52	0	0	0.45	0.45	0	0	-119.28	-119.28
R30	West Tr West \	QVA	382294	4892802	84.43	82	0	55.9	55.9	6.69	3274.86	6.37	8000	81.3	3	-1.02	26.02	2.99	271.26	0	0	0.45	0.45	0	0	-319.12	-319.12
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	52.4	52.4	6.64	3269.55	6.37	32	81.29	3	-5.75	11.76	2.35	0.08	0	0	0.46	0.46	0	0	-32.44	-32.44
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	59.6	59.6	6.64	3269.55	6.37	63	81.29	3	-5.75	12.72	2.35	0.3	0	0	0.46	0.46	0	0	-26.43	-26.43
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	76.7	76.7	6.64	3269.55	6.37	125	81.29	3	5.7	2.69	2.35	1.12	0	0	0.46	0.46	0	0	-11.58	-11.58
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	81.2	81.2	6.64	3269.55	6.37	250	81.29	3	1.76	8.59	2.35	3.51	0	0	0.46	0.46	0	0	-11.42	-11.42
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	94.6	94.6	6.64	3269.55	6.37	500	81.29	3	-0.55	13.26	2.35	7.84	0	0	0.46	0.46	0	0	-4.71	-4.71
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	83.8	83.8	6.64	3269.55	6.37	1000	81.29	3	-0.56	15.91	2.35	13.57	0	0	0.46	0.46	0	0	-23.88	-23.88
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	66	66	6.64	3269.55	6.37	2000	81.29	3	-0.56	18.72	2.35	27.18	0	0	0.46	0.46	0	0	-58.11	-58.11
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	61.8	61.8	6.64	3269.55	6.37	4000	81.29	3	-0.56	20.56	2.35	77.39	0	0	0.46	0.46	0	0	-114.35	-114.35
R30	East Tr South \	QVA	382317	4892807	86.43	82	0	55.7	55.7	6.64	3269.55	6.37	8000	81.29	3	-0.56	20.56	2.35	270.82	0	0	0.46	0.46	0	0	-313.88	-313.88
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	52.4	52.4	6.64	3269.55	6.37	32	81.29	3	-5.84	13.31	5.21	0.08	0	0	0.46	0.46	0	0	-33.92	-33.92
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	59.6	59.6	6.64	3269.55	6.37	63	81.29	3	-5.84	14.97	5.21	0.3	0	0	0.46	0.46	0	0	-28.6	-28.6
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	76.7	76.7	6.64	3269.55	6.37	125	81.29	3	2.47	8.76	5.21	1.12	0	0	0.46	0.46	0	0	-14.42	-14.42
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	81.2	81.2	6.64	3269.55	6.37	250	81.29	3	0.07	13.66	5.21	3.51	0	0	0.46	0.46	0	0	-14.8	-14.8
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	94.6	94.6	6.64	3269.55	6.37	500	81.29	3	-1.36	17.81	5.21	7.84	0	0	0.46	0.46	0	0	-8.46	-8.46
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	83.8	83.8	6.64	3269.55	6.37	1000	81.29	3	-1.46	20.77	5.21	13.57	0	0	0.46	0.46	0	0	-27.84	-27.84
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	66	66	6.64	3269.55	6.37	2000	81.29	3	-1.47	21.47	5.21	27.18	0	0	0.46	0.46	0	0	-59.94	-59.94
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	61.8	61.8	6.64	3269.55	6.37	4000	81.29	3	-1.47	21.47	5.21	77.39	0	0	0.46	0.46	0	0	-114.36	-114.36
R30	East Tr South \	QVA	382317	4892807	83.43	82	0	55.7	55.7	6.64	3269.55	6.37	8000	81.29	3	-1.47	21.47	5.21	270.82	0	0	0.46	0.46	0	0	-313.88	-313.88

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	52.4	52.4	6.64	3269.55	6.37	32	81.29	3	-5.81	12.83	4.24	0.08	0	0	0.46	0.46	0	0	-33.46	-33.46
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	59.6	59.6	6.64	3269.55	6.37	63	81.29	3	-5.81	14.31	4.24	0.3	0	0	0.46	0.46	0	0	-27.97	-27.97
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	76.7	76.7	6.64	3269.55	6.37	125	81.29	3	4.34	6.11	4.24	1.12	0	0	0.46	0.46	0	0	-13.64	-13.64
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	81.2	81.2	6.64	3269.55	6.37	250	81.29	3	2.01	10.82	4.24	3.51	0	0	0.46	0.46	0	0	-13.91	-13.91
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	94.6	94.6	6.64	3269.55	6.37	500	81.29	3	-0.71	16.2	4.24	7.84	0	0	0.46	0.46	0	0	-7.49	-7.49
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	83.8	83.8	6.64	3269.55	6.37	1000	81.29	3	-1.01	19.32	4.24	13.57	0	0	0.46	0.46	0	0	-26.84	-26.84
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	66	66	6.64	3269.55	6.37	2000	81.29	3	-1.01	21.01	4.24	27.18	0	0	0.46	0.46	0	0	-59.94	-59.94
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	61.8	61.8	6.64	3269.55	6.37	4000	81.29	3	-1.01	21.01	4.24	77.39	0	0	0.46	0.46	0	0	-114.35	-114.35
R30	East Tr South \	QVA	382317	4892807	84.43	82	0	55.7	55.7	6.64	3269.55	6.37	8000	81.29	3	-1.01	21.01	4.24	270.82	0	0	0.46	0.46	0	0	-313.88	-313.88
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	52.4	52.4	6.64	3269.55	6.37	32	81.29	3	-5.78	12.32	3.29	0.08	0	0	0.46	0.46	0	0	-32.97	-32.97
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	59.6	59.6	6.64	3269.55	6.37	63	81.29	3	-5.78	13.57	3.29	0.3	0	0	0.46	0.46	0	0	-27.25	-27.25
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	76.7	76.7	6.64	3269.55	6.37	125	81.29	3	5.31	4.22	3.29	1.12	0	0	0.46	0.46	0	0	-12.71	-12.71
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	81.2	81.2	6.64	3269.55	6.37	250	81.29	3	2.22	9.51	3.29	3.51	0	0	0.46	0.46	0	0	-12.81	-12.81
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	94.6	94.6	6.64	3269.55	6.37	500	81.29	3	-0.69	14.97	3.29	7.84	0	0	0.46	0.46	0	0	-6.29	-6.29
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	83.8	83.8	6.64	3269.55	6.37	1000	81.29	3	-0.72	17.77	3.29	13.57	0	0	0.46	0.46	0	0	-25.58	-25.58
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	66	66	6.64	3269.55	6.37	2000	81.29	3	-0.72	20.65	3.29	27.18	0	0	0.46	0.46	0	0	-59.87	-59.87
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	61.8	61.8	6.64	3269.55	6.37	4000	81.29	3	-0.72	20.72	3.29	77.39	0	0	0.46	0.46	0	0	-114.35	-114.35
R30	East Tr South \	QVA	382317	4892807	85.43	82	0	55.7	55.7	6.64	3269.55	6.37	8000	81.29	3	-0.72	20.72	3.29	270.82	0	0	0.46	0.46	0	0	-313.88	-313.88
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	52.4	52.4	6.64	3271.23	6.37	32	81.29	3	-5.75	11.76	2.35	0.08	0	0	0.45	0.45	0	0	-32.44	-32.44
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	59.6	59.6	6.64	3271.23	6.37	63	81.29	3	-5.75	12.72	2.35	0.3	0	0	0.45	0.45	0	0	-26.42	-26.42
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	76.7	76.7	6.64	3271.23	6.37	125	81.29	3	5.7	2.69	2.35	1.12	0	0	0.45	0.45	0	0	-11.57	-11.57
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	81.2	81.2	6.64	3271.23	6.37	250	81.29	3	1.76	8.58	2.35	3.52	0	0	0.45	0.45	0	0	-11.41	-11.41
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	94.6	94.6	6.64	3271.23	6.37	500	81.29	3	-0.55	13.26	2.35	7.85	0	0	0.45	0.45	0	0	-4.71	-4.71
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	83.8	83.8	6.64	3271.23	6.37	1000	81.29	3	-0.56	15.9	2.35	13.58	0	0	0.45	0.45	0	0	-23.88	-23.88
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	66	66	6.64	3271.23	6.37	2000	81.29	3	-0.56	18.72	2.35	27.19	0	0	0.45	0.45	0	0	-58.11	-58.11
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	61.8	61.8	6.64	3271.23	6.37	4000	81.29	3	-0.56	20.56	2.35	77.43	0	0	0.45	0.45	0	0	-114.39	-114.39
R30	West Tr South '	QVA	382298	4892800	86.43	82	0	55.7	55.7	6.64	3271.23	6.37	8000	81.29	3	-0.56	20.56	2.35	270.96	0	0	0.45	0.45	0	0	-314.02	-314.02
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	52.4	52.4	6.64	3271.23	6.37	32	81.29	3	-5.81	12.83	4.24	0.08	0	0	0.46	0.46	0	0	-33.46	-33.46
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	59.6	59.6	6.64	3271.23	6.37	63	81.29	3	-5.81	14.31	4.24	0.3	0	0	0.46	0.46	0	0	-27.96	-27.96
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	76.7	76.7	6.64	3271.23	6.37	125	81.29	3	4.34	6.11	4.24	1.12	0	0	0.46	0.46	0	0	-13.63	-13.63
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	81.2	81.2	6.64	3271.23	6.37	250	81.29	3	2.01	10.82	4.24	3.52	0	0	0.46	0.46	0	0	-13.9	-13.9
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	94.6	94.6	6.64	3271.23	6.37	500	81.29	3	-0.72	16.2	4.24	7.85	0	0	0.46	0.46	0	0	-7.49	-7.49
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	83.8	83.8	6.64	3271.23	6.37	1000	81.29	3	-1.01	19.31	4.24	13.58	0	0	0.46	0.46	0	0	-26.84	-26.84
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	66	66	6.64	3271.23	6.37	2000	81.29	3	-1.02	21.02	4.24	27.19	0	0	0.46	0.46	0	0	-59.95	-59.95
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	61.8	61.8	6.64	3271.23	6.37	4000	81.29	3	-1.02	21.02	4.24	77.43	0	0	0.46	0.46	0	0	-114.39	-114.39
R30	West Tr South '	QVA	382298	4892800	84.43	82	0	55.7	55.7	6.64	3271.23	6.37	8000	81.29	3	-1.02	21.02	4.24	270.96	0	0	0.46	0.46	0	0	-314.02	-314.02
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	52.4	52.4	6.64	3271.23	6.37	32	81.29	3	-5.84	13.31	5.21	0.08	0	0	0.46	0.46	0	0	-33.91	-33.91
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	59.6	59.6	6.64	3271.23	6.37	63	81.29	3	-5.84	14.96	5.21	0.3	0	0	0.46	0.46	0	0	-28.59	-28.59
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	76.7	76.7	6.64	3271.23	6.37	125	81.29	3	2.47	8.76	5.21	1.12	0	0	0.46	0.46	0	0	-14.41	-14.41
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	81.2	81.2	6.64	3271.23	6.37	250	81.29	3	0.07	13.65	5.21	3.52	0	0	0.46	0.46	0	0	-14.8	-14.8
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	94.6	94.6	6.64	3271.23	6.37	500	81.29	3	-1.36	17.8	5.21	7.85	0	0	0.46	0.46	0	0	-8.45	-8.45
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	83.8	83.8	6.64	3271.23	6.37	1000	81.29	3	-1.46	20.76	5.21	13.58	0	0	0.46	0.46	0	0	-27.84	-27.84
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	66	66	6.64	3271.23	6.37	2000	81.29	3	-1.47	21.47	5.21	27.19	0	0	0.46	0.46	0	0	-59.95	-59.95
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	61.8	61.8	6.64	3271.23	6.37	4000	81.29	3	-1.47	21.47	5.21	77.43	0	0	0.46	0.46	0	0	-114.39	-114.39
R30	West Tr South '	QVA	382298	4892800	83.43	82	0	55.7	55.7	6.64	3271.23	6.37	8000	81.29	3	-1.47	21.47	5.21	270.96	0	0	0.46	0.46	0	0	-314.02	-314.02
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	52.4	52.4	6.64	3271.23	6.37	32	81.29	3	-5.78	12.31	3.29	0.08	0	0	0.45	0.45	0	0	-32.97	-32.97
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	59.6	59.6	6.64	3271.23	6.37	63	81.29	3	-5.78	13.56	3.29	0.3	0	0	0.45	0.45	0	0	-27.24	-27.24
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	76.7	76.7	6.64	3271.23	6.37	125	81.29	3	5.3	4.22	3.29	1.12	0	0	0.45	0.45	0	0	-12.7	-12.7
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	81.2	81.2	6.64	3271.23	6.37	250	81.29	3	2.22	9.51	3.29	3.52	0	0	0.45	0.45	0	0	-12.81	-12.81
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	94.6	94.6	6.64	3271.23	6.37	500	81.29	3	-0.69	14.97	3.29	7.85	0	0	0.45	0.45	0	0	-6.29	-6.29
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	83.8	83.8	6.64	3271.23	6.37	1000	81.29	3	-0.72	17.76	3.29	13.58	0	0	0.45	0.45	0	0	-25.58	-25.58
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	66	66	6.64	3271.23	6.37	2000	81.29	3	-0.72	20.64	3.29	27.19	0	0	0.45	0.45	0	0	-59.87	-59.87
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	61.8	61.8	6.64	3271.23	6.37	4000	81.29	3	-0.72	20.72	3.29	77.43	0	0	0.45	0.45	0	0	-114.39	-114.39
R30	West Tr South '	QVA	382298	4892800	85.43	82	0	55.7	55.7	6.64	3271.23	6.37	8000	81.29	3	-0.72	20.72	3.29	270.96	0	0	0.45	0.45	0	0	-314.02	-314.02

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	52.4	52.4	6.64	3276.22	6.37	32	81.31	3	-5.81	12.78	3.01	0.08	0	0	0.46	0.46	0	0	-33.43	-33.43
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	59.6	59.6	6.64	3276.22	6.37	63	81.31	3	-5.81	14.35	3.01	0.3	0	0	0.46	0.46	0	0	-28.03	-28.03
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	76.7	76.7	6.64	3276.22	6.37	125	81.31	3	4.34	6.66	3.01	1.13	0	0	0.46	0.46	0	0	-14.2	-14.2
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	81.2	81.2	6.64	3276.22	6.37	250	81.31	3	2.01	12.67	3.01	3.52	0	0	0.46	0.46	0	0	-15.78	-15.78
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	94.6	94.6	6.64	3276.22	6.37	500	81.31	3	-0.71	19.54	3.01	7.86	0	0	0.46	0.46	0	0	-10.87	-10.87
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	83.8	83.8	6.64	3276.22	6.37	1000	81.31	3	-1.01	23.45	3.01	13.6	0	0	0.46	0.46	0	0	-31.02	-31.02
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	66	66	6.64	3276.22	6.37	2000	81.31	3	-1.01	26.01	3.01	27.23	0	0	0.46	0.46	0	0	-65.01	-65.01
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	61.8	61.8	6.64	3276.22	6.37	4000	81.31	3	-1.01	26.01	3.01	77.55	0	0	0.46	0.46	0	0	-119.53	-119.53
R30	East Tr North V	QVA	382315	4892813	84.43	82	0	55.7	55.7	6.64	3276.22	6.37	8000	81.31	3	-1.01	26.01	3.01	271.37	0	0	0.46	0.46	0	0	-319.45	-319.45
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	52.4	52.4	6.64	3276.22	6.37	32	81.31	3	-5.78	12.21	2.01	0.08	0	0	0.46	0.46	0	0	-32.89	-32.89
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	59.6	59.6	6.64	3276.22	6.37	63	81.31	3	-5.78	13.51	2.01	0.3	0	0	0.46	0.46	0	0	-27.21	-27.21
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	76.7	76.7	6.64	3276.22	6.37	125	81.31	3	5.31	4.59	2.01	1.13	0	0	0.46	0.46	0	0	-13.1	-13.1
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	81.2	81.2	6.64	3276.22	6.37	250	81.31	3	2.22	11.13	2.01	3.52	0	0	0.46	0.46	0	0	-14.45	-14.45
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	94.6	94.6	6.64	3276.22	6.37	500	81.31	3	-0.69	18.07	2.01	7.86	0	0	0.46	0.46	0	0	-9.42	-9.42
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	83.8	83.8	6.64	3276.22	6.37	1000	81.31	3	-0.72	21.68	2.01	13.6	0	0	0.46	0.46	0	0	-29.54	-29.54
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	66	66	6.64	3276.22	6.37	2000	81.31	3	-0.72	24.86	2.01	27.23	0	0	0.46	0.46	0	0	-64.15	-64.15
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	61.8	61.8	6.64	3276.22	6.37	4000	81.31	3	-0.72	25.72	2.01	77.55	0	0	0.46	0.46	0	0	-119.53	-119.53
R30	East Tr North V	QVA	382315	4892813	85.43	82	0	55.7	55.7	6.64	3276.22	6.37	8000	81.31	3	-0.72	25.72	2.01	271.37	0	0	0.46	0.46	0	0	-319.45	-319.45
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	52.4	52.4	6.64	3276.22	6.37	32	81.31	3	-5.75	11.6	1.01	0.08	0	0	0.46	0.46	0	0	-32.3	-32.3
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	59.6	59.6	6.64	3276.22	6.37	63	81.31	3	-5.75	12.54	1.01	0.3	0	0	0.46	0.46	0	0	-26.27	-26.27
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	76.7	76.7	6.64	3276.22	6.37	125	81.31	3	5.7	2.8	1.01	1.13	0	0	0.46	0.46	0	0	-11.71	-11.71
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	81.2	81.2	6.64	3276.22	6.37	250	81.31	3	1.76	9.78	1.01	3.52	0	0	0.46	0.46	0	0	-12.64	-12.64
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	94.6	94.6	6.64	3276.22	6.37	500	81.31	3	-0.55	15.91	1.01	7.86	0	0	0.46	0.46	0	0	-7.39	-7.39
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	83.8	83.8	6.64	3276.22	6.37	1000	81.31	3	-0.56	19.4	1.01	13.6	0	0	0.46	0.46	0	0	-27.42	-27.42
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	66	66	6.64	3276.22	6.37	2000	81.31	3	-0.56	22.54	1.01	27.23	0	0	0.46	0.46	0	0	-62	-62
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	61.8	61.8	6.64	3276.22	6.37	4000	81.31	3	-0.56	25.56	1.01	77.55	0	0	0.46	0.46	0	0	-119.53	-119.53
R30	East Tr North V	QVA	382315	4892813	86.43	82	0	55.7	55.7	6.64	3276.22	6.37	8000	81.31	3	-0.56	25.56	1.01	271.37	0	0	0.46	0.46	0	0	-319.45	-319.45
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	52.4	52.4	6.64	3276.22	6.37	32	81.31	3	-5.84	13.29	4.01	0.08	0	0	0.46	0.46	0	0	-33.91	-33.91
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	59.6	59.6	6.64	3276.22	6.37	63	81.31	3	-5.84	15.07	4.01	0.3	0	0	0.46	0.46	0	0	-28.72	-28.72
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	76.7	76.7	6.64	3276.22	6.37	125	81.31	3	3.55	8.34	4.01	1.13	0	0	0.46	0.46	0	0	-15.09	-15.09
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	81.2	81.2	6.64	3276.22	6.37	250	81.31	3	1.42	14.3	4.01	3.52	0	0	0.46	0.46	0	0	-16.81	-16.81
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	94.6	94.6	6.64	3276.22	6.37	500	81.31	3	-0.27	20.19	4.01	7.86	0	0	0.46	0.46	0	0	-11.96	-11.96
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	83.8	83.8	6.64	3276.22	6.37	1000	81.31	3	-1.1	24.66	4.01	13.6	0	0	0.46	0.46	0	0	-32.14	-32.14
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	66	66	6.64	3276.22	6.37	2000	81.31	3	-1.25	26.25	4.01	27.23	0	0	0.46	0.46	0	0	-65.02	-65.02
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	61.8	61.8	6.64	3276.22	6.37	4000	81.31	3	-1.25	26.25	4.01	77.55	0	0	0.46	0.46	0	0	-119.53	-119.53
R30	East Tr North V	QVA	382315	4892813	83.43	82	0	55.7	55.7	6.64	3276.22	6.37	8000	81.31	3	-1.25	26.25	4.01	271.37	0	0	0.46	0.46	0	0	-319.45	-319.45
R30	West Tr North	QVA	382296	4892807	86.43	82	0	52.4	52.4	6.64	3277.9	6.37	32	81.31	3	-5.75	11.6	1.01	0.08	0	0	0.45	0.45	0	0	-32.3	-32.3
R30	West Tr North	QVA	382296	4892807	86.43	82	0	59.6	59.6	6.64	3277.9	6.37	63	81.31	3	-5.75	12.54	1.01	0.3	0	0	0.45	0.45	0	0	-26.26	-26.26
R30	West Tr North	QVA	382296	4892807	86.43	82	0	76.7	76.7	6.64	3277.9	6.37	125	81.31	3	5.7	2.8	1.01	1.13	0	0	0.45	0.45	0	0	-11.7	-11.7
R30	West Tr North	QVA	382296	4892807	86.43	82	0	81.2	81.2	6.64	3277.9	6.37	250	81.31	3	1.76	9.78	1.01	3.52	0	0	0.45	0.45	0	0	-12.64	-12.64
R30	West Tr North	QVA	382296	4892807	86.43	82	0	94.6	94.6	6.64	3277.9	6.37	500	81.31	3	-0.55	15.9	1.01	7.86	0	0	0.45	0.45	0	0	-7.39	-7.39
R30	West Tr North	QVA	382296	4892807	86.43	82	0	83.8	83.8	6.64	3277.9	6.37	1000	81.31	3	-0.56	19.4	1.01	13.61	0	0	0.45	0.45	0	0	-27.42	-27.42
R30	West Tr North	QVA	382296	4892807	86.43	82	0	66	66	6.64	3277.9	6.37	2000	81.31	3	-0.56	22.54	1.01	27.25	0	0	0.45	0.45	0	0	-62	-62
R30	West Tr North	QVA	382296	4892807	86.43	82	0	61.8	61.8	6.64	3277.9	6.37	4000	81.31	3	-0.56	25.56	1.01	77.59	0	0	0.45	0.45	0	0	-119.56	-119.56
R30	West Tr North	QVA	382296	4892807	86.43	82	0	55.7	55.7	6.64	3277.9	6.37	8000	81.31	3	-0.56	25.56	1.01	271.51	0	0	0.45	0.45	0	0	-319.59	-319.59
R30	West Tr North	QVA	382296	4892807	83.43	82	0	52.4	52.4	6.64	3277.9	6.37	32	81.31	3	-5.84	13.29	4.01	0.08	0	0	0.46	0.46	0	0	-33.91	-33.91
R30	West Tr North	QVA	382296	4892807	83.43	82	0	59.6	59.6	6.64	3277.9	6.37	63	81.31	3	-5.84	15.07	4.01	0.3	0	0	0.46	0.46	0	0	-28.71	-28.71
R30	West Tr North	QVA	382296	4892807	83.43	82	0	76.7	76.7	6.64	3277.9	6.37	125	81.31	3	3.55	8.34	4.01	1.13	0	0	0.46	0.46	0	0	-15.09	-15.09
R30	West Tr North	QVA	382296	4892807	83.43	82	0	81.2	81.2	6.64	3277.9	6.37	250	81.31	3	1.42	14.29	4.01	3.52	0	0	0.46	0.46	0	0	-16.81	-16.81
R30	West Tr North	QVA	382296	4892807	83.43	82	0	94.6	94.6	6.64	3277.9	6.37	500	81.31	3	-0.27	20.19	4.01	7.86	0	0	0.46	0.46	0	0	-11.96	-11.96
R30	West Tr North	QVA	382296	4892807	83.43	82	0	83.8	83.8	6.64	3277.9	6.37	1000	81.31	3	-1.1	24.66	4.01	13.61	0	0	0.46	0.46	0	0	-32.14	-32.14
R30	West Tr North	QVA	382296	4892807	83.43	82	0	66	66	6.64	3277.9	6.37	2000	81.31	3	-1.25	26.25	4.01	27.25	0	0	0.46	0.46	0	0	-65.03	-65.03
R30	West Tr North	QVA	382296	4892807	83.43	82	0	61.8	61.8	6.64	3277.9	6.37	4000	81.31	3	-1.25	26.25	4.01	77.59	0	0	0.46	0.46	0	0	-119.57	-119.57
R30	West Tr North	QVA	382296	4892807	83.43	82	0	55.7	55.7	6.64	3277.9	6.37	8000	81.31	3	-1.25	26.25	4.01	271.51	0	0	0.46	0.46	0	0	-319.59	-319.59

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	52.4	52.4	6.64	3277.9	6.37	32	81.31	3	-5.81	12.78	3.01	0.08	0	0	0.46	0.46	0	0	-33.42	-33.42
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	59.6	59.6	6.64	3277.9	6.37	63	81.31	3	-5.81	14.35	3.01	0.3	0	0	0.46	0.46	0	0	-28.02	-28.02
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	76.7	76.7	6.64	3277.9	6.37	125	81.31	3	4.34	6.66	3.01	1.13	0	0	0.46	0.46	0	0	-14.2	-14.2
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	81.2	81.2	6.64	3277.9	6.37	250	81.31	3	2.01	12.68	3.01	3.52	0	0	0.46	0.46	0	0	-15.78	-15.78
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	94.6	94.6	6.64	3277.9	6.37	500	81.31	3	-0.72	19.54	3.01	7.86	0	0	0.46	0.46	0	0	-10.86	-10.86
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	83.8	83.8	6.64	3277.9	6.37	1000	81.31	3	-1.01	23.45	3.01	13.61	0	0	0.46	0.46	0	0	-31.02	-31.02
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	66	66	6.64	3277.9	6.37	2000	81.31	3	-1.02	26.02	3.01	27.25	0	0	0.46	0.46	0	0	-65.02	-65.02
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	61.8	61.8	6.64	3277.9	6.37	4000	81.31	3	-1.02	26.02	3.01	77.59	0	0	0.46	0.46	0	0	-119.57	-119.57
R30	West Tr North	V QVA	382296	4892807	84.43	82	0	55.7	55.7	6.64	3277.9	6.37	8000	81.31	3	-1.02	26.02	3.01	271.51	0	0	0.46	0.46	0	0	-319.59	-319.59
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	52.4	52.4	6.64	3277.9	6.37	32	81.31	3	-5.78	12.21	2.01	0.08	0	0	0.45	0.45	0	0	-32.88	-32.88
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	59.6	59.6	6.64	3277.9	6.37	63	81.31	3	-5.78	13.51	2.01	0.3	0	0	0.45	0.45	0	0	-27.21	-27.21
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	76.7	76.7	6.64	3277.9	6.37	125	81.31	3	5.3	4.59	2.01	1.13	0	0	0.45	0.45	0	0	-13.09	-13.09
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	81.2	81.2	6.64	3277.9	6.37	250	81.31	3	2.22	11.13	2.01	3.52	0	0	0.45	0.45	0	0	-14.45	-14.45
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	94.6	94.6	6.64	3277.9	6.37	500	81.31	3	-0.69	18.06	2.01	7.86	0	0	0.45	0.45	0	0	-9.42	-9.42
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	83.8	83.8	6.64	3277.9	6.37	1000	81.31	3	-0.72	21.67	2.01	13.61	0	0	0.45	0.45	0	0	-29.54	-29.54
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	66	66	6.64	3277.9	6.37	2000	81.31	3	-0.72	24.85	2.01	27.25	0	0	0.45	0.45	0	0	-64.16	-64.16
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	61.8	61.8	6.64	3277.9	6.37	4000	81.31	3	-0.72	25.72	2.01	77.59	0	0	0.45	0.45	0	0	-119.57	-119.57
R30	West Tr North	V QVA	382296	4892807	85.43	82	0	55.7	55.7	6.64	3277.9	6.37	8000	81.31	3	-0.72	25.72	2.01	271.51	0	0	0.45	0.45	0	0	-319.59	-319.59
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	52.3	52.3	6.22	3272.61	6.37	32	81.3	3	-5.86	12.26	4.09	0.08	0	0	0.47	0.47	0	0	-32.96	-32.96
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	59.5	59.5	6.22	3272.61	6.37	63	81.3	3	-5.86	13.45	4.09	0.3	0	0	0.47	0.47	0	0	-27.17	-27.17
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	76.6	76.6	6.22	3272.61	6.37	125	81.3	3	4.54	4.71	4.09	1.12	0	0	0.47	0.47	0	0	-12.56	-12.56
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	81.1	81.1	6.22	3272.61	6.37	250	81.3	3	2.89	8.52	4.09	3.52	0	0	0.47	0.47	0	0	-12.61	-12.61
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	94.5	94.5	6.22	3272.61	6.37	500	81.3	3	2.8	11.12	4.09	7.85	0	0	0.47	0.47	0	0	-6.06	-6.06
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	83.7	83.7	6.22	3272.61	6.37	1000	81.3	3	0.18	16.48	4.09	13.59	0	0	0.47	0.47	0	0	-25.33	-25.33
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	65.9	65.9	6.22	3272.61	6.37	2000	81.3	3	-1.08	20.61	4.09	27.2	0	0	0.47	0.47	0	0	-59.62	-59.62
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	61.7	61.7	6.22	3272.61	6.37	4000	81.3	3	-1.08	21.08	4.09	77.47	0	0	0.47	0.47	0	0	-114.55	-114.55
R30	East Tr East V	A QVA	382319	4892811	82.47	82	0	55.6	55.6	6.22	3272.61	6.37	8000	81.3	3	-1.08	21.08	4.09	271.07	0	0	0.47	0.47	0	0	-314.25	-314.25
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	52.3	52.3	6.22	3273.16	6.37	32	81.3	3	-5.86	13.65	4.9	0.08	0	0	0.46	0.46	0	0	-34.35	-34.35
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	59.5	59.5	6.22	3273.16	6.37	63	81.3	3	-5.86	15.47	4.9	0.3	0	0	0.46	0.46	0	0	-29.19	-29.19
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	76.6	76.6	6.22	3273.16	6.37	125	81.3	3	4.55	7.5	4.9	1.12	0	0	0.46	0.46	0	0	-15.35	-15.35
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	81.1	81.1	6.22	3273.16	6.37	250	81.3	3	2.9	12.51	4.9	3.52	0	0	0.46	0.46	0	0	-16.6	-16.6
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	94.5	94.5	6.22	3273.16	6.37	500	81.3	3	2.81	16.88	4.9	7.85	0	0	0.46	0.46	0	0	-11.81	-11.81
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	83.7	83.7	6.22	3273.16	6.37	1000	81.3	3	0.18	23.67	4.9	13.59	0	0	0.46	0.46	0	0	-32.52	-32.52
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	65.9	65.9	6.22	3273.16	6.37	2000	81.3	3	-1.08	26.08	4.9	27.21	0	0	0.46	0.46	0	0	-65.09	-65.09
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	61.7	61.7	6.22	3273.16	6.37	4000	81.3	3	-1.08	26.08	4.9	77.48	0	0	0.46	0.46	0	0	-119.56	-119.56
R30	East Tr West V	QVA	382313	4892809	82.46	82	0	55.6	55.6	6.22	3273.16	6.37	8000	81.3	3	-1.08	26.08	4.9	271.12	0	0	0.46	0.46	0	0	-319.3	-319.3
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	52.3	52.3	6.22	3274.27	6.37	32	81.3	3	-5.86	12.26	4.09	0.08	0	0	0.46	0.46	0	0	-32.95	-32.95
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	59.5	59.5	6.22	3274.27	6.37	63	81.3	3	-5.86	13.44	4.09	0.3	0	0	0.46	0.46	0	0	-27.16	-27.16
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	76.6	76.6	6.22	3274.27	6.37	125	81.3	3	4.55	4.7	4.09	1.12	0	0	0.46	0.46	0	0	-12.55	-12.55
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	81.1	81.1	6.22	3274.27	6.37	250	81.3	3	2.9	8.51	4.09	3.52	0	0	0.46	0.46	0	0	-12.6	-12.6
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	94.5	94.5	6.22	3274.27	6.37	500	81.3	3	2.81	11.11	4.09	7.86	0	0	0.46	0.46	0	0	-6.05	-6.05
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	83.7	83.7	6.22	3274.27	6.37	1000	81.3	3	0.18	16.47	4.09	13.59	0	0	0.46	0.46	0	0	-25.33	-25.33
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	65.9	65.9	6.22	3274.27	6.37	2000	81.3	3	-1.08	20.6	4.09	27.22	0	0	0.46	0.46	0	0	-59.62	-59.62
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	61.7	61.7	6.22	3274.27	6.37	4000	81.3	3	-1.08	21.08	4.09	77.5	0	0	0.46	0.46	0	0	-114.58	-114.58
R30	West Tr East V	QVA	382300	4892804	82.47	82	0	55.6	55.6	6.22	3274.27	6.37	8000	81.3	3	-1.08	21.08	4.09	271.21	0	0	0.46	0.46	0	0	-314.39	-314.39
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	52.3	52.3	6.22	3274.87	6.37	32	81.3	3	-5.86	13.67	4.92	0.08	0	0	0.46	0.46	0	0	-34.36	-34.36
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	59.5	59.5	6.22	3274.87	6.37	63	81.3	3	-5.86	15.5	4.92	0.3	0	0	0.46	0.46	0	0	-29.21	-29.21
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	76.6	76.6	6.22	3274.87	6.37	125	81.3	3	4.55	7.53	4.92	1.12	0	0	0.46	0.46	0	0	-15.38	-15.38
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	81.1	81.1	6.22	3274.87	6.37	250	81.3	3	2.9	12.55	4.92	3.52	0	0	0.46	0.46	0	0	-16.64	-16.64
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	94.5	94.5	6.22	3274.87	6.37	500	81.3	3	2.81	16.92	4.92	7.86	0	0	0.46	0.46	0	0	-11.86	-11.86
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	83.7	83.7	6.22	3274.87	6.37	1000	81.3	3	0.18	23.72	4.92	13.59	0	0	0.46	0.46	0	0	-32.57	-32.57
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	65.9	65.9	6.22	3274.87	6.37	2000	81.3	3	-1.08	26.08	4.92	27.22	0	0	0.46	0.46	0	0	-65.1	-65.1
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	61.7	61.7	6.22	3274.87	6.37	4000	81.3	3	-1.08	26.08	4.92	77.52	0	0	0.46	0.46	0	0	-119.59	-119.59
R30	West Tr West V	QVA	382294	4892802	82.47	82	0	55.6	55.6	6.22	3274.87	6.37	8000	81.3	3	-1.08	26.08	4.92	271.26	0	0	0.46	0.46	0	0	-319.44	-319.44

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T60	QU_60.0	388788	4893031	175	95	0	73.3	73.3	1	6074.03	38.75	32	86.67	0	-4.75	0	0	0.14	0	0	2.06	2.06	0	0	-10.83	-10.83
R30	T60	QU_60.0	388788	4893031	175	95	0	83.4	83.4	1	6074.03	38.75	63	86.67	0	-4.75	0	0	0.56	0	0	2.06	2.06	0	0	-1.15	-1.15
R30	T60	QU_60.0	388788	4893031	175	95	0	91.5	91.5	1	6074.03	38.75	125	86.67	0	3.83	0	0	2.09	0	0	2.06	2.06	0	0	-3.15	-3.15
R30	T60	QU_60.0	388788	4893031	175	95	0	97.9	97.9	1	6074.03	38.75	250	86.67	0	1.39	0	0	6.53	0	0	2.06	2.06	0	0	1.25	1.25
R30	T60	QU_60.0	388788	4893031	175	95	0	99.4	99.4	1	6074.03	38.75	500	86.67	0	0	0	0	14.57	0	0	2.06	2.06	0	0	-3.91	-3.91
R30	T60	QU_60.0	388788	4893031	175	95	0	95.6	95.6	1	6074.03	38.75	1000	86.67	0	0	0	0	25.21	0	0	2.06	2.06	0	0	-18.35	-18.35
R30	T60	QU_60.0	388788	4893031	175	95	0	91	91	1	6074.03	38.75	2000	86.67	0	0	0	0	50.49	0	0	2.06	2.06	0	0	-48.22	-48.22
R30	T60	QU_60.0	388788	4893031	175	95	0	86.1	86.1	1	6074.03	38.75	4000	86.67	0	0	0	0	143.78	0	0	2.06	2.06	0	0	-146.41	-146.41
R30	T60	QU_60.0	388788	4893031	175	95	0	81.1	81.1	1	6074.03	38.75	8000	86.67	0	0	0	0	503.12	0	0	2.06	2.06	0	0	-510.75	-510.75
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	52.1	52.1	6.17	3269.55	6.37	32	81.29	3	-5.86	13.74	6.15	0.08	0	0	0.47	0.47	0	0	-34.63	-34.63
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	59.3	59.3	6.17	3269.55	6.37	63	81.29	3	-5.86	15.53	6.15	0.3	0	0	0.47	0.47	0	0	-29.45	-29.45
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	76.4	76.4	6.17	3269.55	6.37	125	81.29	3	2.78	9.1	6.15	1.12	0	0	0.47	0.47	0	0	-15.39	-15.39
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	80.9	80.9	6.17	3269.55	6.37	250	81.29	3	0.51	13.94	6.15	3.51	0	0	0.47	0.47	0	0	-15.84	-15.84
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	94.3	94.3	6.17	3269.55	6.37	500	81.29	3	-0.6	17.82	6.15	7.84	0	0	0.47	0.47	0	0	-9.54	-9.54
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	83.5	83.5	6.17	3269.55	6.37	1000	81.29	3	-1.17	21.17	6.15	13.57	0	0	0.47	0.47	0	0	-28.85	-28.85
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	65.7	65.7	6.17	3269.55	6.37	2000	81.29	3	-1.44	21.44	6.15	27.18	0	0	0.47	0.47	0	0	-60.26	-60.26
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	61.5	61.5	6.17	3269.55	6.37	4000	81.29	3	-1.44	21.44	6.15	77.39	0	0	0.47	0.47	0	0	-114.67	-114.67
R30	East Tr South \	QVA	382317	4892807	82.46	82	0	55.4	55.4	6.17	3269.55	6.37	8000	81.29	3	-1.44	21.44	6.15	270.82	0	0	0.47	0.47	0	0	-314.2	-314.2
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	52.1	52.1	6.17	3271.23	6.37	32	81.29	3	-5.86	13.74	6.15	0.08	0	0	0.46	0.46	0	0	-34.63	-34.63
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	59.3	59.3	6.17	3271.23	6.37	63	81.29	3	-5.86	15.53	6.15	0.3	0	0	0.46	0.46	0	0	-29.45	-29.45
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	76.4	76.4	6.17	3271.23	6.37	125	81.29	3	2.78	9.1	6.15	1.12	0	0	0.46	0.46	0	0	-15.38	-15.38
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	80.9	80.9	6.17	3271.23	6.37	250	81.29	3	0.51	13.94	6.15	3.52	0	0	0.46	0.46	0	0	-15.84	-15.84
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	94.3	94.3	6.17	3271.23	6.37	500	81.29	3	-0.6	17.82	6.15	7.85	0	0	0.46	0.46	0	0	-9.54	-9.54
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	83.5	83.5	6.17	3271.23	6.37	1000	81.29	3	-1.17	21.17	6.15	13.58	0	0	0.46	0.46	0	0	-28.86	-28.86
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	65.7	65.7	6.17	3271.23	6.37	2000	81.29	3	-1.44	21.44	6.15	27.19	0	0	0.46	0.46	0	0	-60.27	-60.27
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	61.5	61.5	6.17	3271.23	6.37	4000	81.29	3	-1.44	21.44	6.15	77.43	0	0	0.46	0.46	0	0	-114.71	-114.71
R30	West Tr South '	QVA	382298	4892800	82.47	82	0	55.4	55.4	6.17	3271.23	6.37	8000	81.29	3	-1.44	21.44	6.15	270.96	0	0	0.46	0.46	0	0	-314.34	-314.34
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	52.1	52.1	6.17	3276.22	6.37	32	81.31	3	-5.86	13.74	4.97	0.08	0	0	0.47	0.47	0	0	-34.65	-34.65
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	59.3	59.3	6.17	3276.22	6.37	63	81.31	3	-5.86	15.68	4.97	0.3	0	0	0.47	0.47	0	0	-29.61	-29.61
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	76.4	76.4	6.17	3276.22	6.37	125	81.31	3	6.31	6.29	4.97	1.13	0	0	0.47	0.47	0	0	-16.12	-16.12
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	80.9	80.9	6.17	3276.22	6.37	250	81.31	3	5.28	11.23	4.97	3.52	0	0	0.47	0.47	0	0	-17.94	-17.94
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	94.3	94.3	6.17	3276.22	6.37	500	81.31	3	6.21	14.55	4.97	7.86	0	0	0.47	0.47	0	0	-13.12	-13.12
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	83.5	83.5	6.17	3276.22	6.37	1000	81.31	3	1.53	22.88	4.97	13.6	0	0	0.47	0.47	0	0	-33.31	-33.31
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	65.7	65.7	6.17	3276.22	6.37	2000	81.31	3	-0.72	25.72	4.97	27.23	0	0	0.47	0.47	0	0	-65.33	-65.33
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	61.5	61.5	6.17	3276.22	6.37	4000	81.31	3	-0.72	25.72	4.97	77.55	0	0	0.47	0.47	0	0	-119.85	-119.85
R30	East Tr North V	QVA	382315	4892813	82.47	82	0	55.4	55.4	6.17	3276.22	6.37	8000	81.31	3	-0.72	25.72	4.97	271.37	0	0	0.47	0.47	0	0	-319.77	-319.77
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	52.1	52.1	6.17	3277.9	6.37	32	81.31	3	-5.86	13.74	4.97	0.08	0	0	0.46	0.46	0	0	-34.65	-34.65
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	59.3	59.3	6.17	3277.9	6.37	63	81.31	3	-5.86	15.67	4.97	0.3	0	0	0.46	0.46	0	0	-29.61	-29.61
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	76.4	76.4	6.17	3277.9	6.37	125	81.31	3	6.31	6.28	4.97	1.13	0	0	0.46	0.46	0	0	-16.12	-16.12
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	80.9	80.9	6.17	3277.9	6.37	250	81.31	3	5.29	11.23	4.97	3.52	0	0	0.46	0.46	0	0	-17.93	-17.93
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	94.3	94.3	6.17	3277.9	6.37	500	81.31	3	6.22	14.54	4.97	7.86	0	0	0.46	0.46	0	0	-13.12	-13.12
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	83.5	83.5	6.17	3277.9	6.37	1000	81.31	3	1.53	22.88	4.97	13.61	0	0	0.46	0.46	0	0	-33.31	-33.31
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	65.7	65.7	6.17	3277.9	6.37	2000	81.31	3	-0.72	25.72	4.97	27.25	0	0	0.46	0.46	0	0	-65.34	-65.34
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	61.5	61.5	6.17	3277.9	6.37	4000	81.31	3	-0.72	25.72	4.97	77.59	0	0	0.46	0.46	0	0	-119.89	-119.89
R30	West Tr NorthV	QVA	382296	4892807	82.47	82	0	55.4	55.4	6.17	3277.9	6.37	8000	81.31	3	-0.72	25.72	4.97	271.51	0	0	0.46	0.46	0	0	-319.91	-319.91
R30	T58	QU_58.0	389380	4892171	175	95	0	73.3	73.3	1	6209.05	41.58	32	86.86	0	-4.78	0	0	0.15	0	0	2.77	2.77	0	0	-11.7	-11.7
R30	T58	QU_58.0	389380	4892171	175	95	0	83.4	83.4	1	6209.05	41.58	63	86.86	0	-4.78	0	0	0.58	0	0	2.77	2.77	0	0	-2.03	-2.03
R30	T58	QU_58.0	389380	4892171	175	95	0	91.5	91.5	1	6209.05	41.58	125	86.86	0	3.83	0	0	2.13	0	0	2.77	2.77	0	0	-4.1	-4.1
R30	T58	QU_58.0	389380	4892171	175	95	0	97.9	97.9	1	6209.05	41.58	250	86.86	0	1.39	0	0	6.67	0	0	2.77	2.77	0	0	0.21	0.21
R30	T58	QU_58.0	389380	4892171	175	95	0	99.4	99.4	1	6209.05	41.58	500	86.86	0	0	0	0	14.9	0	0	2.77	2.77	0	0	-5.13	-5.13
R30	T58	QU_58.0	389380	4892171	175	95	0	95.6	95.6	1	6209.05	41.58	1000	86.86	0	0	0	0	25.77	0	0	2.77	2.77	0	0	-19.81	-19.81
R30	T58	QU_58.0	389380	4892171	175	95	0	91	91	1	6209.05	41.58	2000	86.86	0	0	0	0	51.61	0	0	2.77	2.77	0	0	-50.24	-50.24
R30	T58	QU_58.0	389380	4892171	175	95	0	86.1	86.1	1	6209.05	41.58	4000	86.86	0	0	0	0	146.97	0	0	2.77	2.77	0	0	-150.5	-150.5
R30	T58	QU_58.0	389380	4892171	175	95	0	81.1	81.1	1	6209.05	41.58	8000	86.86	0	0	0	0	514.3	0	0	2.77	2.77	0	0	-522.83	-522.83

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T59	QU_59.0	389135	4892814	175	95	0	73.3	73.3	1	6264.27	41.19	32	86.94	0	-4.79	0	0	0.15	0	0	2.3	2.3	0	0	-11.3	-11.3
R30	T59	QU_59.0	389135	4892814	175	95	0	83.4	83.4	1	6264.27	41.19	63	86.94	0	-4.79	0	0	0.58	0	0	2.3	2.3	0	0	-1.64	-1.64
R30	T59	QU_59.0	389135	4892814	175	95	0	91.5	91.5	1	6264.27	41.19	125	86.94	0	3.83	0	0	2.15	0	0	2.3	2.3	0	0	-3.72	-3.72
R30	T59	QU_59.0	389135	4892814	175	95	0	97.9	97.9	1	6264.27	41.19	250	86.94	0	1.39	0	0	6.73	0	0	2.3	2.3	0	0	0.54	0.54
R30	T59	QU_59.0	389135	4892814	175	95	0	99.4	99.4	1	6264.27	41.19	500	86.94	0	0	0	0	15.03	0	0	2.3	2.3	0	0	-4.87	-4.87
R30	T59	QU_59.0	389135	4892814	175	95	0	95.6	95.6	1	6264.27	41.19	1000	86.94	0	0	0	0	26	0	0	2.3	2.3	0	0	-19.64	-19.64
R30	T59	QU_59.0	389135	4892814	175	95	0	91	91	1	6264.27	41.19	2000	86.94	0	0	0	0	52.07	0	0	2.3	2.3	0	0	-50.31	-50.31
R30	T59	QU_59.0	389135	4892814	175	95	0	86.1	86.1	1	6264.27	41.19	4000	86.94	0	0	0	0	148.28	0	0	2.3	2.3	0	0	-151.42	-151.42
R30	T59	QU_59.0	389135	4892814	175	95	0	81.1	81.1	1	6264.27	41.19	8000	86.94	0	0	0	0	518.88	0	0	2.3	2.3	0	0	-527.02	-527.02
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	73.3	73.3	1	6269.27	36.67	32	86.94	0	-4.79	0	0	0.15	0	0	1.88	1.88	0	0	-10.88	-10.88
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	83.4	83.4	1	6269.27	36.67	63	86.94	0	-4.79	0	0	0.58	0	0	1.88	1.88	0	0	-1.22	-1.22
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	91.5	91.5	1	6269.27	36.67	125	86.94	0	3.83	0	0	2.15	0	0	1.88	1.88	0	0	-3.31	-3.31
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	97.9	97.9	1	6269.27	36.67	250	86.94	0	1.39	0	0	6.74	0	0	1.88	1.88	0	0	0.95	0.95
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	99.4	99.4	1	6269.27	36.67	500	86.94	0	0	0	0	15.04	0	0	1.88	1.88	0	0	-4.46	-4.46
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	95.6	95.6	1	6269.27	36.67	1000	86.94	0	0	0	0	26.02	0	0	1.88	1.88	0	0	-19.25	-19.25
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	91	91	1	6269.27	36.67	2000	86.94	0	0	0	0	52.11	0	0	1.88	1.88	0	0	-49.94	-49.94
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	86.1	86.1	1	6269.27	36.67	4000	86.94	0	0	0	0	148.4	0	0	1.88	1.88	0	0	-151.12	-151.12
R30	T63	QU_63.0	388770	4893412	170.93	90.93	0	81.1	81.1	1	6269.27	36.67	8000	86.94	0	0	0	0	519.29	0	0	1.88	1.88	0	0	-527.01	-527.01
R30	T64	QU_64.0	388541	4893734	165	85	0	73.3	73.3	1	6278.85	33.94	32	86.96	0	-4.79	0	0	0.15	0	0	1.66	1.66	0	0	-10.68	-10.68
R30	T64	QU_64.0	388541	4893734	165	85	0	83.4	83.4	1	6278.85	33.94	63	86.96	0	-4.79	0	0	0.58	0	0	1.66	1.66	0	0	-1.01	-1.01
R30	T64	QU_64.0	388541	4893734	165	85	0	91.5	91.5	1	6278.85	33.94	125	86.96	0	3.83	0	0	2.16	0	0	1.66	1.66	0	0	-3.1	-3.1
R30	T64	QU_64.0	388541	4893734	165	85	0	97.9	97.9	1	6278.85	33.94	250	86.96	0	1.39	0	0	6.75	0	0	1.66	1.66	0	0	1.15	1.15
R30	T64	QU_64.0	388541	4893734	165	85	0	99.4	99.4	1	6278.85	33.94	500	86.96	0	0	0	0	15.06	0	0	1.66	1.66	0	0	-4.28	-4.28
R30	T64	QU_64.0	388541	4893734	165	85	0	95.6	95.6	1	6278.85	33.94	1000	86.96	0	0	0	0	26.06	0	0	1.66	1.66	0	0	-19.08	-19.08
R30	T64	QU_64.0	388541	4893734	165	85	0	91	91	1	6278.85	33.94	2000	86.96	0	0	0	0	52.19	0	0	1.66	1.66	0	0	-49.81	-49.81
R30	T64	QU_64.0	388541	4893734	165	85	0	86.1	86.1	1	6278.85	33.94	4000	86.96	0	0	0	0	148.63	0	0	1.66	1.66	0	0	-151.14	-151.14
R30	T64	QU_64.0	388541	4893734	165	85	0	81.1	81.1	1	6278.85	33.94	8000	86.96	0	0	0	0	520.08	0	0	1.66	1.66	0	0	-527.6	-527.6
R30	T46	QU_46.0	389920	4890710	170	90	0	73.3	73.3	1	6347.98	40.89	32	87.05	0	-4.8	0	0	0.15	0	0	4.13	4.13	0	0	-13.23	-13.23
R30	T46	QU_46.0	389920	4890710	170	90	0	83.4	83.4	1	6347.98	40.89	63	87.05	0	-4.8	0	0	0.59	0	0	4.13	4.13	0	0	-3.57	-3.57
R30	T46	QU_46.0	389920	4890710	170	90	0	91.5	91.5	1	6347.98	40.89	125	87.05	0	3.83	0	0	2.18	0	0	4.13	4.13	0	0	-5.69	-5.69
R30	T46	QU_46.0	389920	4890710	170	90	0	97.9	97.9	1	6347.98	40.89	250	87.05	0	1.39	0	0	6.82	0	0	4.13	4.13	0	0	-1.49	-1.49
R30	T46	QU_46.0	389920	4890710	170	90	0	99.4	99.4	1	6347.98	40.89	500	87.05	0	0	0	0	15.23	0	0	4.13	4.13	0	0	-7.01	-7.01
R30	T46	QU_46.0	389920	4890710	170	90	0	95.6	95.6	1	6347.98	40.89	1000	87.05	0	0	0	0	26.35	0	0	4.13	4.13	0	0	-21.93	-21.93
R30	T46	QU_46.0	389920	4890710	170	90	0	91	91	1	6347.98	40.89	2000	87.05	0	0	0	0	52.77	0	0	4.13	4.13	0	0	-52.95	-52.95
R30	T46	QU_46.0	389920	4890710	170	90	0	86.1	86.1	1	6347.98	40.89	4000	87.05	0	0	0	0	150.26	0	0	4.13	4.13	0	0	-155.34	-155.34
R30	T46	QU_46.0	389920	4890710	170	90	0	81.1	81.1	1	6347.98	40.89	8000	87.05	0	0	0	0	525.81	0	0	4.13	4.13	0	0	-535.89	-535.89
R30	T57	QU_57.0	389830	4891783	170	90	0	73.3	73.3	1	6499.68	39.69	32	87.26	0	-4.83	0	0	0.15	0	0	3.18	3.18	0	0	-12.47	-12.47
R30	T57	QU_57.0	389830	4891783	170	90	0	83.4	83.4	1	6499.68	39.69	63	87.26	0	-4.83	0	0	0.6	0	0	3.18	3.18	0	0	-2.81	-2.81
R30	T57	QU_57.0	389830	4891783	170	90	0	91.5	91.5	1	6499.68	39.69	125	87.26	0	3.83	0	0	2.23	0	0	3.18	3.18	0	0	-5.01	-5.01
R30	T57	QU_57.0	389830	4891783	170	90	0	97.9	97.9	1	6499.68	39.69	250	87.26	0	1.39	0	0	6.98	0	0	3.18	3.18	0	0	-0.92	-0.92
R30	T57	QU_57.0	389830	4891783	170	90	0	99.4	99.4	1	6499.68	39.69	500	87.26	0	0	0	0	15.59	0	0	3.18	3.18	0	0	-6.64	-6.64
R30	T57	QU_57.0	389830	4891783	170	90	0	95.6	95.6	1	6499.68	39.69	1000	87.26	0	0	0	0	26.98	0	0	3.18	3.18	0	0	-21.82	-21.82
R30	T57	QU_57.0	389830	4891783	170	90	0	91	91	1	6499.68	39.69	2000	87.26	0	0	0	0	54.03	0	0	3.18	3.18	0	0	-53.47	-53.47
R30	T57	QU_57.0	389830	4891783	170	90	0	86.1	86.1	1	6499.68	39.69	4000	87.26	0	0	0	0	153.85	0	0	3.18	3.18	0	0	-158.19	-158.19
R30	T57	QU_57.0	389830	4891783	170	90	0	81.1	81.1	1	6499.68	39.69	8000	87.26	0	0	0	0	538.38	0	0	3.18	3.18	0	0	-547.72	-547.72
R30	T45	QU_45.0	389996	4891249	165	85	0	73.3	73.3	1	6520.15	38.76	32	87.29	0	-4.83	0	0	0.15	0	0	3.65	3.65	0	0	-12.96	-12.96
R30	T45	QU_45.0	389996	4891249	165	85	0	83.4	83.4	1	6520.15	38.76	63	87.29	0	-4.83	0	0	0.6	0	0	3.65	3.65	0	0	-3.31	-3.31
R30	T45	QU_45.0	389996	4891249	165	85	0	91.5	91.5	1	6520.15	38.76	125	87.29	0	3.83	0	0	2.24	0	0	3.65	3.65	0	0	-5.51	-5.51
R30	T45	QU_45.0	389996	4891249	165	85	0	97.9	97.9	1	6520.15	38.76	250	87.29	0	1.39	0	0	7.01	0	0	3.65	3.65	0	0	-1.43	-1.43
R30	T45	QU_45.0	389996	4891249	165	85	0	99.4	99.4	1	6520.15	38.76	500	87.29	0	0	0	0	15.64	0	0	3.65	3.65	0	0	-7.18	-7.18
R30	T45	QU_45.0	389996	4891249	165	85	0	95.6	95.6	1	6520.15	38.76	1000	87.29	0	0	0	0	27.07	0	0	3.65	3.65	0	0	-22.4	-22.4
R30	T45	QU_45.0	389996	4891249	165	85	0	91	91	1	6520.15	38.76	2000	87.29	0	0	0	0	54.2	0	0	3.65	3.65	0	0	-54.14	-54.14
R30	T45	QU_45.0	389996	4891249	165	85	0	86.1	86.1	1	6520.15	38.76	4000	87.29	0	0	0	0	154.34	0	0	3.65	3.65	0	0	-159.17	-159.17
R30	T45	QU_45.0	389996	4891249	165	85	0	81.1	81.1	1	6520.15	38.76	8000	87.29	0	0	0	0	540.07	0	0	3.65	3.65	0	0	-549.91	-549.91

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T47	QU_47.0	390438	4890506	170	90	0	73.3	73.3	1	6837.54	40.9	32	87.7	0	-4.89	0	0	0.16	0	0	4.45	4.45	0	0	-14.12	-14.12
R30	T47	QU_47.0	390438	4890506	170	90	0	83.4	83.4	1	6837.54	40.9	63	87.7	0	-4.89	0	0	0.63	0	0	4.45	4.45	0	0	-4.49	-4.49
R30	T47	QU_47.0	390438	4890506	170	90	0	91.5	91.5	1	6837.54	40.9	125	87.7	0	3.83	0	0	2.35	0	0	4.45	4.45	0	0	-6.83	-6.83
R30	T47	QU_47.0	390438	4890506	170	90	0	97.9	97.9	1	6837.54	40.9	250	87.7	0	1.39	0	0	7.35	0	0	4.45	4.45	0	0	-2.98	-2.98
R30	T47	QU_47.0	390438	4890506	170	90	0	99.4	99.4	1	6837.54	40.9	500	87.7	0	0	0	0	16.4	0	0	4.45	4.45	0	0	-9.15	-9.15
R30	T47	QU_47.0	390438	4890506	170	90	0	95.6	95.6	1	6837.54	40.9	1000	87.7	0	0	0	0	28.38	0	0	4.45	4.45	0	0	-24.93	-24.93
R30	T47	QU_47.0	390438	4890506	170	90	0	91	91	1	6837.54	40.9	2000	87.7	0	0	0	0	56.84	0	0	4.45	4.45	0	0	-57.98	-57.98
R30	T47	QU_47.0	390438	4890506	170	90	0	86.1	86.1	1	6837.54	40.9	4000	87.7	0	0	0	0	161.85	0	0	4.45	4.45	0	0	-167.9	-167.9
R30	T47	QU_47.0	390438	4890506	170	90	0	81.1	81.1	1	6837.54	40.9	8000	87.7	0	0	0	0	566.36	0	0	4.45	4.45	0	0	-577.41	-577.41
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	73.3	73.3	1	6842.18	39.26	32	87.7	0	-4.89	0	0	0.16	0	0	3.83	3.83	0	0	-13.5	-13.5
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	83.4	83.4	1	6842.18	39.26	63	87.7	0	-4.89	0	0	0.63	0	0	3.83	3.83	0	0	-3.88	-3.88
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	91.5	91.5	1	6842.18	39.26	125	87.7	0	3.83	0	0	2.35	0	0	3.83	3.83	0	0	-6.21	-6.21
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	97.9	97.9	1	6842.18	39.26	250	87.7	0	1.39	0	0	7.35	0	0	3.83	3.83	0	0	-2.37	-2.37
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	99.4	99.4	1	6842.18	39.26	500	87.7	0	0	0	0	16.41	0	0	3.83	3.83	0	0	-8.55	-8.55
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	95.6	95.6	1	6842.18	39.26	1000	87.7	0	0	0	0	28.4	0	0	3.83	3.83	0	0	-24.33	-24.33
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	91	91	1	6842.18	39.26	2000	87.7	0	0	0	0	56.88	0	0	3.83	3.83	0	0	-57.41	-57.41
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	86.1	86.1	1	6842.18	39.26	4000	87.7	0	0	0	0	161.96	0	0	3.83	3.83	0	0	-167.39	-167.39
R30	T44	QU_44.0	390346	4891151	165.42	85.42	0	81.1	81.1	1	6842.18	39.26	8000	87.7	0	0	0	0	566.75	0	0	3.83	3.83	0	0	-577.17	-577.17

ISO	Noise Source	ID	X	Y	Z	Ground	ReflOrd	LxT	LxN	L/A	Dist.	hm	Freq	Adiv	K0b	Agr	Abar	z	Aatm	Afol	Ahous	Cmet	CmetN	Dc	RL	LtotT	LtotN
R30	T43	QU_43.0	390549	4891528	165	85	0	73.3	73.3	1	7122.52	38.78	32	88.05	0	-4.93	0	0	0.17	0	0	3.57	3.57	0	0	-13.56	-13.56
R30	T43	QU_43.0	390549	4891528	165	85	0	83.4	83.4	1	7122.52	38.78	63	88.05	0	-4.93	0	0	0.66	0	0	3.57	3.57	0	0	-3.96	-3.96
R30	T43	QU_43.0	390549	4891528	165	85	0	91.5	91.5	1	7122.52	38.78	125	88.05	0	3.83	0	0	2.45	0	0	3.57	3.57	0	0	-6.41	-6.41
R30	T43	QU_43.0	390549	4891528	165	85	0	97.9	97.9	1	7122.52	38.78	250	88.05	0	1.39	0	0	7.65	0	0	3.57	3.57	0	0	-2.77	-2.77
R30	T43	QU_43.0	390549	4891528	165	85	0	99.4	99.4	1	7122.52	38.78	500	88.05	0	0	0	0	17.09	0	0	3.57	3.57	0	0	-9.32	-9.32
R30	T43	QU_43.0	390549	4891528	165	85	0	95.6	95.6	1	7122.52	38.78	1000	88.05	0	0	0	0	29.57	0	0	3.57	3.57	0	0	-25.59	-25.59
R30	T43	QU_43.0	390549	4891528	165	85	0	91	91	1	7122.52	38.78	2000	88.05	0	0	0	0	59.21	0	0	3.57	3.57	0	0	-59.83	-59.83
R30	T43	QU_43.0	390549	4891528	165	85	0	86.1	86.1	1	7122.52	38.78	4000	88.05	0	0	0	0	168.6	0	0	3.57	3.57	0	0	-174.12	-174.12
R30	T43	QU_43.0	390549	4891528	165	85	0	81.1	81.1	1	7122.52	38.78	8000	88.05	0	0	0	0	589.97	0	0	3.57	3.57	0	0	-600.49	-600.49
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	73.3	73.3	1	7371.19	32.81	32	88.35	0	-4.97	0	0	0.18	0	0	1.95	1.95	0	0	-12.21	-12.21
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	83.4	83.4	1	7371.19	32.81	63	88.35	0	-4.97	0	0	0.68	0	0	1.95	1.95	0	0	-2.62	-2.62
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	91.5	91.5	1	7371.19	32.81	125	88.35	0	3.83	0	0	2.53	0	0	1.95	1.95	0	0	-5.17	-5.17
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	97.9	97.9	1	7371.19	32.81	250	88.35	0	1.39	0	0	7.92	0	0	1.95	1.95	0	0	-1.71	-1.71
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	99.4	99.4	1	7371.19	32.81	500	88.35	0	0	0	0	17.68	0	0	1.95	1.95	0	0	-8.59	-8.59
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	95.6	95.6	1	7371.19	32.81	1000	88.35	0	0	0	0	30.6	0	0	1.95	1.95	0	0	-25.3	-25.3
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	91	91	1	7371.19	32.81	2000	88.35	0	0	0	0	61.27	0	0	1.95	1.95	0	0	-60.58	-60.58
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	86.1	86.1	1	7371.19	32.81	4000	88.35	0	0	0	0	174.48	0	0	1.95	1.95	0	0	-178.69	-178.69
R30	T62	QU_62.0	389709	4893992	161.45	81.45	0	81.1	81.1	1	7371.19	32.81	8000	88.35	0	0	0	0	610.56	0	0	1.95	1.95	0	0	-619.77	-619.77
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	73.3	73.3	1	7717.41	32.68	32	88.75	0	-5.01	0	0	0.18	0	0	1.98	1.98	0	0	-12.6	-12.6
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	83.4	83.4	1	7717.41	32.68	63	88.75	0	-5.01	0	0	0.72	0	0	1.98	1.98	0	0	-3.03	-3.03
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	91.5	91.5	1	7717.41	32.68	125	88.75	0	3.83	0	0	2.65	0	0	1.98	1.98	0	0	-5.72	-5.72
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	97.9	97.9	1	7717.41	32.68	250	88.75	0	1.39	0	0	8.29	0	0	1.98	1.98	0	0	-2.52	-2.52
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	99.4	99.4	1	7717.41	32.68	500	88.75	0	0	0	0	18.51	0	0	1.98	1.98	0	0	-9.85	-9.85
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	95.6	95.6	1	7717.41	32.68	1000	88.75	0	0	0	0	32.04	0	0	1.98	1.98	0	0	-27.17	-27.17
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	91	91	1	7717.41	32.68	2000	88.75	0	0	0	0	64.15	0	0	1.98	1.98	0	0	-63.89	-63.89
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	86.1	86.1	1	7717.41	32.68	4000	88.75	0	0	0	0	182.68	0	0	1.98	1.98	0	0	-187.31	-187.31
R30	T61	QU_61.0	390017	4894155	160.76	80.76	0	81.1	81.1	1	7717.41	32.68	8000	88.75	0	0	0	0	639.24	0	0	1.98	1.98	0	0	-648.87	-648.87

Level D/N: 40.3713 40.3713

ATTACHMENT F

RECEPTOR AND TURBINE COORDINATES

OCTOBER 2007

ID_HM	ENTITY	X	Y	Z	Class	Dist to nearest Turbine	Turbine ID
238	non participating	386337	4894788		industrial	707	T71
400	non participating	386576	4894943		industrial	896	T71
402	non participating	386142	4894686		industrial	634	T71
548	non participating	380549	4891977		industrial	891	T3
1	non participating	384572	4894240	89.5	non residential	895	T73
5	non participating	384568	4894285	89.5	non residential	936	T73
7	non participating	384686	4894101	89.5	non residential	819	T73
223	non participating	384763	4893997	89.5	non residential	779	T73
225	non participating	384912	4893751	89.5	non residential	739	T73
436	non participating	385570	4894280	86.68	non residential	788	T71
437	non participating	386079	4891342	96.82	non residential	621	T68
440	non participating	384921	4893798	89.5	non residential	770	T73
537	non participating	382442	4893361	90.5	non residential	716	T82
298	participating	385581	4886674		non residential	436	T32
2	non participating	384488	4894197	89.5	residence	828	T73
3	non participating	384405	4894123	89.5	residence	736	T73
4	non participating	384431	4894139	89.5	residence	757	T73
6	non participating	384639	4894134	89.5	residence	825	T73
20	non participating	380059	4891626	80.8	residence	718	T3
21	non participating	379833	4891337	80.09	residence	743	T3
22	non participating	383743	4890912	89.5	residence	607	T26
26	non participating	381780	4893070	84.5	residence	601	T86
27	non participating	382283	4893364	90.5	residence	737	T86
29	non participating	384597	4890820	93.02	residence	632	T81
30	non participating	383636	4889815	85.14	residence	639	T80
31	non participating	383851	4889505	84.5	residence	598	T80
32	non participating	384151	4889034	79.5	residence	786	T79
33	non participating	385122	4887713	84.5	residence	794	T33
35	non participating	386989	4886935	84.5	residence	630	T41
36	non participating	387559	4886216	84.5	residence	511	T41
37	non participating	388515	4886440	94.5	residence	751	T40
38	non participating	389150	4888098	84.5	residence	462	T37
39	non participating	388169	4888063	89.5	residence	682	T37
40	non participating	388113	4888113	90.48	residence	754	T37
41	non participating	388081	4888183	91.36	residence	805	T38
42	non participating	387414	4888905	94.5	residence	766	T54
43	non participating	388477	4888697	90.01	residence	787	T53
44	non participating	386776	4888609	92.44	residence	668	T42
45	non participating	386218	4888280	89.5	residence	805	T42
46	non participating	386472	4887836	94.5	residence	844	T38
47	non participating	386483	4887698	94.5	residence	823	T39
48	non participating	385063	4889989	89.5	residence	647	T79
50	non participating	386152	4890866	94.5	residence	711	T56
51	non participating	385754	4891483	98.11	residence	728	T78
52	non participating	385802	4891555	98.69	residence	699	T68
53	non participating	385179	4892537	95.47	residence	669	T75

ID_HM	ENTITY	X	Y	Z	Class	Dist to nearest Turbine	Turbine ID
54	non participating	385056	4893287	94.5	residence	696	T74
55	non participating	385789	4893961	89.5	residence	556	T71
56	non participating	387281	4891718	94.8	residence	660	T67
57	non participating	391233	4891382	84.5	residence	699	T43
58	non participating	390365	4892138	89.57	residence	637	T43
59	non participating	390332	4892471	95.51	residence	852	T57
60	non participating	389886	4892727	99.5	residence	752	T58
62	non participating	388023	4893632	94.5	residence	528	T64
63	non participating	387687	4893722	97.22	residence	798	T65
64	non participating	387435	4894101	94.5	residence	568	T70
65	non participating	387074	4894668	90.06	residence	739	T70
66	non participating	386999	4894652	91.57	residence	708	T70
67	non participating	389354	4888531	84.51	residence	919	T37
68	non participating	390021	4889562	83.59	residence	833	T48
69	non participating	390899	4890339	84.5	residence	490	T47
70	non participating	391235	4890633	80.55	residence	807	T47
71	non participating	391274	4890672	80.65	residence	852	T47
72	non participating	391348	4890749	80.12	residence	942	T47
73	non participating	391390	4890767	79.5	residence	987	T47
79	non participating	380415	4891981	79.73	residence	903	T3
80	non participating	380476	4892022	79.78	residence	938	T3
85	non participating	381152	4892703	84.5	residence	861	T85
86	non participating	381135	4892639	84.5	residence	846	T85
87	non participating	380962	4892451	81.92	residence	950	T85
88	non participating	381263	4892780	84.26	residence	814	T85
89	non participating	381293	4892826	83.97	residence	822	T85
90	non participating	387141	4886837	84.5	residence	456	T41
91	non participating	389073	4894040	84.5	residence	614	T64
92	non participating	390286	4892242	93.49	residence	647	T57
94	non participating	383719	4891063	89.5	residence	619	T26
95	non participating	384766	4887862	84.5	residence	511	T35
96	non participating	384097	4891251	89.5	residence	886	T81
97	non participating	384836	4891642	94.5	residence	606	T77
98	non participating	384422	4888436	84.5	residence	617	T35
99	non participating	385226	4887204	84.5	residence	566	T29
100	non participating	387338	4889030	93.16	residence	698	T54
101	non participating	387654	4888988	94.5	residence	607	T53
102	non participating	384940	4890199	90.05	residence	726	T80
104	non participating	386018	4891067	95.1	residence	806	T78
105	non participating	386153	4893492	95.38	residence	613	T72
106	non participating	387397	4891547	91.12	residence	655	T67
107	non participating	386570	4890193	89.5	residence	736	T56
108	non participating	387040	4889456	89.5	residence	671	T55
111	non participating	389265	4891158	94.5	residence	737	T45
112	non participating	389295	4891265	94.5	residence	701	T45
113	non participating	388592	4892232	98.61	residence	790	T58
114	non participating	388247	4892594	99.5	residence	628	T65
116	non participating	389652	4889161	84.79	residence	700	T48
117	non participating	389727	4889423	87.53	residence	594	T48

ID_HM	ENTITY	X	Y	Z	Class	Dist to nearest Turbine	Turbine ID
118	non participating	387457	4888995	94.45	residence	666	T54
120	non participating	388955	4888529	89.5	residence	747	T37
121	non participating	384294	4891308	89.5	residence	850	T77
122	non participating	385323	4892488	97.16	residence	702	T72
125	non participating	383732	4889686	84.5	residence	588	T80
126	non participating	385659	4889004	84.5	residence	649	T42
127	non participating	386970	4889544	89.5	residence	672	T55
131	non participating	386294	4888138	90.18	residence	943	T42
132	non participating	388169	4887933	89.5	residence	643	T37
136	non participating	389734	4889808	89.5	residence	547	T48
137	non participating	387029	4892265	102.6	residence	724	T68
139	non participating	386965	4893214	104.5	residence	743	T70
142	non participating	387442	4893945	95.14	residence	555	T70
144	non participating	386533	4889872	89.5	residence	784	T56
163	non participating	379758	4891620	79.5	residence	940	T3
164	non participating	380094	4891656	80.73	residence	719	T3
165	non participating	380128	4891679	80.71	residence	718	T3
166	non participating	381392	4892802	89.5	residence	735	T85
167	non participating	381145	4892564	84.5	residence	806	T85
169	non participating	382386	4893380	90.5	residence	772	T86
170	non participating	382479	4893424	90.68	residence	717	T82
171	non participating	382620	4893500	94.5	residence	657	T82
172	non participating	383099	4893826	84.5	residence	800	T82
173	non participating	383866	4893969	84.5	residence	692	T73
174	non participating	383837	4893964	84.5	residence	705	T73
175	non participating	383919	4893980	85.42	residence	672	T73
176	non participating	384019	4894027	85.24	residence	671	T73
177	non participating	384116	4894113	83.35	residence	727	T73
178	non participating	384158	4894129	82.76	residence	735	T73
179	non participating	384240	4894173	82.99	residence	772	T73
180	non participating	384298	4894201	82.42	residence	801	T73
181	non participating	384362	4894265	80.19	residence	870	T73
193	non participating	384866	4894197	88.69	residence	1000	T73
194	non participating	384874	4894159	89.5	residence	975	T73
224	non participating	384805	4893862	89.5	residence	713	T73
231	non participating	385461	4894556	79.88	residence	992	T71
232	non participating	385523	4894539	80.64	residence	930	T71
233	non participating	385402	4894409	84.5	residence	986	T71
236	non participating	385503	4894411	84.5	residence	892	T71
237	non participating	385483	4894450	83.36	residence	926	T71
296	non participating	384648	4890991	93.2	residence	567	T78
304	non participating	383196	4886704	79.5	residence	985	T34
305	non participating	383197	4886725	79.5	residence	973	T34
306	non participating	383190	4886760	79.5	residence	963	T34
307	non participating	383168	4886816	79.5	residence	959	T34
308	non participating	383171	4886843	79.5	residence	945	T34
309	non participating	383191	4886865	79.5	residence	918	T34
310	non participating	383227	4886973	79.5	residence	850	T34
311	non participating	383237	4887025	79.5	residence	827	T34

ID_HM	ENTITY	X	Y	Z	Class	Dist to nearest Turbine	Turbine ID
312	non participating	383327	4887099	79.5	residence	725	T34
313	non participating	383374	4887193	79.73	residence	671	T34
314	non participating	383387	4887222	79.77	residence	658	T34
315	non participating	383459	4887430	79.69	residence	628	T34
316	non participating	383674	4887672	80.43	residence	598	T34
317	non participating	383703	4887713	80.14	residence	567	T35
318	non participating	383733	4887746	80.28	residence	531	T35
319	non participating	383913	4888204	79.8	residence	498	T35
320	non participating	383902	4888356	79.74	residence	624	T35
321	non participating	384159	4888355	82.85	residence	522	T35
322	non participating	384133	4888259	82.62	residence	434	T35
335	non participating	387848	4885983	81.85	residence	789	T41
336	non participating	387895	4886008	82.19	residence	783	T41
338	non participating	387490	4885895	79.65	residence	836	T41
339	non participating	388108	4886134	89.02	residence	791	T41
340	non participating	389659	4887396	89.58	residence	789	T36
341	non participating	389807	4887631	88.65	residence	980	T36
363	non participating	387773	4885952	81.12	residence	797	T41
364	non participating	389484	4888888	84.5	residence	856	T48
365	non participating	390083	4889597	84.2	residence	889	T48
366	non participating	390097	4889606	84.5	residence	902	T48
367	non participating	390121	4889626	84.5	residence	925	T48
368	non participating	388270	4887890	88.93	residence	536	T37
387	non participating	390976	4893956	79.5	residence	979	T61
388	non participating	390916	4894090	79.5	residence	901	T61
389	non participating	390367	4893833	84.5	residence	476	T61
390	non participating	390734	4893965	80.48	residence	742	T61
391	non participating	390566	4894739	79.5	residence	802	T61
393	non participating	390134	4892386	99.5	residence	675	T57
394	non participating	387011	4894740	88.12	residence	797	T70
395	non participating	386846	4894869	84.5	residence	917	T70
396	non participating	386761	4894871	83.91	residence	899	T71
397	non participating	386846	4894799	86.79	residence	847	T70
398	non participating	386807	4894905	83.58	residence	951	T71
399	non participating	386786	4894952	81.82	residence	982	T71
421	non participating	386417	4894873	84.5	residence	797	T71
422	non participating	386441	4894873	84.5	residence	799	T71
423	non participating	386468	4894888	84.5	residence	818	T71
424	non participating	386577	4894640	89.5	residence	610	T71
425	non participating	386301	4894646	84.5	residence	566	T71
426	non participating	386355	4894685	84.5	residence	604	T71
427	non participating	386411	4894661	84.5	residence	585	T71
428	non participating	386465	4895014	81.88	residence	942	T71
429	non participating	385995	4894866	79.5	residence	854	T71
430	non participating	385766	4894485	84.87	residence	695	T71
431	non participating	385541	4894440	84.5	residence	869	T71
432	non participating	385452	4894495	82.08	residence	973	T71
433	non participating	385457	4894483	82.39	residence	963	T71
434	non participating	385468	4894459	83.05	residence	943	T71

ID_HM	ENTITY	X	Y	Z	Class	Dist to nearest Turbine	Turbine ID
435	non participating	385909	4894739	81.85	residence	782	T71
439	non participating	384851	4893592	89.87	residence	620	T73
441	non participating	384763	4894039	89.5	residence	812	T73
442	non participating	384809	4894072	89.5	residence	866	T73
443	non participating	384819	4894039	89.5	residence	848	T73
444	non participating	384846	4894090	89.5	residence	904	T73
445	non participating	384818	4894153	89.5	residence	936	T73
446	non participating	384776	4894187	88.78	residence	940	T73
451	non participating	384715	4894239	89.34	residence	953	T73
452	non participating	384785	4894228	87.43	residence	979	T73
489	non participating	384460	4894303	80.23	residence	924	T73
490	non participating	384526	4894323	83.34	residence	959	T73
491	non participating	384494	4894300	83.48	residence	929	T73
492	non participating	384511	4894268	89.5	residence	902	T73
493	non participating	384464	4894270	86.45	residence	892	T73
494	non participating	384449	4894218	89.5	residence	838	T73
495	non participating	384412	4894199	89.37	residence	812	T73
496	non participating	384455	4894185	89.5	residence	808	T73
497	non participating	384567	4894005	89.5	residence	677	T73
498	non participating	384381	4894102	89.5	residence	711	T73
499	non participating	384356	4894181	86.97	residence	786	T73
502	non participating	383877	4893999	83.64	residence	711	T73
503	non participating	383797	4893950	83.63	residence	719	T73
504	non participating	383701	4893824	84.35	residence	702	T73
509	non participating	382833	4893924	79.5	residence	930	T82
510	non participating	382903	4893987	79.7	residence	976	T82
512	non participating	384220	4888396	83.69	residence	555	T35
513	non participating	384128	4888342	82.45	residence	516	T35
514	non participating	383830	4888027	79.83	residence	464	T35
515	non participating	383914	4888296	79.74	residence	568	T35
516	non participating	383433	4887276	80.1	residence	616	T34
517	non participating	383383	4887209	79.77	residence	662	T34
518	non participating	383398	4887270	79.71	residence	650	T34
519	non participating	383295	4887087	79.5	residence	759	T34
520	non participating	383270	4887068	79.5	residence	787	T34
521	non participating	383200	4886911	79.5	residence	894	T34
522	non participating	383147	4886840	79.5	residence	969	T34
523	non participating	383149	4886863	79.5	residence	958	T34
524	non participating	383183	4886788	79.5	residence	957	T34
525	non participating	383196	4886678	79.5	residence	998	T34
534	non participating	383744	4888645	79.5	residence	952	T35
535	non participating	385878	4887088	90.9	residence	938	T32
536	non participating	382438	4893414	90.5	residence	746	T82
538	non participating	382574	4893581	89.5	residence	748	T82
539	non participating	382470	4893532	87.79	residence	789	T82
540	non participating	382432	4893538	86.24	residence	822	T82
541	non participating	382275	4893427	89.53	residence	798	T86
542	non participating	381081	4892466	84.5	residence	837	T85
543	non participating	381057	4892540	82.43	residence	880	T85

ID_HM	ENTITY	X	Y	Z	Class	Dist to nearest Turbine	Turbine ID
544	non participating	381011	4892518	80.55	residence	918	T85
545	non participating	380986	4892483	80.56	residence	933	T85
547	non participating	380500	4892063	79.86	residence	978	T3
549	non participating	380374	4891937	79.82	residence	866	T3
550	non participating	380136	4891817	79.5	residence	831	T3
551	non participating	380052	4891746	79.62	residence	816	T3
552	non participating	380096	4891785	79.51	residence	824	T3
553	non participating	380165	4891737	80.38	residence	747	T3
574	non participating	380030	4891732	79.62	residence	818	T3
575	non participating	380930	4892450	83.52	residence	981	T85
576	non participating	383245	4892087	87.24	residence	682	T83
588	non participating	385420	4894373	84.56	residence	958	T71
589	non participating	385444	4894326	85.51	residence	921	T71
592	non participating	387746	4893651	97.2	residence	728	T65
595	non participating	389713	4889395	87.8	residence	595	T48
596	non participating	389888	4889983	92.24	residence	728	T46
597	non participating	383415	4887427	79.5	residence	669	T34
598	non participating	380092	4891431	81.71	residence	559	T3
600	non participating	387653	4888755	94.5	residence	782	T53
49	participating	385654	4890593		residence	406	T56
61	Participating	389344	4893699		residence	468	T62
103	Participating	384734	4890627		residence	605	T78
109	Participating	386909	4889801		residence	632	T55
110	Participating	389890	4890134		residence	577	T46
115	Participating	389394	4893419		residence	624	T63
119	Participating	387419	4889039		residence	646	T54
123	Participating	384752	4888727		residence	657	T79
128	Participating	385977	4889383		residence	444	T42
129	Participating	386651	4887584		residence	645	T39
130	Participating	384825	4887845		residence	570	T35
133	Participating	388264	4890996		residence	405	T50
134	Participating	387197	4891620		residence	531	T67
135	Participating	388393	4889849		residence	539	T53
138	Participating	388323	4892674		residence	586	T60
140	Participating	387325	4893103		residence	427	T65
141	Participating	386223	4892696		residence	458	T69
297	Participating	384829	4890356		residence	672	T81
392	Participating	389526	4893166		residence	526	T59
554	Participating	379983	4891657		residence	792	T3
555	Participating	379925	4891644		residence	825	T3
594	Participating	387138	4891608		residence	481	T67
599	Participating	383857	4893437		residence	393	T76

Name	ID	Result. PWL		Lw / Li		K0	Height		Coordinates		
		Day	Night	Type	Value				X	Y	Z
		(dBA)	(dBA)			(dB)	(m)		(m)	(m)	(m)
T1	QU_1.0	103.1	103.1	Lw	Lw6mps_103p1	0	80	r	381096	4890718	160
T2	QU_2.0	103.1	103.1	Lw	Lw6mps_103p1	0	80	r	380970	4891106	160
T3	QU_3.0	103.1	103.1	Lw	Lw6mps_103p1	0	80	r	380532	4891086	160
T4	QU_4.0	103.1	103.1	Lw	Lw6mps_103p1	0	80	r	380265	4890695	157.46
T5	QU_5.0	103.1	103.1	Lw	Lw6mps_103p1	0	80	r	380642	4890651	159.63
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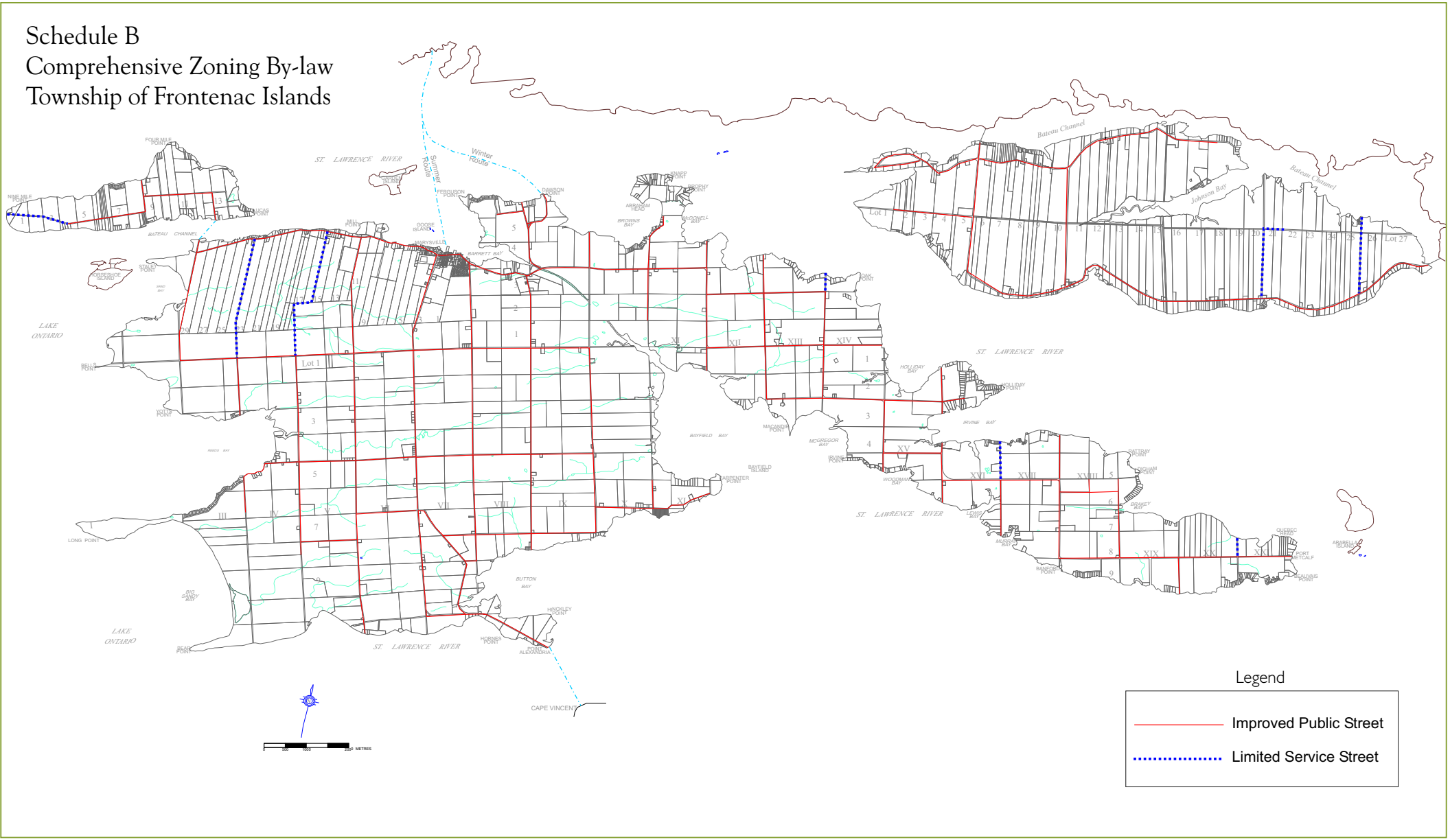
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		Day	Night	Type	Value				X	Y	Z
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ATTACHMENT G

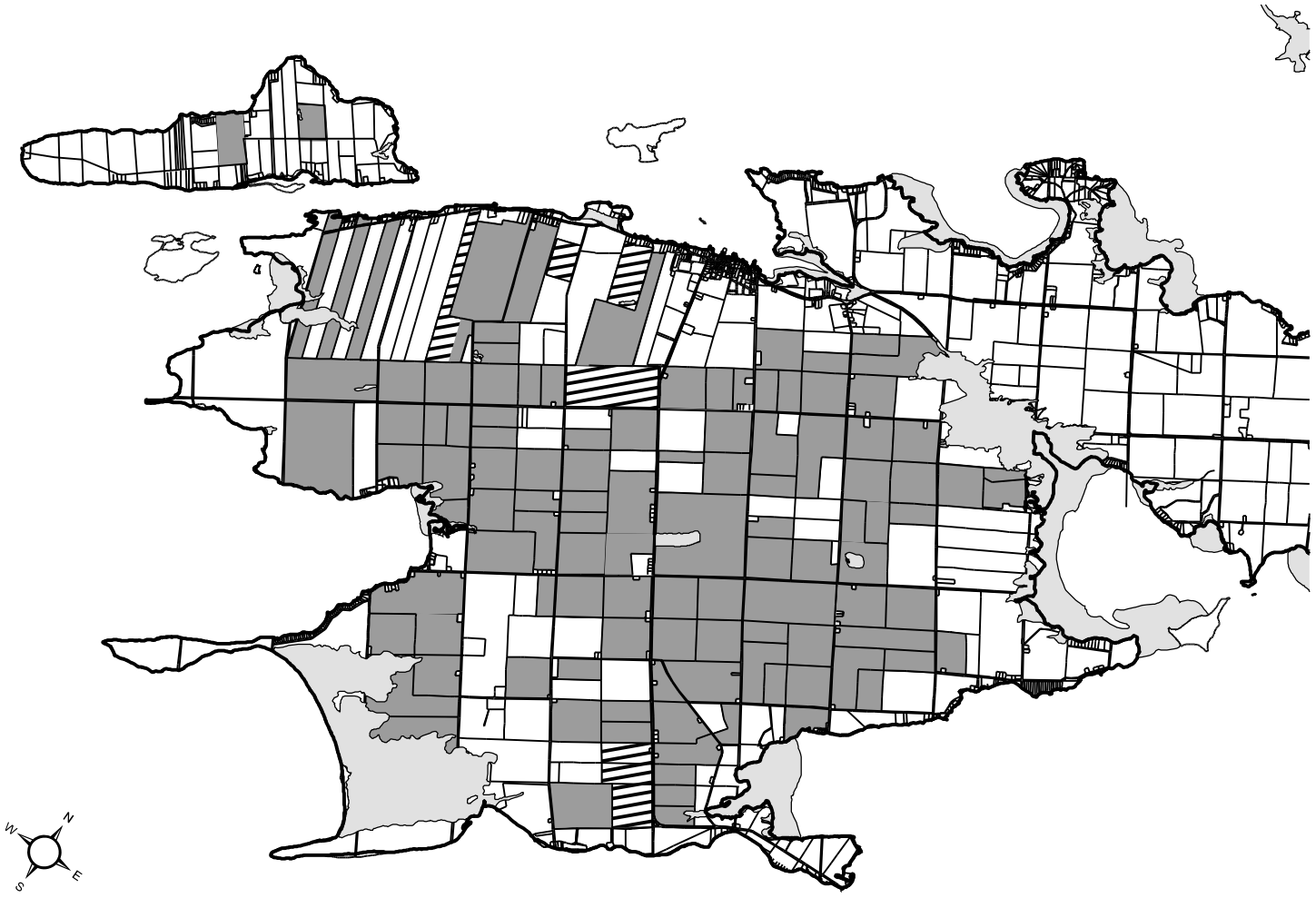
ZONING AND PROPERTY BOUNDARIES

OCTOBER 2007

Schedule B
Comprehensive Zoning By-law
Township of Frontenac Islands



Kep Map
Wind Plant
Zoning By-law Amendment
February 2007



Lands subject to Wind Plant Overlay Zone (Bylaw 27-2006)

Additional lands proposed for Wind Plant Overlay Zone

CREC
CANADIAN RENEWABLE ENERGY CORPORATION

0 2,000 4,000 6,000 Meters

1:100,000

February 28, 2007

Corporation of the Township of Frontenac Islands
By-Law No. 16- 2006

WHEREAS the Council of the Township of Frontenac Islands in accordance with the provisions of Section 17 and 22 of the Planning Act, R.S.O., 1990 hereby enacts the following:

1. Amendment No. 1 to the Official Plan for the Township of Frontenac Islands consisting of the explanatory test is hereby adopted.

2. That the Clerk is hereby authorized and directed to fulfill the statutory requirements as set out in the Planning Act, R.S.O., 1990 in regard to Amendment No. 1 to the Official Plan of the Township of Frontenac Islands.

3. This By-Law shall come into force and effect on the day of the final passing thereof.

Read a first and second time this 10th day of July, 2006.

Read a third time and finally passed this 10th day of July, 2006.

Mayor Jim Vanden Hoek

Acting Clerk Carol Dwyre

THIS DOCUMENT IS A CERTIFIED TRUE COPY
CAROL DWYRE
DEPUTY TREASURER/DEPUTY CLERK
DATE July 19, 2006

OFFICIAL PLAN AMENDMENT NO. 1

TOWNSHIP OF FRONTENAC ISLANDS

Commercial Wind Farms Policy

July, 2006

Prepared by *Clark Consulting Services*

THIS DOCUMENT IS A CERTIFIED TRUE COPY
CAROL DWYRE
DEPUTY TREASURER/DEPUTY CLERK
DATE July 19, 2006

This Amendment No. 1 to the Official Plan of the Township of Frontenac Islands, which has been adopted by the Council of the Township of Frontenac Islands, is hereby approved in accordance with Sections 17 and 22 of the *Planning Act, R.S.O., 1990*, as Amendment No. 1 to the Official Plan of the Township of Frontenac Islands.

Date: July 10, 2006

Approval Authority: Township of Frontenac Islands
Committee of Adjustment

AMENDMENT NO. 1
WIND FARMS
TO THE OFFICIAL PLAN FOR
THE TOWNSHIP OF FRONTENAC ISLANDS

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THE STATEMENT OF COMPONENTS

PART A - THE PREAMBLE does not constitute part of this Amendment.

Part B - THE AMENDMENT consisting of the text constitutes Amendment No. 1 to the Official Plan of the Township of Frontenac Islands .

PART C - THE APPENDICES do not form part of this Amendment. These appendices contain the background data; municipal and planning considerations; and public involvement associated with the Amendment.

PART A - THE PREAMBLE

1. PURPOSE

The purpose of this amendment is to add policies to the Township of Frontenac Islands Official Plan which would permit the development of commercial Wind Farms on lands designated Agricultural on Schedule "A" to the Official Plan. The new policies will apply to all lands designated Agricultural in the Township of Frontenac Islands.

2. LOCATION

This Amendment applies to all lands designated Agricultural on Schedule "A" to the Township of Frontenac Islands Official Plan.

3. BASIS

i) Proposal

In 2004, the Township of Frontenac Islands received two applications for Official Plan amendments to permit the creation of Wind Farms on Wolfe Island. These applications were submitted by Canadian Renewable Energy Corporation (CREC) and GAIA Power Inc. (GAIA). Both companies were at that time participating in a bidding process for the production of wind energy for the Provincial power network. The first round of allocations were awarded and neither CREC nor GAIA were successful in their bids. Both companies continued to pursue an allocation.

In 2005 the GAIA and CREC proposals were combined into a project now referred to as the Wolfe Island Wind Plant. The planning applications have been consolidated under the ownership of CREC a wholly owned subsidiary of Canadian Hydro Developers (CHD). CREC was successful in the second Request For Proposals and was granted an allocation for a 197.8MW wind farm consisting of 86- 2.3MW turbines. CREC has optioned approximately 2513ha (6,209ac) of land on Wolfe Island. In addition to the wind turbines, the project will also include a 34.5KV transformer station on Wolfe Island, a 230KV overhead, underground and marine transmission line, circuit breakers, a direct line tap at Gardiner Transformer Station (TS) in Kingston and both temporary and ongoing construction and maintenance yards.

The existing Official Plan policy permits commercial Wind Farms in the Agricultural designation only by amendment to the plan.

This Official Plan Amendment will add a policy to the Official Plan permitting

commercial wind turbines in the Agricultural designation without the need for amendment. Commercial wind farm turbines are already a permitted use in the Rural designation.

ii) Agency Review

A preliminary review of the applications together with a draft Official Plan Amendment and a draft Zoning By-law Amendment were circulated to an extensive list of agencies on Feb 15, 2005. An agency meeting was held on March 7, 2005 to discuss the applications. Since that time the GAIA and CREC applications have been consolidated and the Official Plan Amendment has been revised. The updated documents have been circulated for agency review.

iii) Public Consultation

A Public Meeting under Section 17 and 21 of the *Planning Act, R.S.O., 1990* as amended, was convened on for this proposed Official Plan on May 24, 2006. Notice for the Public Meeting was provided in accordance with the regulations under the Planning Act. A summary of submissions received is included as Appendix ____.

iv) Council Action

To be completed.

PART B - THE AMENDMENT

All of this part of the document entitled Part B - The Amendment, consisting of the following text constitutes Amendment No. 1 to the Official Plan for the Township of Frontenac Islands.

DETAIL OF THE AMENDMENT

The Official Plan is amended as follows:

Item (1):

Section 4.14 Wind Energy conversion systems is amended by the addition of the following paragraph at the beginning of the section.

The Township of Frontenac Islands supports the development of Wind Energy systems for electricity production, as a source of renewable energy for the economic and environmental benefit of the Municipality, County and Province.

Item (2):

Section 4.14 Wind Energy Conversion systems is amending by deleting the second and third paragraphs and replacing them with the following:

Given the usually large scale of "Wind Farms", "Wind Farms" shall be permitted in the Rural and Agricultural designations. A " Wind Farm" is considerably different from the typical uses located within these areas and as such, compatibility with surrounding land uses and the safety of neighbouring residents must be protected. Proposed "Wind Farms" in the Rural and Agricultural designations will require a site specific Zoning By-law Amendment.

Wind Farms will normally be located on large parcels of agricultural or rural land having limited residential development on-site or nearby. The sites will be separated from sensitive uses such as residences, wildlife habitat, commercial and institutional uses in order to reduce the potential impact of safety, noise and visual intrusion on these areas. The proposed sites will have access to a public road. The access may be deeded right of way or license. The public road and the access shall have sufficient existing design capacity to accommodate construction and maintenance vehicles needed for the operation and maintenance of the wind farm. The sites will have sufficient area to provide setbacks from sensitive residential and institutional land uses, to provide safety from structural collapse or falling ice. The wind energy system shall be designed, built, operated and maintained by firms/individuals qualified to undertake the work.

Wind farms may be permitted by Zoning By-law amendment, in an Agricultural or Rural

designation where the applicant demonstrates, through appropriate studies, undertaken by qualified professionals, that all issues related to the amendment application have been addressed.

Council may require the applicant for a wind farm related zoning by-law amendment to prepare and submit any or all of the following studies and materials prior to making a decision on such application:

a. A noise impact study to determine setbacks from individual wind generators so that noise levels will not exceed the Ministry of the Environment noise standards for sensitive uses;

b. Visual impact study to determine the impact and mitigation measures required for the shadow or reflection of light coming from any part of the wind turbine onto adjacent sensitive land uses;

c. A visual impact study on the landscape as viewed from Lake Ontario, municipal roads or other public lands;

d. Where natural heritage features or functions are identified in the Official Plan, an impact study to describe the feature and determine potential impact from the wind turbine and recommend measures necessary to mitigate the impact;

e. Where airstrips or telecommunication systems exist in proximity to the proposed wind farm, a study to ensure the siting and operation of the turbines will not effect negatively the operation or safety of these uses.

Wind Farms shall be subject to site plan control, in accordance with Section 41 of the *Planning Act R.S.O. 1990* for the location of structures, transmission lines, access, parking, accessory buildings, vegetative buffers, location of external works/facilities, storm water management/drainage and any other identified mitigation measures. The Site Plan shall illustrate the location of those items outlined above for zoning consideration as well as addressing the following issues: turbine tower and blade colour, exterior building colour, disposal of excavated material, transformer location and fencing colour and finish details. In addition to the above, monitoring of noise levels shall be agreed with the municipality prior to commencement of development and in the event of noise levels being exceeded, the developer shall submit to the Municipality detailed proposals for ameliorating excessive noise levels for their agreement. Before development commences, the developer shall submit to the Municipality detailed proposals for monitoring and addressing any identified potential impacts.

The implementing zoning by-law shall regulate the location of wind power facilities including such matters as height and setback from roads and any sensitive uses, accessory

uses and turbine density.

The implementing zoning by-law may include setbacks for new sensitive land uses in areas adjacent to an approved wind farm and individual wind generators.

The implementing zoning by-law amendment may provide for a holding provision under the provisions of Section 36 of the *Planning Act R.S.O. 1990* and the policies of Section 7.7 of this Plan. A principal objective of using a holding provision would be to ensure that a site plan and associated agreement have been completed before the development commences. Other requirements prior to the removal of the holding provision may include such matters as the provision of the required license from the Ontario Energy Board where applicable, provision of an operational protocol for dealing with extreme weather conditions or provision of detailed drawings of the turbines and their foundations certified by a professional engineer.

If wind power facilities are decommissioned, the site shall be appropriately rehabilitated for a use permitted by the applicable policies of this plan."

IMPLEMENTATION AND INTERPRETATION

The implementation and interpretation of this Amendment shall be in accordance with the respective policies of the Frontenac Island Township Official Plan.

PART C - APPENDICES

The following appendices do not constitute part of the Official Plan Amendment but are included as information supporting the Amendment.

Appendix I - Public Involvement
Appendix II- Planning Report
Appendix III - Agency Comments

APPENDIX I
Public Involvement

Appendix I-a copy of Public Notice
Appendix I-b minutes of Public Meeting
Appendix I-submission received

CERTIFICATE OF COMPLIANCE WITH PUBLIC INVOLVEMENT AND NOTICE REQUIREMENT

I, Carol Dwyre, Clerk, hereby certify that the requirements for the giving of notice and holding of at least one public meeting as set out in sub-section 17 (15) of the *Planning Act, R.S.O., 1990*, as amended, and the giving of notice as set out in sub-section 17 (17) of the *Planning Act, R.S.O., 1990*, as amended, have been complied with.

Carol Dwyre
Clerk

PL070039

IN THE MATTER OF Subsection 34(19) of the Planning Act, R.S.O. 1990, c. P.13, as amended

MINUTES OF SETTLEMENT

BETWEEN

SARAH McDERMOTT and DR. JAMES DAY

(the "Appellants")

and

CANADIAN RENEWABLE ENERGY CORPORATION

("CREC")

and

THE CORPORATION OF THE TOWNSHIP OF FRONTENAC ISLANDS

(the "Township")

WHEREAS the Township has enacted By-law 27-2006 (the "By-law") in response to an application by CREC;

AND WHEREAS the Appellants have appealed to the Ontario Municipal Board (the "Board") herein in respect of the enactment of the By-law;

AND WHEREAS the Appellants, CREC and the Township wish to settle the appeal as set out in these Minutes of Settlement;

AND WHEREAS the Parties agree that the assessment and mitigation of environmental issues is of paramount importance and that it is the intent and understanding of the Parties that these issues are to be addressed through the Environmental Screening Process under Ontario Regulation 116/01 and the holding symbol will not be removed until that process is completed;

AND WHEREAS the Appellants and CREC have entered into a settlement agreement;

NOW THEREFORE THE PARTIES HERETO AGREE AS FOLLOWS:

1. The Appellants, the Township and CREC support the issuance of a decision of the Ontario Municipal Board allowing the appeal of the

Appellants in part so as to modify the By-law in the manner set out in Appendix A hereto.

2. The Parties shall request the Board to issue its decision herein as soon as possible, but to withhold its Order herein until the successful completion of the environmental screening process being currently conducted pursuant to Ontario Regulation 116/01 (the "ES Process").

3. The Parties will provide the Board with a revised form of the Zoning By-law which reflects the modifications referred to herein and in the event the Parties cannot agree on the form of the revised Zoning By-law the Board may be spoken to.

Shadow Flicker

4. CREC shall, prior to the issuance of a Notice of Completion under the ERR Process and therefore prior to the commencement of the 30 day review period provide to the Appellants and to the Township a table prepared using a recognized modeling tool such as "WindFarm" showing, for all residences within 1000 metres of any turbine (excluding residences owned by persons who have entered into agreements with CREC or its affiliates allowing the siting of turbines) the total number of annual hours of shadow flicker for each such residence.

5. The Parties agree that the annual maximum potential hours of shadow flicker as calculated by WindFarm reflect a theoretical worst case scenario according to which any trees or other screening between turbines and residences is ignored, and it is assumed that there is never any cloud cover, rain, fog or haze, and that the wind always blows so that the blades are spinning, and that the wind direction is always so as to align the blades at right angles to the line of sight between the residence and the turbine. The Shadow/Flicker report prepared for the Wolfe Island Energy Project indicates that actual hours of shadow flicker on each residence would be only approximately 18% of the numerical values generated by the WindFarm assumptions

6. The Parties further agree that, in recognition that the WindFarm assumptions are not realistic, and for purposes of settlement only, the annual maximum potential hours of shadow flicker as calculated by WindFarm shall be reduced by 82% as indicated in the Shadow Flicker report.

7. The Parties agree that a reasonable objective for the design of the Wolfe Island Wind Energy Project is that for any non-participating receptor the number determined under paragraph ~~5~~6 shall not exceed 30 hours. This shall not be asserted to be relevant to or applicable to any other wind

energy project and is agreed to only as an element in a comprehensive settlement of these appeals.

Certification

8. CREC shall confirm to the Appellants the standard according to which the wind turbines are certified and particulars of such certification.

Icing, Safety and Maintenance

9. CREC shall provide the Appellants with information concerning:

   (a) the features of the turbine which may among other things indicate icing;
   (b) the ice conditions or indicators of ice formation that cause the turbine to shut down;
   (c) the inspection protocol prior to commissioning start up; and
   (d) the maintenance/inspection protocol, and
   (e) a protocol for visual inspection before restarting after icing events;

   provided that nothing herein shall oblige CREC to breach any confidentiality obligations it may have to the manufacturers of the turbines nor to release information in advance of it being available to CREC using its reasonable commercial best efforts to obtain same. CREC will investigate and if feasible incorporate additional ice detection features and will investigate a protocol similar to that to be used in Melancthon II to predict ice formation and take responsive measures.

Community Liaison

10. CREC shall participate in a Community Liaison Group, to be commenced as soon as practicable upon the execution of these Minutes, the members of which could comprise:

   (a) two residents (full time and/or seasonal) of Wolfe Island who is not party to an agreement with CREC or its affiliates to host a turbine;
   (b) a resident (full time or seasonal) of Wolfe Island who is a party to an agreement with CREC or its affiliates to host a turbine; and
   (c) a representative of CREC.

   Alternates are permitted but continuity of attendance is desirable.

11. The Community Liaison Group shall during construction of the Wolfe Island Wind Energy Project meet not less frequently than every three months, and after completion semi annually, and shall provide a forum for the community to provide comments, suggestions, questions and complaints, if any, as between the participants and to increase awareness of facts and issues as perceived by each constituent group. In the event of a dispute which the Parties cannot resolve they will endeavour to engage the services of a third party mediator to find a constructive solution. The Parties will build upon the goodwill evidenced under these Minutes to continue to address issues which may arise in this spirit.

Aviation Lighting

12. CREC shall ensure that the Wolfe Island Wind Energy Project is equipped with aviation safety lighting that is as much in accordance with the published CANWEA recommendation as Transport Canada will permit it to be.

Studies

13. CREC shall advise the Appellants and the Township of the commencement of, and terms of reference for, and the consultants conducting, any additional formal studies commissioned by it in relation to the potential effects of the Wolfe Island Wind Energy Project on bird or bat populations. This obligation applies to the Echotrack study and any other studies commissioned thereafter for a period of 2 years after commissioning.

Agency Comments

14. CREC shall provide the Appellants and the Township with copies of formal agency comments as they are received by it in relation to such studies or in relation to the ERR process.

ERR Report

15. CREC shall provide each of the Appellants with a hard copy (and a CD version) of the Environmental Review Report prepared pursuant to the ERR Process promptly upon the issuance of the Notice of Completion;

16. CREC shall include in its Environmental Review Report a cumulative effects assessment.

Additional Lands to be Zoned and Lands to be Deleted.

17. The Appellants shall not oppose or appeal the enactment of a zoning by-law to apply the WP-H zone to those properties identified in Appendix B and upon which turbine locations have been indicated in the draft ERR Report provided that the By-law to add such lands shall not be enacted, and the statutory public meeting in respect thereof shall not be held, until the completion of the Environmental Screening Process under Ontario Regulation 116/01. At this time, CREC will also apply to the Township for the deletion of the WP or WP-H zone from lands on Simcoe Island and from lands not required for turbines or accessory buildings on Wolfe Island.

Amendments

18. Nothing herein prevents CREC seeking amendments to, or variances from the Zoning By-law, and nothing herein prevents the Appellants from objecting or appealing any amendments or variance not expressly contemplated herein.

No Admission

19. Nothing herein constitutes:

    (a) an admission by the Township or CREC of any deficiency in the planning merits By-law 27-2006 as it was enacted by Council; nor
    (b) an admission by the Appellants of any deficiency in the planning merits of the appeals they were prepared to advance at a hearing of this matter.

20. These minutes are entered into to avoid the delay and expense of a hearing and to enhance the relationship between the parties for the long term.

Enurement

21. These Minutes enure to and are binding upon the respective personal representatives, successors and assigns of the Parties.

    IN WITNESS WHEREOF the parties have entered into these Minutes of Settlement this 25th day of July, 2007.

_____

Sarah McDermott (personally or by her Counsel)

_____

Dr James Day (personally or by his Counsel)

_____

The Township of Frontenac Islands (by its Counsel)

_____

Canadian Renewable Energy Corporation (by its Counsel)

Appendix "A"

Modifications to Zoning By-law

1. The holding symbol removal condition shall be modified to stipulate that the condition for removal in section 4.20.2(1) is the completion of the Environmental Screening Process in accordance with Ontario Regulation 116/01.

2. The By-law shall contain a provision limiting the number of turbines on the lands zoned by the Zoning By-law, together with the lands referred to in paragraph 16 of the Minutes of Settlement, to 86.

3. ~~2.~~ The locations of each turbine, as determined by the completion of the ERR Process, shall be identified in the Zoning By-law by UTM coordinates;

4. ~~3.~~ The turbines shall be permitted to be erected and used only within a circle the centre of which shall be the UTM coordinates referred to in paragraph 3 and the radius of which circle shall be 50 metres;

5. ~~4.~~ Section 4.20.1 of the Zoning By-law shall be modified as follows:

(a) Subsection 4.20.1 (e) shall be amended apply to the Village Residential (RV) zone and to public and separate schools and to increase the setback to 600 metres;

(b) Subsection 4.20.1 (c) shall be amended apply to "sensitive receptors" as defined below, and dwellings not located in the WP zone and to increase the setback to 400 metres;

(c) Despite subsection 4.20.1 (f) the minimum separation from lands in the Wetland (WL) zone shall be 120 metres;

(d) Subsection 4.20.1 (g) shall be amended apply to improved public streets and limited service streets and that portion of the 2nd Line between Baseline Road and the shore of Reeds Bay and to increase the setback to 120 metres;

(e) Subsection 4.20.1 (g.1) shall be added and shall provide a setback from all unopened road allowances (except as otherwise provided in subsection 4.20.1 (g)) of 50 metres;

(f) Subsection 4.20.1 (b) shall be amended to change the setback to 50 metres;

(g) For the purpose of subsection 4.20.1 (c) a sensitive receptor shall mean a home for the aged and a hospital.

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CORPORATION OF THE TOWNSHIP OF FRONTENAC ISLANDS

BY-LAW NO. 27-2006

BEING a by to amend By-Law No. 28-2003 as amended.

WHEREAS the Council of the Township of Frontenac Islands is in receipt of an application to establish a wind plant of 86 wind turbines on optioned/leased lands on Wolfe Island as part of a generation plant to provide electrical energy into the provincial electrical system; and

WHEREAS the specifics of this application have been the subject of a successful bid for an electricity generation contract from the Province of Ontario; and

WHEREAS the Council of the Township of Frontenac Islands deems it appropriate in the public interest to pass a by-law to amend By-Law No. 28-2003; and

WHEREAS pursuant to the provisions of Section 34 of the *Planning Act* as amended, by-laws may be passed by the Council of a municipality for or except for such purposes as may be set out in the by-law and for regulating in certain respects, buildings or structures tio be erected in the municipality; now

THEREFORE the Council of the Township of Frontenac Islands enacts as follows:

1. That Zoning By-Law No. 28-2003, as amended, is hereby further amended by inserting as Schedule "D" to the by-law the form of schedule entitled "Schedule D" – Wind Power Overlay Zone attached hereto as Schedule "A" and forming part of this by-law.

2. That Section 2 of the Zoning By-Law No. 28-2003, as amended, is hereby further amended by the addition of the following subsections:

   "2.197 a) WIND PLANT means a development of one or more wind turbines on one or more lots, together with any appurtenances, electrical transmission infrastructure and accessory facilities, that is connected to the provincial electrical system and generates electricity for sale off-site and operating under a licence issued by the Ontario Energy Board.

   2.197 b) WIND PLANT ACCESSORY FACILITIES means those facilities, buildings, equipment, machinery, and other devices required for the operation and maintenance of a wind plant, including but not limited to access roads, collector and feeder lines, transformers, transmission lines, maintenance and control buildings and yards, and substations.

   2.197 c) WIND TURBINE means a structure including a tower, foundation, nacelle, blades, transformers and related appurtenances that convert wind energy to electricity.

   2.197 d) WIND TURBINE HEIGHT means the distance measured from the tip of any blade on a wind turbine to the average finished grade of the base of the wind turbine's tower."

3. Section 3.17 Public Service and Utilities is hereby amended to add the following clause to allow transmission and distribution lines for a company licensed by the Ontario Energy Board:

   "3.17.5 Transmission and Distribution Lines

   1. Nothing in this by-law shall prevent the use of lands in all zones for the location of transmission and distribution lines by a company licensed by the Ontario Energy Board for purposes of generation, transmission and/or distribution of electricity."

4. Section 4, Zone Provisions, is hereby amended with the addition of the following section:

"4.20 WIND PLANT – "H" Holding (WP-H) ZONE

The Wind Plant Overlay – "H" (WP) Zone is an overlay zone that applies to those lands identified by the WP-H symbol on Schedule "D' to this by-law. Subject to removal of the "H" Holding symbol, the WP Zone permits uses and imposes regulations that are in addition to the permitted uses and regulations for the zoning of the same land as shown on Schedule "A" to the By-Law.

4.20.1 Lands zoned Wind Plant (WP) may be used for a Wind Plant in accordance with the following provisions:

a)	For the purpose of this section the setback of a wind turbine shall be measured to the closest point of the base of the wind turbine's tower	
b)	Minimum setback of a wind turbine from a dwelling located in a WP Zone	5 metres plus the blade length
c)	Minimum setback of a wind turbine from a dwelling not located in a WP Zone	350 metres
d)	Minimum setback of a wind turbine from a lot line of abutting lands in the WP Zone	0 metres
e)	Minimum setback of a wind turbine from lands in the Village Residential (RV) Zone	350 metres
f)	Minimum setback of a wind turbine from lands in any zone other than the RV Zone	Length of turbine blade plus 5 metres
g)	Minimum setback of a wind turbine from an Improved Public Street, a Limited Service Street or an unopened road allowance	Length of turbine blade plus 5 metres
h)	Minimum setback for Wind Plant Accessory Facilities excluding access roads or transmission/distribution lines	8 metres from all lot lines
i)	Maximum wind turbine blade height	130 metres

4.20.2 Holding Provision

In accordance with Section 36 of the *Planning Act* it shall be a condition for removal of the Holding (-H) symbol; from lands zoned WP-H that:

1. The developer of the Wind Plant completes and delivers to the municipality a final Environmental Screening Report; and
2. The owner of the land obtains site plan approval for the Wind Plant, including entering into a site plan agreement with the municipality to be registered against title to the land. For greater certainty and in accordance with the municipality's Site Plan Control By-Law for Wind Plants, if a wind plant includes a wind turbine with blades having an arc rotation that extends into an airspace above adjoining land zoned WP, but under separate ownership from the land on which the base of the turbine's tower is located, the owner of the adjoining land must be a co-applicant for site plan approval.

5. Subject to the approval of Official Plan Amendment No.1 this By-Law shall come into force and effect on the date of passing in accordance with Section 34 of the *Planning Act*.

6. The Clerk is hereby authorized and directed to give notice of the passing of This by-law in accordance with Section 34 of the *Planning Act R.S.O. 1990*, as amended.

READ a first and second time this 15th day of November, 2006.

READ a third time and finally passed this 15th day of November, 2006.

Jim Vanden Hoek - Mayor

Terry O'Shea - Clerk/CAO