Wallingford Energy II, LLC

c/o LS Power Development, LLC
400 Chesterfield Center, Suite 110
St. Louis, Missouri 63017
(636) 532-2200 · Fax (636) 532-2250

February 1, 2016

Via FedEx

Connecticut Siting Council
c/o Melanie Bachman
Ten Franklin Square
New Britain, CT 06051

Re: PETITION NO. 1183 – Wallingford Energy II, LLC
Updated Noise Study Report

Dear Ms. Bachman,

Pursuant to your conversation with Patricia Boye-Williams of Murtha Cullina LLP, an updated noise study report is enclosed reflecting the corrected height for the sound wall enclosing the proposed new step-up transformer located south of the control building. This sound wall was initially modeled with a height of 25 feet; however, the enclosed noise study report uses a height of 20 feet to match the existing, adjacent transformer sound walls at the site.

The enclosed report demonstrates that the project remains compliant with all state and local noise standards and that the adjustment to the transformer sound wall height has a negligible effect on the modeled noise impacts for the facility, resulting in less than a one-percent change in the modeled sound level at the nearest receptor.

The changes to the sound wall height and modeling results are reflected in pages 5-3, 5-4, 5-6, 5-7, 6-1, and Appendix A of revised noise study report.

If you have any questions regarding the enclosed materials, please feel free to contact me at (636) 532-2200.

Best regards,

David Wilson

Enclosure

Wallingford Energy Facility Expansion Noise Study Report

Prepared for
Wallingford Energy II, LLC

Prepared by
TRC Environmental Corporation
41 Spring Street
Providence, NJ 07974

June 2015
Revised January 2016

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1.0 INTRODUCTION

TRC Environmental Corporation ("TRC") conducted a technical noise assessment of the proposed expansion project (the "Project") at the Wallingford Energy, LLC power plant (the "Facility"). The proposed expansion consists of the following elements:

- Adding two GE LM6000 combustion turbines with tempering air fans and selective catalytic reduction (SCR) to the five currently existing on the site;
- Addition of tempering air fans upstream of the air emission controls on the existing five units;
- Addition of a new generator step-up transformer;
- Addition of a fourth gas compressor inside the expanded gas compressor building;
- Addition of a gas compressor cooling fan that will be mounted on the roof of the expanded gas compressor building;
- Extension of sound wall to include the two additional combustion turbines; and
- Extension of sound wall to include the additional generator step-up transformer.

The noise assessment consisted of three parts: 1) an ambient noise monitoring program in the vicinity of the Facility in order to characterize the existing noise environment; 2) a noise modeling evaluation of the existing Facility to calibrate the model to reflect current operational conditions; and 3) a noise modeling/impact evaluation of the future expansion Project. The background ambient noise monitoring program was conducted on October 30-31, 2014. Modeled Project noise levels were compared against the State of Connecticut Noise Standard and the Town of Wallingford Noise Ordinance to determine compliance.

2.0 GENERAL INFORMATION ON NOISE

Noise is defined as unwanted sound. Excessive noise can cause annoyance and adverse health effects. Annoyance can include sleep disturbance and speech interference. It can also distract attention and make activities more difficult to perform (EPA, 1978).

The range of pressures that cause the vibrations that create noise is large. Noise is therefore measured on a logarithmic scale, expressed in decibels (dB). The frequency of a sound is the "pitch". The unit for frequency is hertz (Hz), or cycles per second. Most sounds are composed of a composite of frequencies. The human ear can usually distinguish frequencies from 20 Hz (low frequency) to about 20,000 Hz (high frequency), although people are most sensitive to frequencies between 500 and 4000 Hz. The individual frequency bands can be combined into one overall dB level.

Noise is typically measured on the A-weighted scale (dBA). The A-weighting scale has been shown to provide a good correlation with the human response to sound and is the most widely used descriptor for community noise assessments (Harris, 1991). The faintest sound that can be heard by a healthy ear is about 0 dBA, while an uncomfortably loud sound is about 120 dBA. In order to provide a frame of reference, some common sound levels are listed below.

- Pile Driver at 100 feet — 90 to 100 dBA
- Chainsaw at 30 feet — 90 dBA
- Truck at 100 feet — 85 dBA
- Noisy Urban Environment — 75 dBA
- Lawn Mower at 100 feet — 65 dBA
- Average Speech — 60 dBA
- Average Office — 50 dBA
- Rural Residential During the Day — 40 dBA
- Quiet Suburban nighttime — 35 dBA
- Soft Whisper at 15 feet — 30 dBA

Common terms used in this noise analysis are defined below.

L_{eq} — The equivalent noise level over a specified period of time (i.e., 1-hour). It is a single value of sound that includes all of the varying sound energy in a given duration.

Statistical Sound Levels — The A-weighted sound level exceeded a certain percentage of the time. The L_{90} is the sound level exceeded 90 percent of the time and is often considered the background or residual noise level. The L_{10} is the sound level exceeded 10 percent of the time and is a measurement of intrusive sounds, such as aircraft overflight.

3.0 APPLICABLE STANDARDS/GUIDELINES

3.1 State of Connecticut

The State of Connecticut has a detailed noise standard which is applicable to the Facility and the proposed Project (Section 22a-69 of the Connecticut Department of Energy & Environmental Protection). The standard limits noise from a source, as measured at certain Noise Zones when emitted from other Noise Zones. These Zones include the following:

- Class A - Generally residential, hotels, hospitals and other sensitive areas.
- Class B - Commercial areas
- Class C - Industrial uses

It should be emphasized that the noise standards are expressed as noise attributable to a specific source at a receptor and that the total noise measured at a given location (i.e., source plus background) may be greater than that which is attributable to a specific source. The proposed facility is an industrial use in an industrially zoned area (Class C). The nearest noise sensitive areas are the residential uses on East Street (Class A). As such, the applicable portion of the noise standard is a source located in a Class C area, and the measured noise level from that source at a Class A area. Summarized below are the noise limits for this scenario.

Class C source emitting to a Class A receiver

Daytime	Nighttime
61 dBA	51 dBA

Nighttime is defined in the standard as the hours between 10 p.m. to 7 a.m. A second limit is applicable to the nearest industrial property line, which is the Allegheny Ludlum Steel facility west of the proposed site. Facility noise at this location would be limited to 70 dBA at any hour of the day.

The allowable level is reduced by 5 dBA if the proposed source emits prominent discrete tones. Prominent discrete tones are defined in 22a-69 as acoustic energy which produces a one-third octave band sound pressure level greater than that of either adjacent one-third octave band and which exceeds the arithmetic average of the two adjacent one-third octave bands by the following amounts shown in Table 1.

Table 1 Prominent Discrete Tone Determination			
One-Third Octave Band Center Frequency (Hz)	**dB**	**One-Third Octave Band Center Frequency (Hz)**	**dB**
100	16	1250	4
125	14	1600	4
160	12	2000	3
200	11	2500	3
250	9	3150	3
315	8	4000	3
400	7	5000	4
500	6	6300	4
630	6	8000	5
800	5	10000	6
1000	4		

For areas where the existing background noise levels (not including noise from the regulated source) already exceed the allowable limits, the regulated source would not be deemed to be casing excessive noise if the noise emitted by the regulated source is not greater than 5 dBA above background levels, with an absolute upper limit of 80 dBA.

3.2 Town of Wallingford

The Town of Wallingford adopted a noise ordinance (Chapter 144 of the Town Code) in 2002. The ordinance contains the same numerical sound level limits as the State of Connecticut noise standard.

3.3 Ability to Perceive Changes in Noise

The ability of the average person to perceive increases in noise has been documented. In general, an increase of 3 dBA or less is considered to be barely perceptible, while an increase of 10 dBA is perceived as a doubling of the sound.

4.0 EXISTING CONDITIONS

The land uses immediately bordering the site consist of a combination of residential, industrial, and commercial uses. The nearest residences are located on East Street, directly across from the facility. The Allegheny Ludlum facility is the nearest industrial use. Other noise receptors include additional residences farther away from the site.

4.1 2002 Compliance Testing

Noise compliance testing of the existing facility was conducted on the night of June 17-18, 2002 in order to determine if the as-built facility was in compliance with the State of Connecticut noise standard. Measurements were conducted at seven locations surrounding the site as follows:

- South Street and West Street
- Eagle Memorial Park
- East Street and Carlton Street
- Pierce Station Property Line
- East Street and Park Street
- David Drive and Cook Hill Road
- South Turnpike Road

The program consisted of two separate sets of measurements at each of the selected locations. The first set of measurements was conducted with the facility operating at 80% load or higher. The facility was then brought offline and the measurements repeated at the same locations. The latter measurements represented the baseline, or background, noise levels. Table 2 shows the measured operational and background noise levels at each location.

Table 2 2002 Noise Compliance Test Calculated Facility Noise Level Data (dBA)		
Testing Location	**Measured Level Facility Online (dBA)**	**Measured Level Facility Offline (Background) (dBA)**
South Street and West Street	50	45
Eagle Memorial Park	50	46
East Street and Carlton Street	50	47
East Street and Park Street	52	49
Pierce Station Property Line	51	48
South Turnpike Road	53	48
David Drive and Cook Hill Road	53	47

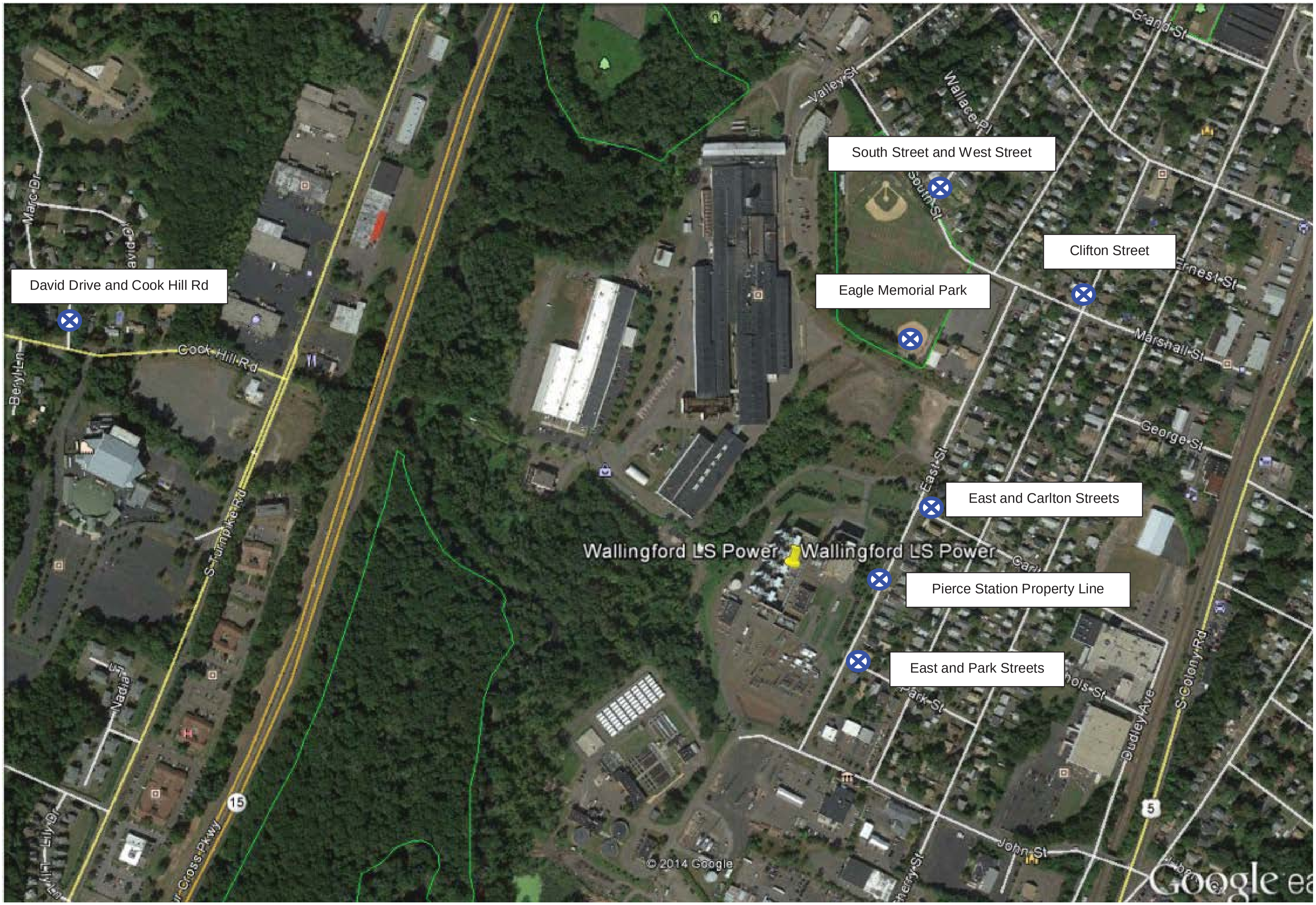
The calculated facility contribution sound levels were used to calibrate the noise modeling software in order to most accurately represent facility sound levels. This process is explained further in Section 5.1.2.

4.2 Ambient Monitoring

TRC conducted an ambient noise monitoring program for this proposed expansion Project on October 30-31, 2014 at seven selected noise sensitive areas to characterize ambient conditions. The noise monitoring program was conducted with the existing turbines and other Facility noise sources offline. The measurement locations were generally chosen to be the same locations as the compliance testing, except for the removal of the South Turnpike Road location and the addition of the Clifton Street location. The South Turnpike Road location was removed due to the high level of traffic noise present in this area during the compliance testing, and the fact that the Facility was not audible during testing. The Clifton Street location was added to include an additional receptor location in the residential neighborhood east of the Project. These locations are shown on Figure 1, and are as follows:

- South Street and West Street
- Eagle Memorial Park
- Clifton Street
- East Street and Carlton Street
- Pierce Station Property Line
- East Street and Park Street
- David Drive and Cook Hill Road

Figure 1: Noise Monitoring Locations



4.3 Ambient Short-Term Measurements

Short-term monitoring (15 minutes in duration at each location) was conducted during the day and late at night during each monitoring program. This short-term monitoring was conducted with a RION NL-52 precision integrating sound level meter and octave band analyzer. The NL-52 meets ANSI S1.4-1983 requirements for precision Type 1 sound level meters. The microphone was fitted with a windscreen to reduce any wind generated noise and mounted at a height of approximately five feet above the ground. The instrument was configured to measure and store the L_{eq}, L_{90}, L_{10}, L_{max} and L_{min} one-third octave band levels. The meter was calibrated at the beginning and at the end of the testing period with a Cirrus CR515 calibrator. Both the meter and calibrator had been certified traceable to NIST standards by a calibration laboratory within one year of the testing program.

Existing noise sources in the immediate vicinity of the proposed facility consisted of a combination of vehicular traffic noise and natural sounds (birds, insects, rustling vegetation). Late at night, vehicular traffic on distant and local roads dominated the noise environment. A tonal sound emanating from the Pierce Station was noted at the Pierce Street monitoring location during both daytime and nighttime measurements.

The State of Connecticut noise standard utilizes the L_{90} descriptor for characterizing the ambient noise levels. A summary of the overall A-weighted L_{90} data collected during the ambient program is presented in Table 3 below.

Table 3
Measured Ambient L_{90} Noise Level Data (dBA)

Location	2014 Testing	
	Day	Night
East Street and Park Street	46	51
Pierce Property Line	47	49
East Street and Carlton Street	45	42
Clifton Street	42	36
Eagle Memorial Park	47	41
South Street and West Street	43	38
David Drive and Cook Hill Road	47	34

5.0 NOISE MODELING

The State of Connecticut Noise Standard takes into account sound from all sources emanating from a property (i.e., for the proposed Project, the existing five turbines plus the two proposed turbines and other ancillary noise sources). Computer noise modeling of all the major facility sources was therefore conducted, including both existing and proposed future equipment.

5.1 Existing Facility Conditions

In order to calculate noise levels from the existing and proposed future equipment, computer noise modeling was first conducted for the existing facility sources. This model was calibrated by comparing the modeled results to the sound levels measured during the 2002 compliance testing and adjusting the sound power output of the existing turbines such that the modeled output would match the 2002 compliance test results as closely as possible. The model calibration focused on matching modeled versus measured levels for the three most proximate measurement locations, where Project generated noise was noted by the testing technician to be the most prevalent source of noise during the compliance test. This calibrated model was then used as the base for the future expansion modeling.

Table 4 provides the three locations nearest the facility, the calculated facility contribution from the 2002 compliance test, and the calibrated modeled existing (five turbines) facility contribution.

Table 4
Existing Conditions Model Calibration (dBA)

Location	2002 Compliance Test Facility Sound Levels (Five Existing Turbines)	Modeled Facility Sound Levels (Five Existing Turbines)
East Street and Carlton Street	47	46
East Street and Park Street	49	50
Pierce Station Property Line	48	49

Modeled sound levels were within 1 dBA of the 2002 compliance test facility sound levels at all locations, indicating good agreement with conditions in the field.

5.2 Methodology

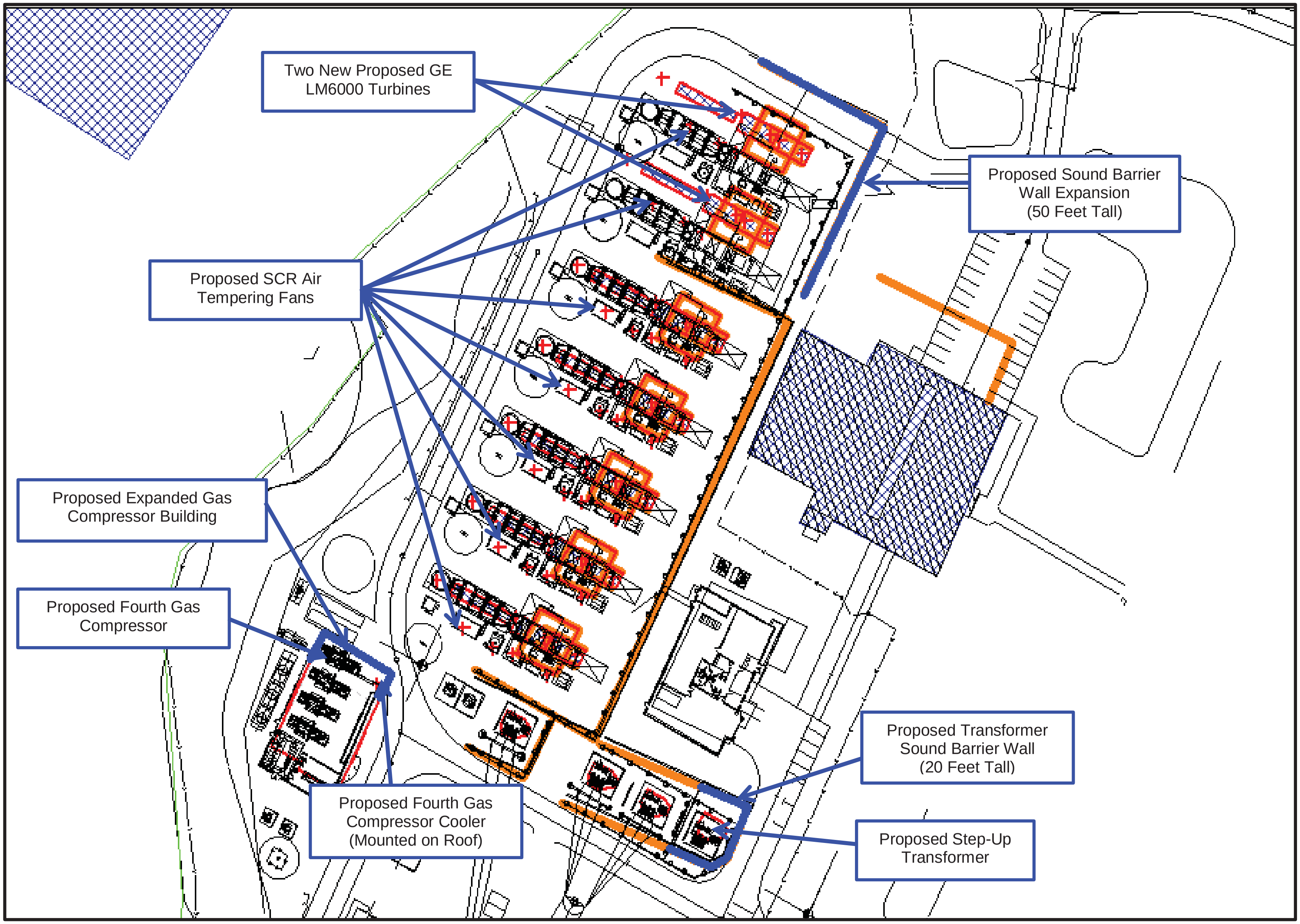
Computer noise modeling was conducted utilizing the CadnaA noise model (DataKustik, 2006). This very powerful 3-dimensional model maps the noise contours of the overall Project in accordance with a variety of standards, primarily VDI 2714 *Outdoor Sound Propagation* and ISO 9613 (ISO, 1996). All sound propagation losses, such as geometric spreading, air absorption, ground absorption, and barrier shielding, can be calculated automatically in accordance with these recognized standards.

The Project expansion consists of two new GE LM6000 combustion turbines and their ancillary equipment, as listed in Section 1.0 above. Estimated sound power level data for most major facility noise sources were obtained from GE. Other data were developed based on performance characteristics of the source (e.g., horsepower, MVA, etc.) utilizing the *Edison Electric Institute's Electric Power Plant Environmental Noise Guide* (Miller, 1984). Modeling was conducted for the Project under full load, normal operating conditions, and included all seven turbines operating simultaneously. The existing noise barrier wall will be extended to shield the two new turbines. The extended wall was included in the model. Provided in Figure 2 is a schematic detailing the locations of the existing and proposed noise sources, and the noise barrier walls.

The modeling considered hemispherical spreading and atmospheric absorption for this analysis. Standard conditions of 50° F and 70 percent relative humidity were assumed. In order to remain conservative in the analysis, no credit was taken for tree foliage, or for any existing offsite buildings, which in reality would act as physical buffers that further reduce noise levels at locations farther away. Minimal credit was taken for the existing undeveloped ground cover in the area.

Modeling receptors were chosen in the same locations as the ambient measurements, in order that direct comparison to the measured noise levels could be made.

Figure 2: Existing and Proposed Project Major Noise Sources and Barriers



5.3 Expansion Modeling Results

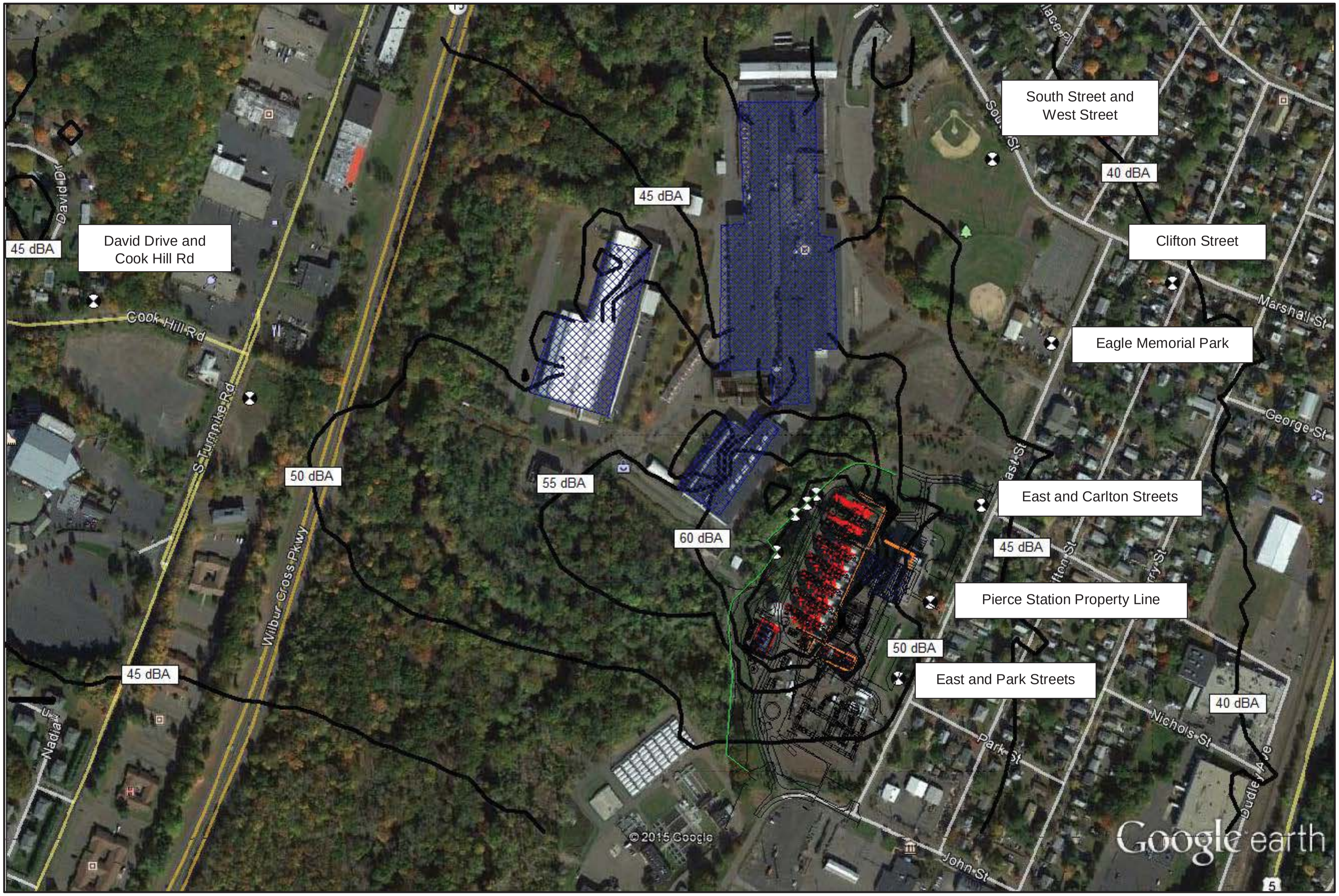
The noise modeling results for the sensitive receptor locations are presented in Table 5 below. A noise contour map, depicting the modeled noise levels in the area surrounding the Project, is provided as Figure 3.

Table 5
Noise Modeling Results (dBA)

Location	Calculated Total Facility Noise Level (Seven Turbines)
East and Park Streets	50.7
Pierce Station Property Line	47.1
East and Carlton Streets	46.5
Clifton Street	40.3
Eagle Memorial Park	42.7
South and West Streets	43.0
David Drive and Cook Hill Road	47.3

A review of the data in Table 5 reveals that the Facility contribution is less than 51 dBA at each receptor; therefore, the Facility is projected to be in compliance with state and local noise standards. As discussed in Section 5.4 of this report, increases in Project generated noise will be at barely perceptible levels.

Figure 3 – Noise Contour Map



5.4 Projected Increase Over Existing Operational Noise

Table 6 provides the modeled sound levels for the existing five turbines, the modeled sound levels for all seven turbines, and the subsequent increase in operational noise anticipated to occur with Project expansion.

Table 6
Noise Modeling Results Compared to Existing Facility Sound Levels (dBA)

Location	Modeled Existing Facility Noise Level	Modeled Total Facility Noise Level	Increase Over Existing Facility Operational Noise Level
East and Park Streets	49.6	50.7	1.1
Pierce Station Property Line	49.3	47.1	-2.2
East and Carlton Streets	45.7	46.5	0.8
Clifton Street	39.5	40.3	0.8
Eagle Memorial Park	41.7	42.7	1.0
South and West Streets	40.1	43.0	2.9
South Turnpike Road	46.9	48.8	1.9
David Drive and Cook Hill Road	44.6	47.3	2.7

Table 6 shows that the increases projected due to Project expansion over the currently existing facility noise levels are limited to less than 3 dBA at all locations. Increases in noise of less than 3 dBA are considered to be barely perceptible. A decrease in noise is projected at the Pierce Station property line location. This reduction is due to a sound barrier that was constructed at the Pierce Station after the existing Wallingford project was licensed.

5.5 Compliance with State of Connecticut Standard

Modeled noise levels for all seven turbines operating at full load simultaneously were compared to the State of Connecticut Noise Standard in Table 7 below. An additional three industrial property line receptor locations were chosen, and are also depicted on Figure 3.

Table 7
Calculated Facility Noise Levels Compared to the Connecticut Noise Standard (dBA)

Location	Calculated Facility Noise Level	Applicable Standard
East and Park Streets	50.7	51
East and Carlton Streets	46.5	51
Clifton Street	40.3	51
Eagle Memorial Park	42.7	51
South and West Streets	43.0	51
David Drive and Cook Hill Road	47.3	51
Pierce Station Property Line	47.1	70
Industrial Property Line 1	66.8	70
Industrial Property Line 2	65.2	70

A review of the data in the above table reveals that modeled facility operational noise levels are in compliance with the Connecticut Noise Standard as well as the local noise ordinance.

5.6 Discrete Tone Noises

No prominent discrete tone noises as defined in 22a-69 were measured during the 2002 compliance test of the existing turbines. The two turbines proposed with this Project expansion are the same GE LM6000 turbines as the existing units, and, as such, no prominent discrete tone sounds are expected with the proposed expansion.

It was not possible to model the potential for prominent discrete tone noise, since this would require 1/3 octave band data, which were not available (and typically are not available) from any of the equipment vendors. Therefore, the facility design will include a specification to all equipment vendors and construction contractors that, in addition to meeting the noise levels which were incorporated into this analysis, prominent discrete tone noise must be controlled, either through physical controls on the source, or, through the use of the previously listed acoustical enclosures and noise barriers.

6.0 MITIGATION MEASURES

The existing facility includes the following noise mitigation.

- Acoustical enclosures for the air compressors, water injection, ammonia injection and auxiliary skids;
- Building housing for the gas compressor coolers;
- A 50 foot barrier wall that extends on three sides of the existing facility;
- 20 foot barrier walls for the main transformers; and
- Noise control, which is a function of the SCR duct, for the turbine exhaust noise.

The noise modeling study for the expansion incorporated the following additional noise mitigation features in order to achieve the noise levels presented herein. These features apply only to the new equipment and include the following:

- GE's "Mitigated Package" design
- Additional stack exit silencing for the two new turbines, over and above GE's 42 dBA design;
- Extension of the 50 foot barrier wall for the additional two GE units;
- A 20 foot barrier wall for the new transformer.

Detailed noise model input data, including GE's mitigated package design data, are provided in Appendix A. The final noise design for the Project will draw on the above and equivalent noise abatement measures as needed in order to ensure compliance with the noise standard.

7.0 REFERENCES

American National Standards Institute. 1983. ANSI S1.4-1983. Specifications for Sound Level Meters.

American National Standards Institute. 1986. ANSI S1.11-1986 (R1998). American National Standard Specification for Octave-Band and Fractional-Octave-Band Analog and Digital Filters. New York, New York.

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Miller, L.N., E.W. Wood, R.M. Hoover, A.R. Thompson, and S.L. Patterson. 1984. Electric Power Plant Environmental Noise Guide. Prepared for Edison Electric Institute by Bolt, Beranek and Newman, Inc., Cambridge, Massachusetts

United States Environmental Protection Agency, 1978. Protective Noise Levels. Office of Noise Abatement & Control. Report Number EPA 550/9-79-100. Washington, D.C. 20460.

Wallingford, Town of. 2002. Town Code. Chapter 144.

Appendix A

Noise Modeling Support Data

Noise Model Data Used in Modeling - Wallingford II
GE Specific Data Represents GE's Mitigated Package

GE ENERGY
AERO
16415 Jacintoport Blvd.
Houston, TX 77015
Engineer: Quoc nguyen

CUSTOMER	
PROJECT	
PURPOSE	
DATE	3/20/2014

Assumption:
* Noise mapping is from acoustic model for LM6000 PC,60 hz, air cooled, liquid fuel skid water injection, with louver & roof skid

GE Data (per source)

Name	Total Sound Power Level PWL (dB) Per Source									
	31.5	63	125	250	500	1000	2000	4000	8000	A	lin
SYSTEM 1	115.8	110.9	111.6	110.7	104.9	102.6	99.2	95.1	88.1	108.4	119.2
SPRINT SKID	80	78	79	79	81	80	76	70	62	83.8	87.8
AIR FILTER HOUSE	114.8	107.9	97.6	102.1	92.2	86.9	84.6	85.6	74.5	96.7	115.9
GEN BASE	95.1	94.8	101.6	91.4	83	84.3	78.8	70.3	64.5	90.1	103.5
GEN EXHAUST SILENCER	104.4	98.7	107.8	105.4	97.1	98	92.9	85.5	75.6	102.6	111.6
GEN INLET FAN	94.8	91.9	89.5	103.7	86.4	83.5	78.5	72.7	57.8	95.9	104.8
GEN ENCLOSURE	96.3	100.6	101.5	93.9	87.6	87.8	81.6	75.8	65	92.7	105.3
TURBINE BASE	96.5	92.6	92.5	95.1	96.2	88.8	84.4	81.7	74.9	95.8	102.2
TURBINE EXHAUST FAN	103.6	104.1	104.4	103.6	97.5	93.7	90.9	88	80.2	100.6	110.4
TURBINE ENCLOSURE	98.4	97.6	95.1	95.2	95.4	89.9	86	85.3	81.8	96.3	103.9
TURBINE INLET SILENCER	94.2	89	88.5	96.6	87.4	87.3	82.6	85.2	70.1	93.3	100.2
WATER INJECTION SKID	84	95	96	94	98	94	92	87	83	99.5	103.2
SCR/COR system casing including the exhaust stack without acoustic barrier at the 4100 & 4200 duct	114	111	106	104	95	81	77	75	65	98.1	116.5
Required Exhaust Stack Exit Note: this required stack iexit PWL is lower than GE's Mitigated Package Design	**117**	**114**	**101**	**88**	**84**	**80**	**79**	**79**	**83**	**92**	**<<< Required Stack Exit PWL**

Non-GE Data (per source)

SCR Tempering Fans	106	104	107	102	101	99	96	93	85	104	112
Step Up Transformer	94	100	102	97	97	91	86	81	74	97	106
Gas Compressor	106	112	104	105	103	98	102	100	100	108	115
Gas Compressor Cooling Fan	98	97	98	98	93	87	87	84	80	96	104.4

Project: Wallingford II Gas Compressors

All data are sound power levels (dB)

Outdoor Sources	Source Ht. (ft)	31	63	125	250	Octave Band (Hz) 500	1000	2000	4000	8000	16000	Overall PWL (dB)	Overall PWL (dBA)
Gas Compressor	20 feet	106	112	104	105	103	98	102	100	100		**115**	**108**
(based on Gemini compressor measurements)													
Total Three Gas Compressors		**111**	**117**	**109**	**110**	**108**	**103**	**107**	**105**	**105**		**120**	**113**
Final Gas Compressor building in next tab													

Project: Wallingford II

All data are sound power levels (dB)

Outdoor Sources	Source Ht. (ft)	31	63	125	250	Octave Band (Hz) 500	1000	2000	4000	8000	16000	Overall PWL (dB)	Overall PWL (dBA)
Gas Compressor	20 feet	106	112	104	105	103	98	102	100	100		**115**	**108**
(based on Gemini compressor measurements)													
Total Four Gas Compressors		**112**	**118**	**110**	**111**	**109**	**104**	**108**	**106**	**106**		**121**	**114**
Final Gas Compressor building in next tab													

Interior Building Sound Level Calculations

Project: **Wallingford II Gas Compressor Building**

Enter Data into Text in Green

	Octave Band (Hz)										
Vertical Walls Absorption Coefficient	**31**	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**		
Abs Coeff for Dynasonics 2" Walls	**0.05**	**0.11**	**0.22**	**0.55**	**0.99**	**0.97**	**0.94**	**0.89**	**0.71**		
Ceiling Absorption Coefficient											
Bare Steel	**0.01**	**0.01**	**0.01**	**0.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**		
Floor Absorption Coefficient											
Bare Concrete	**0.01**	**0.01**	**0.01**	**0.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**dB**	**dBA**
Sum of Interior Sources	**112**	**118**	**110**	**111**	**109**	**104**	**108**	**106**	**106**	**121**	**114**

Walls/Roof	Wall length (f/all height (I	Area in ft2	Area in m2	10*log(area)
North Wall	**60**	**20**	1200	111	20
East Wall	**100**	**20**	2000	186	23
South Wall	**60**	**20**	1200	111	20
West Wall	**100**	**20**	2000	186	23
Roof	**60**	**100**	6000	557	27
Floor	**60**	**100**	6000	557	27

Walls/Roof	Metric Sabins										
North Wall	6	12	25	61	110	108	105	99	79		
East Wall	9	20	41	102	184	180	175	165	132		-1
South Wall	6	12	25	61	110	108	105	99	79		
West Wall	9	20	41	102	184	180	175	165	132		
Roof	6	6	6	6	11	11	11	11	11		
Floor	6	6	6	6	11	11	11	11	11		
Total Sabins	**41**	**77**	**142**	**338**	**611**	**599**	**581**	**551**	**444**		

Reflected Sound = [SPLref = PWL-10log(A)+6.0]
Direct Sound = [SPLdirect = PWL-20log(r)-8]

										dB	**dBA**
Building Walls - Reflected Sound											
Interior Reflected SPL at Building Wall	102	105	94	92	87	82	86	85	86	107	93
Building Walls - Direct Sound											
Enter Average Distance from Acoustic Center of Room to Walls in meters>>>	**10**	Meters									
Interior Direct Sound Level	84	90	82	83	81	76	80	78	78	93	86
Interior Total Sound Level (Direct + Reflected) (PWL" in Cadna)	**102**	**105**	**95**	**92**	**88**	**83**	**87**	**85**	**86**	108	94

Wallingford II CadnaA Noise Model Input Data
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Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
gas compressor building	gcbldg	Lw		102	105	95	92	88	83	87	85	86	93.5	107.3	spreadsheet
LM Generator Exhaust Silencer	genexhsil	Lw		104.4	98.7	107.8	105.4	97.1	98	92.9	85.5	75.6	102.6	111.6	GE
LM Generator Exhaust Silencer New Turbine	genexhsilnew	Lw		104.4	98.7	107.8	105.4	97.1	98	92.9	85.5	75.6	102.6	111.6	GE
LM Generator Inlet Fan	geninfan	Lw		97.8	96.9	96.5	113.7	99.4	98.5	95.5	90.7	76.8	107	114.3	GE
LM Generator Inlet Fan New Turbine	geninfannew	Lw		94.8	91.9	89.5	103.7	86.4	83.5	78.5	72.7	57.8	95.8	104.7	GE
LM Skid A	skida	Lw		83	91	101	95	94	95	93	87	79	99.3	104.1	GE with Enclosure
lm6000 gen enclosure and base per square meter	lm6000gensqmtr	Lw		78.8	81.6	84.6	75.9	68.9	69.4	63.4	56.9	47.8	74.6	87.5	GE
lm6000 inlet closed back side	lm6000inletcla	Lw		96	88	85	92	87	81	72	73	58	88.1	98.6	GE
lm6000 inlet closed front side	lm6000inletclb	Lw		89	89	89	89	68	68	64	70	69	82.1	95.1	GE
lm6000 inlet air in per side	lm6000inletin	Lw		111.8	104.9	94.6	99.1	89.2	83.9	81.6	82.6	71.5	93.7	112.9	GE - split data into two sides (-3 dB)
lm6000 stack	lm6000stack	Lw		112	106	98	94	85	66	59	52	44	88.9	113.2	original Wallingford, includes silencer
lm6000 stack New Turbine	lm6000stacknew	Lw		124	120	105	93	91	89	88	88	98	100.7	125.5	GE based on 100.7 data
lm6000 turbine enclosure and base per sq meter	lm6000turbsqmtr	Lw		80.6	78.8	77	78.2	78.8	72.4	68.3	66.9	62.4	79.1	86.2	GE
lm6000 turbine inlet silencer -STANDARD	lm6000turbinsilstd	Lw		111.8	115.6	112.1	96.6	87.4	98.9	104.2	98.3	77.9	107.5	118.6	GE
lm6000 transformers	lmtx	Lw		94	100	102	97	97	91	86	81	74	97.4	106	
LM6000 SCR duct per square meter	scrsqmtr	Lw		88	89	84	80	77	72	69	66	59	78.9	92.7	Palm Springs
LM6000 SCR duct per square meter New Turbine	scrnew	Lw		86	83	78	76	67	63	49	47	37	70.8	88.5	GE data March 2014 based on 98 pwl total per casi
LM Sprint Skid	sprint	Lw		80	78	79	79	81	80	76	70	62	83.8	87.8	GE with Enclosure
LM Turbine Exhaust Fan	turbexfan	Lw		103.6	104.1	104.4	103.6	97.5	93.7	90.9	88	80.2	100.6	110.4	GE
LM Turbine Inlet Silencer	turbinsil	Lw		108.8	110.6	105.2	96.6	87.4	88.8	88.5	86.3	70.3	96.3	113.6	GE
LM Turbine Inlet Silencer New Turbine	turbinsilnew	Lw		94.2	89	88.5	96.6	87.4	87.3	82.6	85.2	70.1	93.3	100.1	GE
LM Water Injection Skid	watrinj	Lw		84	95	96	94	98	94	92	87	83	99.5	103.2	GE with Enclosure
SCR air fans	scrfans	Lw		106	104	107	102	101	99	96	93	85	104.1	112	derived based on 200hp motor and size of fan
new gas compressor cooling fan	gcool	Lw		98	97	98	98	93	87	87	84	80	95.5	104.4	estimated from library 65 dBA at 50 ft (UMTP)

Wallingford II CadnaA Noise Model Input Data
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Name	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Area (m²)	Attenuation	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680798.19	4590857.53	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680806.48	4590875.66	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680814.81	4590893.89	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680822.72	4590912.03	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680830.77	4590930.68	46.5
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680830.57	4590840.11	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680839.04	4590858.14	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680847.09	4590876.29	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680855.29	4590894.51	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680863.33	4590913.17	22.4
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680823.18	4590844.27	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680831.66	4590862.3	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680839.7	4590880.45	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680847.9	4590898.67	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680855.95	4590917.33	21.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680816.44	4590849.17	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680824.91	4590867.2	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680832.96	4590885.35	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680841.16	4590903.57	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680849.21	4590922.22	22.5
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680823.7	4590835.46	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680831.75	4590853.4	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680839.81	4590871.73	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680848	4590889.77	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680856.04	4590908.42	17.6
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680804.2	4590846.32	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680812.38	4590865	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680820.72	4590883.16	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680828.76	4590901.5	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680837.33	4590919.89	18
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680815.81	4590840.32	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680823.72	4590858.46	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680831.83	4590875.67	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680839.96	4590894.83	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680848.01	4590913.48	17.6
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680825.12	4590843.14	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680833.59	4590861.17	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680841.64	4590879.32	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680849.84	4590897.54	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680857.88	4590916.19	21.5
lm 6000 stack New Turbines	92.1	92.1	92.1	Lw	lm6000stacknew		0	0	0		stksile	0		EEI	30.5	r	680842.46	4590955.44	46.5
lm 6000 stack New Turbines	92.1	92.1	92.1	Lw	lm6000stacknew		0	0	0		stksile	0		EEI	30.5	r	680850.5	4590974.1	46.5
LM Gen Vent Air Exhaust New Turbines	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680875.02	4590937.93	22.4
LM Gen Vent Air Exhaust New Turbines	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680883.06	4590956.59	22.4
LM Turbine Combustion and Vent Air Inlet Silencer New Turbines	93.3	93.3	93.3	Lw	turbinsilnew		0	0	0			0		(none)	5.5	r	680867.63	4590942.09	21.5
LM Turbine Combustion and Vent Air Inlet Silencer New Turbines	93.3	93.3	93.3	Lw	turbinsilnew		0	0	0			0		(none)	5.5	r	680875.68	4590960.75	21.5
LM Turbine Room Exhaust Fan New Turbines	100.6	100.6	100.6	Lw	turbexfan		0	0	0			0		(none)	6.5	r	680860.89	4590946.99	22.5
LM Turbine Room Exhaust Fan New Turbines	100.6	100.6	100.6	Lw	turbexfan		0	0	0			0		(none)	6.5	r	680868.93	4590965.64	22.5
LM6000 Sprint Skid New Turbines	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680848.49	4590944.92	18
LM6000 Sprint Skid New Turbines	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680857.06	4590963.31	18
LM6000 Water Injection Skid New Turbines	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680859.69	4590938.25	17.6
LM6000 Water Injection Skid New Turbines	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680867.74	4590956.9	17.6
LMGen Vent Air Inlet New Turbines	95.8	95.8	95.8	Lw	geninfannew		0	0	0			0		(none)	5.5	r	680869.57	4590940.96	21.5
LMGen Vent Air Inlet New Turbines	95.8	95.8	95.8	Lw	geninfannew		0	0	0			0		(none)	5.5	r	680877.61	4590959.61	21.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680855.81	4590940.62	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680863.72	4590958.88	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680843.74	4590915.36	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680836.1	4590896.53	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680827.64	4590877.71	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680819.19	4590860.25	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680811.28	4590841.7	17.5
New Gas compressor cooler	95.5	95.5	95.5	Lw	gcool		0	0	0			0		(none)	8.5	r	680784.36	4590833.38	24.5

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Name	Result. PWL			Result. PWL''			Lw / Li			Correction				Attenuation	K0	Freq.	Direct.
	Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	Area				
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)	(m²)		(dB)	(Hz)	
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
gas comp louver	93.2	93.2	93.2	81.1	81.1	81.1	Lw"	gcbldg		0	0	0		louv6	0		(none)
gas comp louver	93.4	93.4	93.4	81.1	81.1	81.1	Lw"	gcbldg		0	0	0		louv6	0		(none)
gas comp louver	93.3	93.3	93.3	81.1	81.1	81.1	Lw"	gcbldg		0	0	0		louv6	0		(none)
Air Filter House Closed82 New Turbine	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82 New Turbine	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed88 New Turbine	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88 New Turbine	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)

Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin	0	0	0		0	(none)
Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin	0	0	0		0	(none)
Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
SCR Duct New Turbine	86.5	86.5	86.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	87	87	87	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	86.5	86.5	86.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	87	87	87	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
gas comp bldg	75.7	75.7	75.7	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	83.3	83.3	83.3	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	88	88	88	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	85.7	85.7	85.7	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	87.8	87.8	87.8	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	82.1	82.1	82.1	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)

Wallingford II CadnaA Noise Model Input Data

January 28, 2016

Name	M.	ID	Absorption left	right	Z-Ext. (m)	Cantilever horz. (m)	vert. (m)	Height Begin (m)		End (m)
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
turbcombinletwall	+		0.21	0.21	2.5			6.9	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
turbcombinletwall	+		0.21	0.21	2.5			6.9	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
turbcombinletwall	+		0.21	0.21	2.5			6.9	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
turbcombinletwall	+		0.21	0.21	2.5			6.9	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
acoustic skid panel	+		0.6	0.6	2.5			6.9	r	
turbcombinletwall	+		0.21	0.21	2.5			6.9	r	
existing tx barrier	+		0.21	0.21				6.1	r	
existing lm6000 barrier	+		0.21	0.21				15.2	r	
future lm6000 barrier			0.21	0.21				15.2	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	
filter house walls	+		0.6	0.6	3.6			10.5	r	

filter house walls	+	0.6	0.6	3.6	10.5	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
turbcombinletwall	+	0.21	0.21	2.5	6.9	r
filter house walls	+	0.6	0.6	3.6	10.5	r
filter house walls	+	0.6	0.6	3.6	10.5	r
filter house walls	+	0.6	0.6	3.6	10.5	r
filter house walls	+	0.6	0.6	3.6	10.5	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
turbcombinletwall	+	0.21	0.21	2.5	6.9	r
existing tx barrier	+	0.21	0.21		6.1	r

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	Height Begin (m)	
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
gas comp bldg	6.1	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	ID	Oktave Spectrum (dB)										Source
		31.5	63	125	250	500	1000	2000	4000	8000	Rw	
dynasonics 2in	dyn2in	10	17	22	24	30	39	48	56	53	35	Dynasonics
sonoguard 8inch louver	louv6	3	4	7	7	13	20	22	17	15	18	sonoguard book SAJ-835
scr lagging reduction	scrlag	2	5	6	8	10	12	12	10	10	12	hypothetical
turbine room exhaust fan silencer	turbexsil	3	6	11	24	30	22	15	10	8	20	
Additional reductions needed for new stack exit	stksile	7	6	4	5	7	9	9	9	15	9	derived based on dBC and dBA