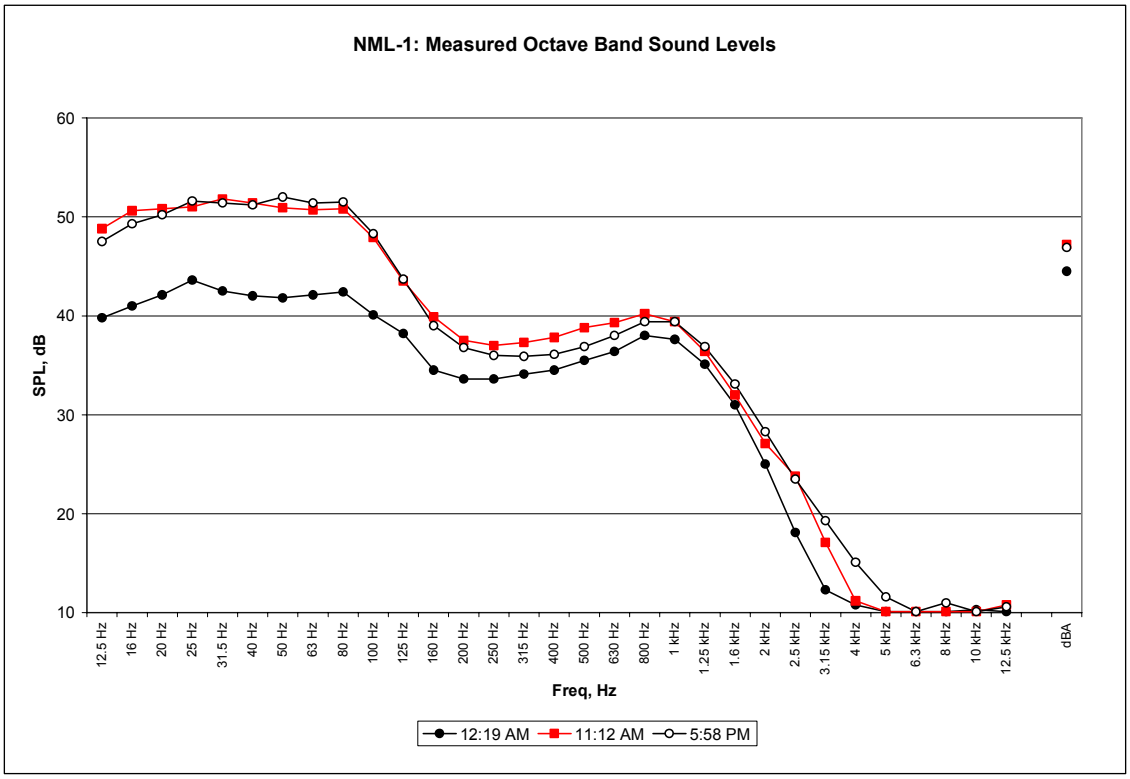


Figure 4-3. Octave Band (Short-Term) Ambient Noise Level Measurements at NML-1.

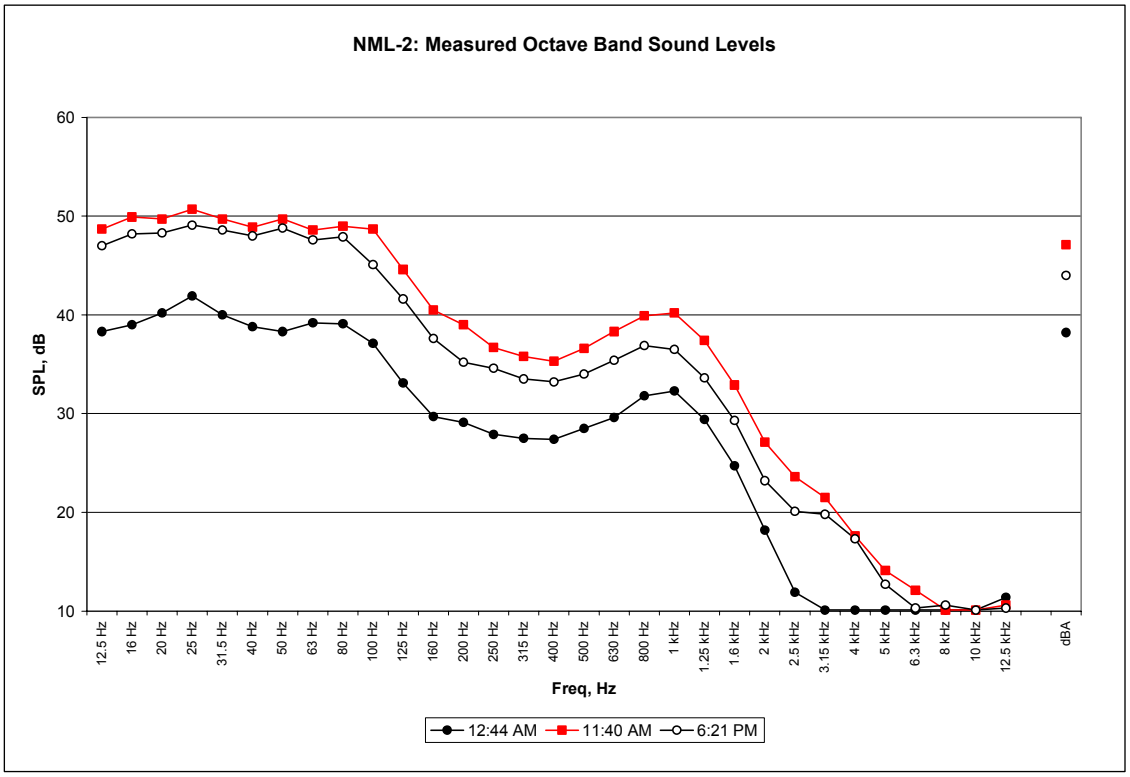


Figure 4-4. Octave Band (Short-Term) Ambient Noise Level Measurements at NML-2.

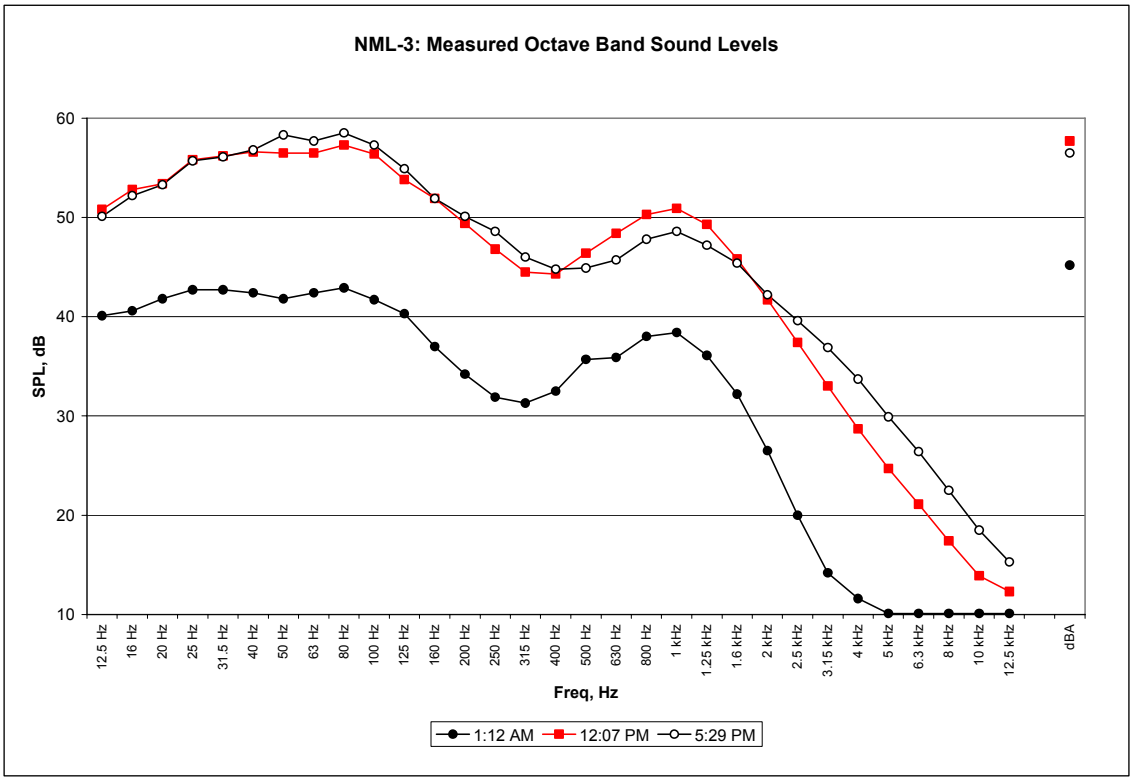


Figure 4-5. Octave Band (Short-Term) Ambient Noise Level Measurements at NML-3.

5.0 Environmental Noise Emissions

The environmental noise emissions include the noise emitted by the proposed substation facility to the areas surrounding the proposed facility site.

5.1 Noise Modeling Methodology

The environmental noise emissions were modeled using noise prediction software (CadnaA version 3.3.107). The model simulated the outdoor propagation of sound from each noise source and accounted for sound wave divergence, atmospheric and ground sound absorption, sound directivity, and sound attenuation due to interceding barriers and topography. A database was developed which specified the location, octave band sound levels, and sound directivity of each noise source. A receptor grid was specified which covered the entire area of interest. The model calculated the overall A-weighted sound pressure levels within the receptor grid based on the octave band sound level contribution of each noise source. Finally, a noise contour plot was produced based on the overall sound pressure levels within the receptor grid, including specific receptor locations. Noise modeling was conducted to predict the environmental noise emissions during normal facility operation, which excludes any abnormal or upset operating conditions.

5.2 Equipment Noise Sources

Based on the available substation design information and drawings, the proposed substation will include two new transformers and a control/switchgear building. The primary sources of noise are anticipated to be the two 40 MVA transformers and the cooling units associated with the control/switchgear building ventilation system.

All equipment sound levels were based on available in-house manufacturer data or data provided by the Edison Electric Institute (EEI) in the *Electric Power Plant Environmental Noise Guide* (1984). The equipment sound level specification considered for each equipment noise source is listed in Table 5-1. These equipment sound level specifications are anticipated to be available with packaged equipment. However, the available performance guarantees for each equipment component must be confirmed with the appropriate equipment suppliers.

Table 5-1
Anticipated Equipment Sound Level Specifications for Proposed Facility Equipment

Noise Source Component	Qty	Sound Level Specification
Transformer (fans at maximum cooling)	2	71 dBA per IEEE C57.12.90
5-ton Residential Cooling Unit	2	75 dBA @ 3 ft [1]

NOTES
1. *Average sound pressure level along the equipment envelope.*

5.3 Substation Noise Emissions

As previously discussed, the substation noise emissions must not exceed an A-weighted sound pressure level of 45 dBA at the nearest adjacent residential property boundaries. Initial modeling results indicated that the noise emissions associated with the substation would exceed the

prescribed limit without proper consideration of mitigation strategies. Therefore, noise mitigation measures were considered for the major equipment noise sources. These strategies were adequate to reduce the noise emissions to sound pressure levels that comply with the prescribed limit.

5.3.1 Regulatory Compliance

The predicted substation noise emissions with mitigation are detailed in Figure 5-2. Figure 5-2 shows the predicted sound levels as noise contours plotted at 5 dB intervals. As shown, the levels at the nearest residential boundaries, which correspond to the compliance boundaries, are below 45 dBA and thus comply with the regulatory limit.

As previously discussed, the Connecticut regulations require that the facility noise emissions not include prominent discrete tones. If such tones were to exist the Connecticut sound level limit would be reduced to 46 dBA. While the noise modeling results indicate no prominent discrete tones as defined by the regulations, the overall levels are below 46 dBA and compliant with the more restrictive tonal limit as is. During detailed design of the substation, proper consideration will be given to the transformer specifications and performance to ensure the tonal impacts are controlled.

5.3.2 Impact to Existing Ambient Sound Levels

In addition to regulatory compliance, the results have also been evaluated relative to the potential impact on neighboring residences. The nearest residences as well as residences of concern are identified in Figure 5-2 as R1 through R5. These residences are also listed in Table 5-4. The predicted substation sound level at each residence is compared to the measured background sound levels in Table 5-4. As shown, the substation sound level is compared to the median daytime level, the median nighttime level, and the lowest nighttime level in order to provide an indication of the impacts during different times of day. Specifically, the substation sound level at each of the residences is combined with the measured background sound level to determine the potential future background sound level and the potential corresponding increase.

As shown in Table 5-4, the increases in the existing background sound levels due to the operation of the proposed substation are less during the daytime hours than the during the nighttime hours because of the more dominate daytime neighborhood noise. As previously discussed, a 3-dB change is “just barely perceptible” and a 5-dB change is generally considered "clearly noticeable" to the average listener. As such, none of the residential locations are expected to show a noticeable increase during daytime hours. During nighttime hours, nearby residential location R2 (located directly north of the facility) shows a 3 dB increase, which is expected to be “just barely perceptible”. Only during the quietest nighttime hour is a possibly perceptible increase shown at the nearest residential locations, R2, R4, and R5.

It is important to note that the possible impacts detailed in Table 5-4 are based on the measured background (L_{90}) sound pressure levels. Periodically throughout the day, the sound levels were much higher than these measured background sound levels due to transient events such as vehicles, aircraft, etc. In order to display these sound level variations in relation to the constant substation sound level, the substation sound levels have been plotted over the 24-hour sound level trends for each residential location and are detailed in Figures 5-3 through 5-5. These figures highlight that not only are the substation sound levels often well below the ambient sound levels, but also that the period during which the substation sound level is at or above the ambient sound level is of short duration.

Table 5-4
Predicted Background Sound Level Increase due to the Facility with Mitigation

Nearby Residential Properties		Direction from Facility	Representative Measured Background Sound Levels (L90), dBA			Predicted Facility Sound Level, dBA	Future Background Sound Levels with Facility Operating, dBA			Increase in Background Sound Level, dB		
			MD	MN	LN		MD	MN	LN	MD	MN	LN
R1	2911 Nichols Ave	NE	56.8	48.5	38.6	28.1	56.8	48.5	39.0	0	0	0
R2	1500 Huntington	N	46.4	41.3	35.5	41.6	47.6	44.5	42.6	1	3	7
R3	1573 Huntington	N	46.4	41.3	35.5	26.8	46.4	41.5	36.0	0	0	1
R4	6 Wildflower Lane	SW	48.6	44.7	36.9	40.9	49.3	46.2	42.4	1	2	5
R5	45 Stella St	S	48.6	44.7	36.9	39.0	49.1	45.7	41.1	0	1	4

NOTES
MD - Median Hourly Daytime Background (L_{90}) Sound Pressure Level
MN - Median Hourly Nighttime Background (L_{90}) Sound Pressure Level
LN - Lowest Hourly Nighttime Background (L_{90}) Sound Pressure Level
Daytime Hours - 7:00 a.m. through 8:00 p.m.
Nighttime Hours – 8:00 p.m. through 7:00 a.m.

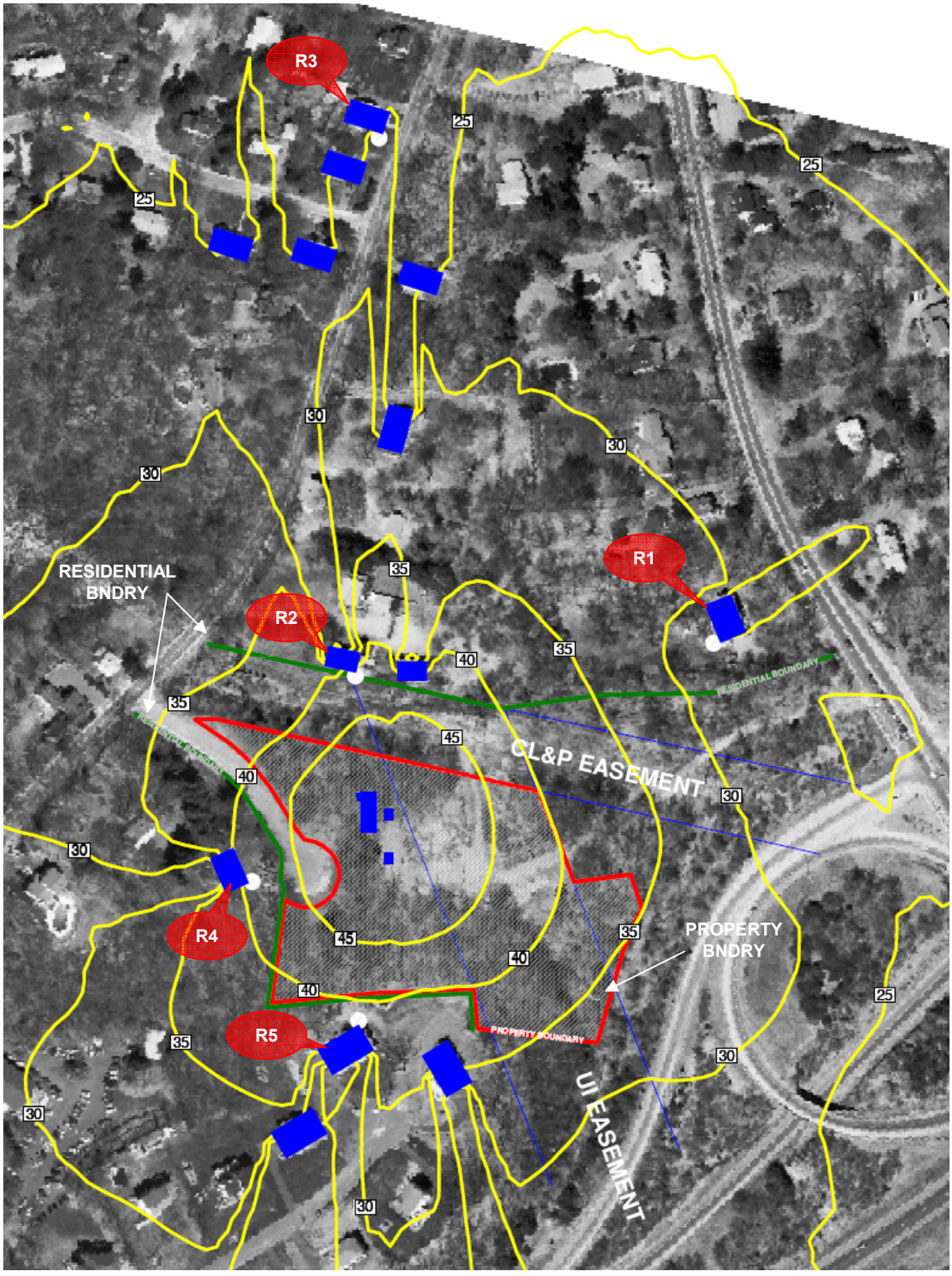


Figure 5-2. Predicted A-weighted sound pressure levels due to the normal operation of the proposed substation with mitigation.

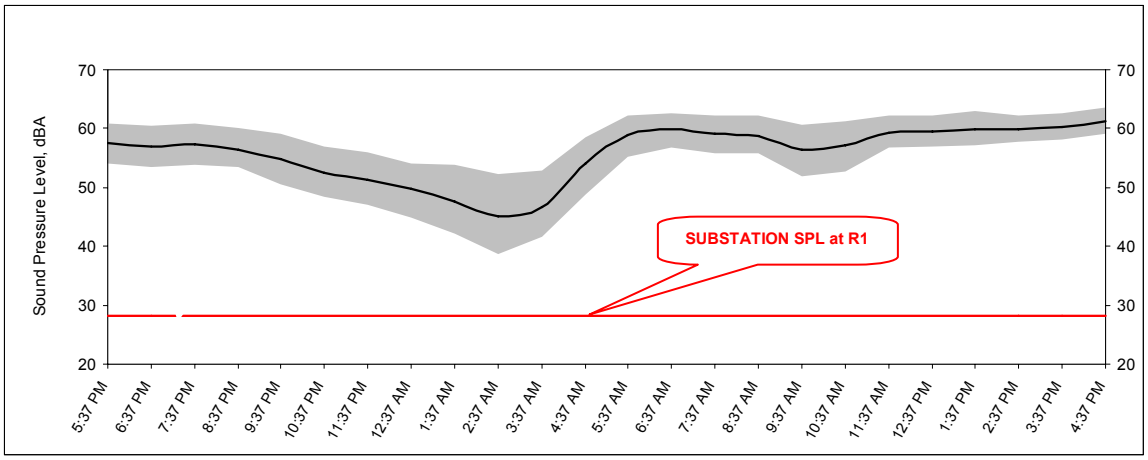


Figure 5-3. Predicted A-weighted sound pressure level due to the proposed substation at Nearby Residential Location R1 versus the Representative Existing Ambient Sound Levels.

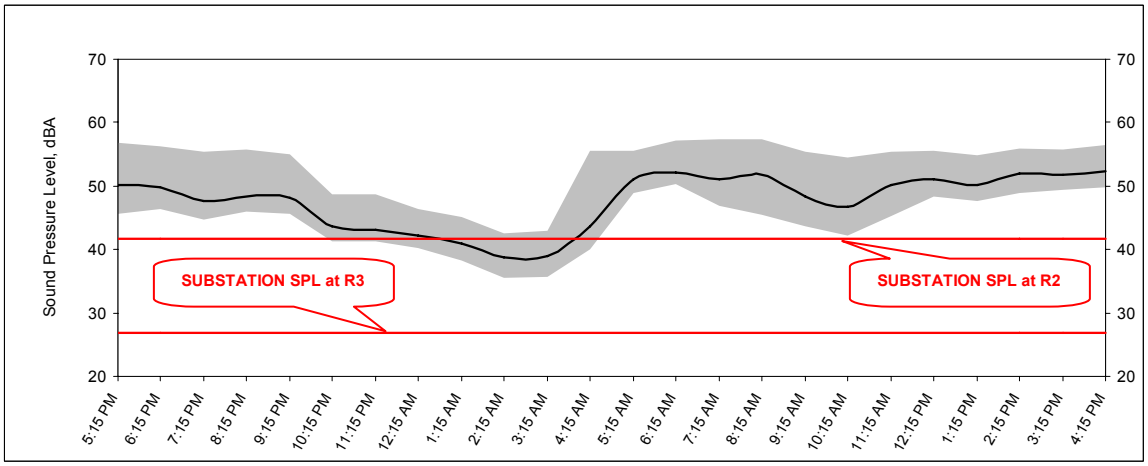


Figure 5-4. Predicted A-weighted sound pressure level due to the proposed substation at Nearby Residential Location R2 and R3 versus the Representative Existing Ambient Sound Levels.

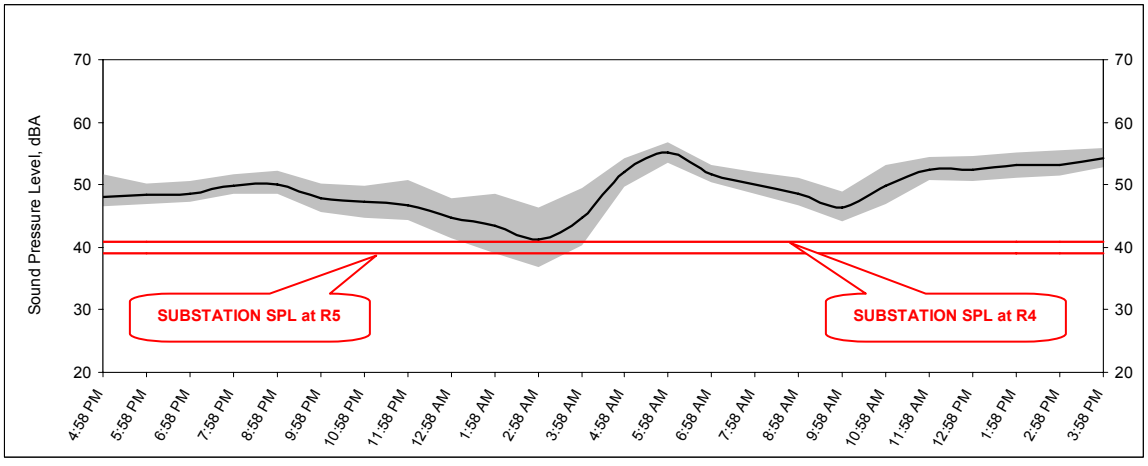


Figure 5-5. Predicted A-weighted sound pressure level due to the proposed substation at Nearby Residential Location R4 and R5 versus the Representative Existing Ambient Sound Levels.

5.3.3 Perimeter Architectural wall

An architectural wall along the fenceline has been considered. The wall is 14 feet in height and constructed of an appropriate barrier material such as precast concrete. All other substation equipment and structures are as previously outlined. The predicted substation noise emissions with the architectural wall are detailed in Figure 5-6. Figure 5-6 shows the predicted sound levels as noise contours plotted at 5 dB intervals. As shown, the levels at the nearest residential boundaries, which correspond to the compliance boundaries, are well below 45 dBA and thus comply with the regulatory limit.

The predicted substation sound level at each residence is compared to the measured background sound levels in Table 5-5. As shown, none of the residential locations are expected to show a noticeable increase during daytime or nighttime hours except for a "just barely perceptible" increase during the quietest nighttime hour at residential location R2.

The ambient sound level variations in relation to the constant substation sound level for each residential location and are detailed in Figures 5-7 through 5-9. These figures highlight that not only are the substation sound levels at or below the ambient sound levels, but also that the period of time the substation sound level is near the background sound level (R2 only) is short.

Table 5-5
Predicted Background Sound Level Increase due to the Facility with Mitigation and Perimeter Architectural wall

Nearby Residential Properties		Direction from Facility	Representative Measured Background Sound Levels (L90), dBA			Predicted Facility Sound Level, dBA	Future Background Sound Levels with Facility Operating, dBA			Increase in Background Sound Level, dB		
			MD	MN	LN		MD	MN	LN	MD	MN	LN
R1	2911 Nichols Ave	NE	56.8	48.5	38.6	27.0	56.8	48.5	38.9	0	0	0
R2	1500 Huntington	N	46.4	41.3	35.5	35.7	46.8	42.4	38.6	0	1	3
R3	1573 Huntington	N	46.4	41.3	35.5	24.1	46.4	41.4	35.8	0	0	0
R4	6 Wildflower Lane	SW	48.6	44.7	36.9	35.7	48.8	45.2	39.4	0	1	2
R5	45 Stella St	S	48.6	44.7	36.9	35.5	48.8	45.2	39.3	0	0	2

NOTES
MD - Median Hourly Daytime Background (L_{90}) Sound Pressure Level
MN - Median Hourly Nighttime Background (L_{90}) Sound Pressure Level
LN - Lowest Hourly Nighttime Background (L_{90}) Sound Pressure Level
Daytime Hours - 7:00 a.m. through 8:00 p.m.
Nighttime Hours – 8:00 p.m. through 7:00 a.m.

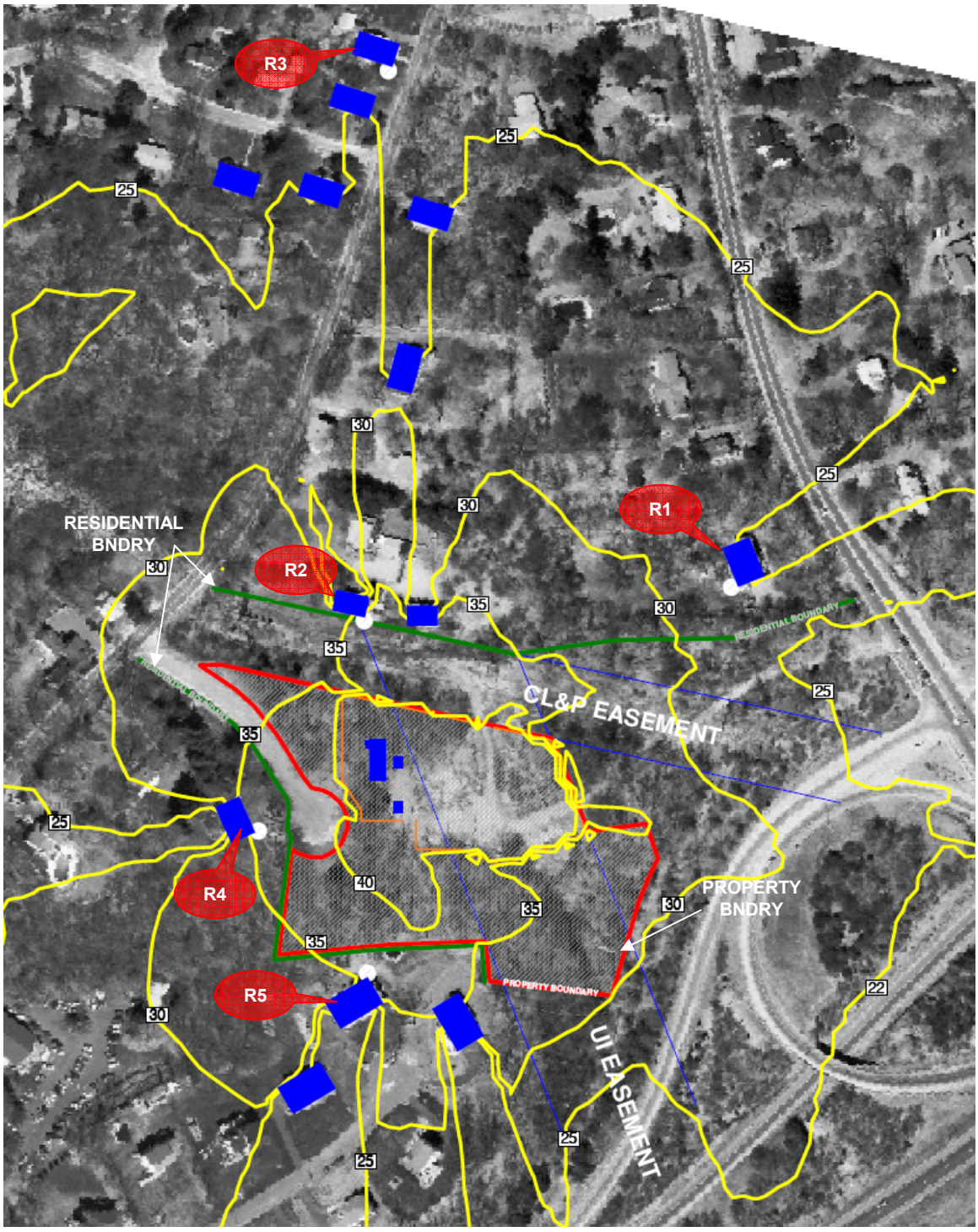


Figure 5-6. Predicted A-weighted sound pressure levels due to the normal operation of the proposed substation with mitigation and an perimeter architectural wall.

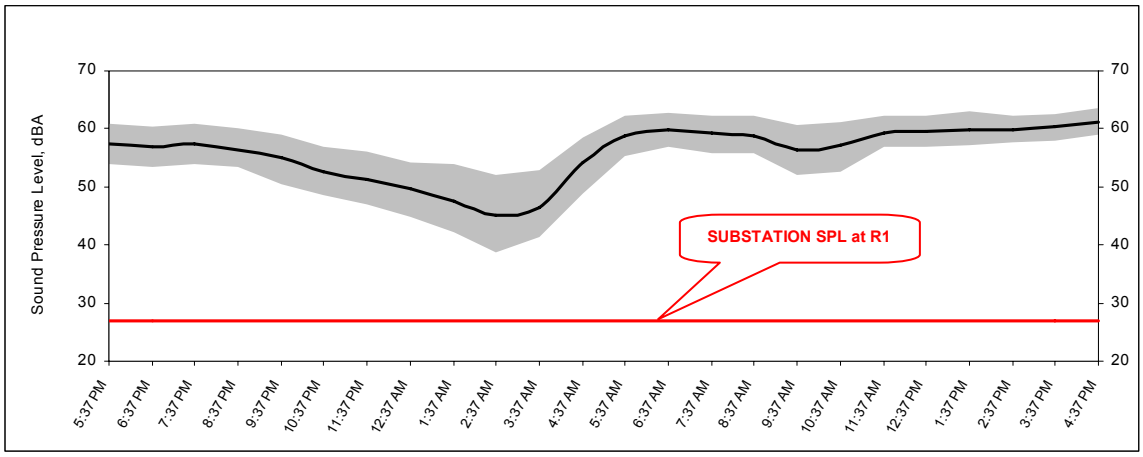


Figure 5-7. Predicted A-weighted sound pressure level due to the proposed substation at Nearby Residential Location R1 versus the Representative Existing Ambient Sound Levels.

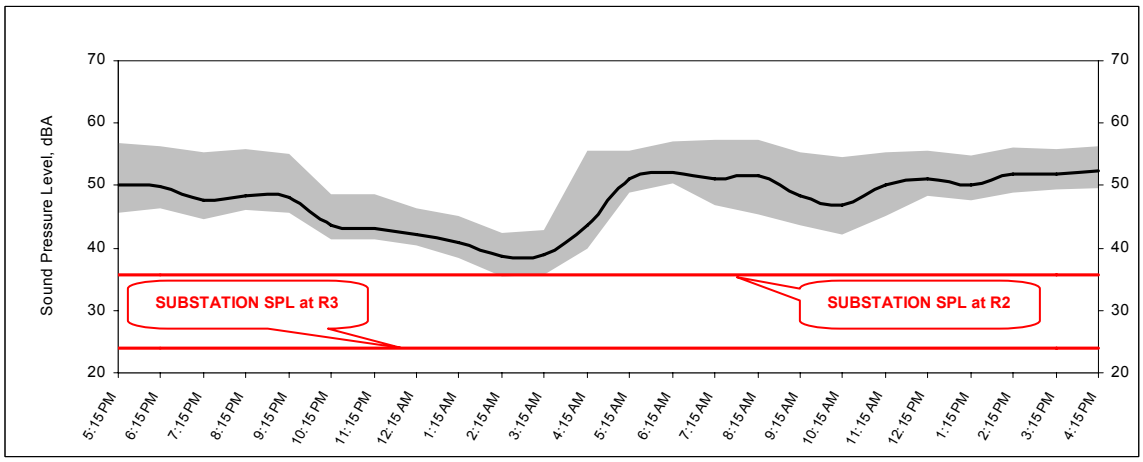


Figure 5-8. Predicted A-weighted sound pressure level due to the proposed substation at Nearby Residential Location R2 and R3 versus the Representative Existing Ambient Sound Levels.

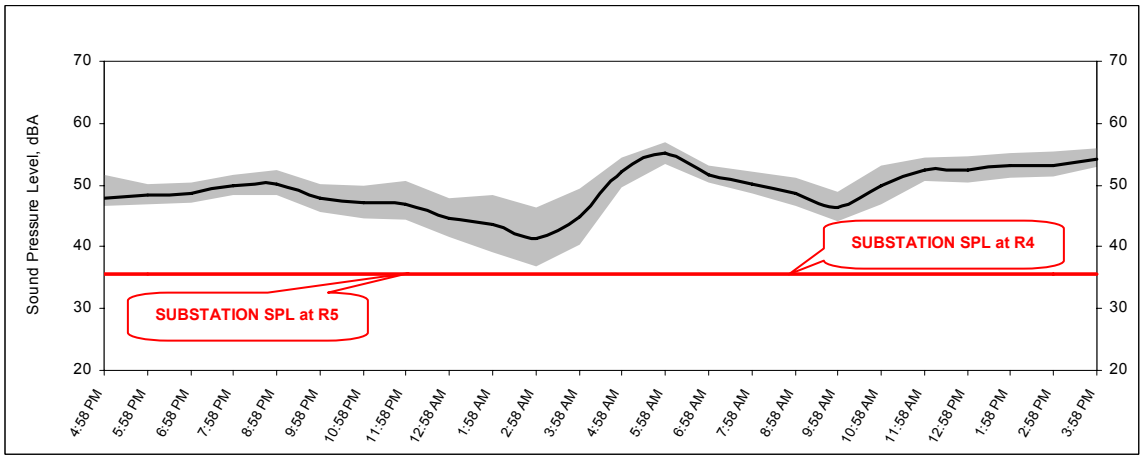


Figure 5-9. Predicted A-weighted sound pressure level due to the proposed substation at Nearby Residential Location R4 and R5 versus the Representative Existing Ambient Sound Levels.

6.0 Conclusions

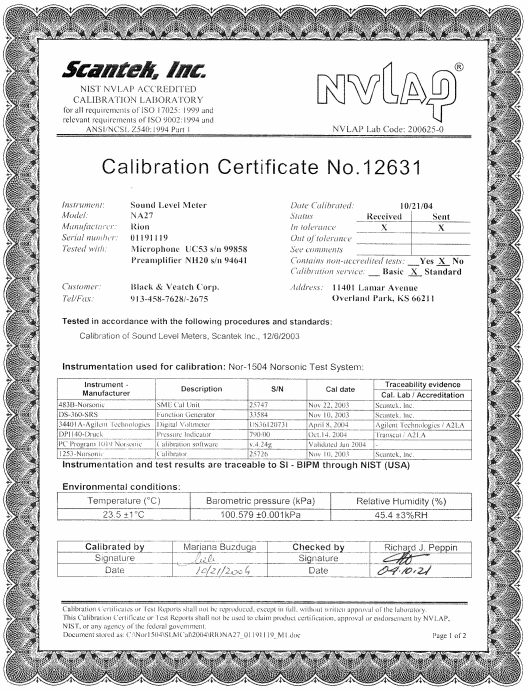
In general, the existing ambient sound levels in the areas surrounding the proposed site are characteristic of urban areas and are influenced by noise sources such as local traffic, birds, insects, and nearby highway traffic. The ambient survey indicated that the hourly background sound levels (L_{90}) during a 24-hour period range from 36 dBA to 59 dBA. The existing background sound levels at the measurement locations are generally consistent with noisy urban residential areas.

The environmental noise emissions associated with the proposed substation have been predicted in order to evaluate compliance with applicable local noise regulations and the potential future noise impacts on the neighboring noise sensitive receptors. The substation noise emissions are anticipated to comply with the applicable local regulations, i.e. 45 dBA at the neighboring residential property boundaries.

In addition to regulatory compliance, the results have also been evaluated related to the potential impact on neighboring residences. As expected, the increases in the existing background sound levels due to the operation of the proposed substation are less during the daytime hours than the during the nighttime hours because of the more dominate daytime neighborhood noise. None of the residential locations are expected to show a noticeable increase during daytime hours. During nighttime hours, nearby residential location R2 (located directly north of the facility) shows a 3 dB increase, which is expected to be “just barely perceptible”. Only during the quietest nighttime hour is a possibly perceptible increase shown at the nearest residential locations, R2, R4, and R5. However, if the optional perimeter architectural wall is erected, the impact during the quietest nighttime hour is either eliminated or reduced to a “just barely perceptible” increase.

It is important to note that periodically throughout the day the sound levels were much higher than the measured hourly background sound levels due to transient events such as vehicles, aircraft, etc. As such, the substation sound levels have been evaluated against the 24-hour sound level trends for each residential location. Not only are the substation sound levels often well below the ambient sound levels, but the period during which the substation sound level is at or above the ambient sound level is of short duration. With the installation of the perimeter architectural wall that is being considered, the substation sound levels are further reduced at the residential neighbors such that the substation sound levels are not higher than the lowest nighttime hourly background sound level. At some residential locations the substation sound level is as much as 15 dB below the lowest nighttime level.

Appendix A



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NVLAP Lab Code: 200625-0

Calibration Certificate No.12631

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Tested with:	**Microphone UC53 s/n 99858** **Preamplifier NH20 s/n 94641**	*See comments* *Contains non-accredited tests:*	 __Yes X No
		Calibration service:	__ Basic X Standard
Customer:	**Black & Veatch Corp.**	*Address:*	**11401 Lamar Avenue** **Overland Park, KS 66211**
Tel/Fax:	**913-458-7628/-2675**		

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., 12/6/2003

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal date	Traceability evidence Cal. Lab / Accreditation
483B-Norsonic	SME Cal Unit	25747	Nov 22, 2003	Scantek, Inc.
DS-360-SRS	Function Generator	33584	Nov 10, 2003	Scantek, Inc.
34401A-Agilent Technologies	Digital Voltmeter	US36120731	April 8, 2004	Agilent Technologies / A2LA
DPI140-Druck	Pressure Indicator	790/00	Oct.14, 2004	Transcat / A2LA
PC Program 1019 Norsonic	Calibration software	v.4.24g	Validated Jan 2004	-
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Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
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Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
Signature		Signature	
Date	10/21/2004	Date	04.10.21

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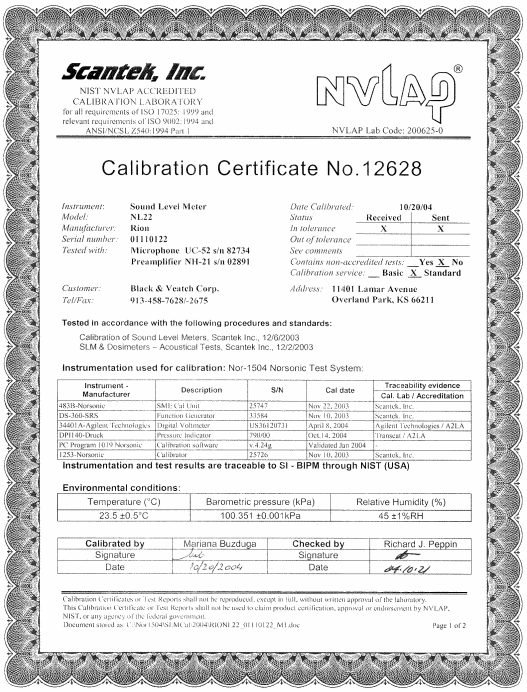

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NVLAP Lab Code: 200625-0

Calibration Certificate No.12628

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Tel/Fax:	**913-458-7628/-2675**		

Tested in accordance with the following procedures and standards:
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SLM & Dosimeters – Acoustical Tests, Scantek Inc., 12/2/2003

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

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DPI140-Druck	Pressure Indicator	790/00	Oct.14, 2004	Transcat / A2LA
PC Program 1019 Norsonic	Calibration software	v.4.24g	Validated Jan 2004	-
1253-Norsonic	Calibrator	25726	Nov 10, 2003	Scantek, Inc.

Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
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Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
Signature		Signature	
Date	10/24/2004	Date	04.10.21

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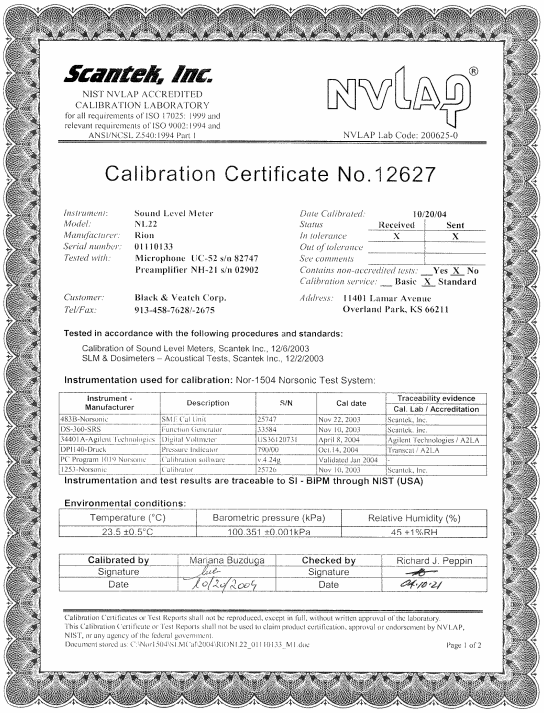

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NVLAP Lab Code: 200625-0

Calibration Certificate No.12627

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Tel/Fax:	**913-458-7628/-2675**		

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., 12/6/2003
SLM & Dosimeters – Acoustical Tests, Scantek Inc., 12/2/2003

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

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Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
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Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
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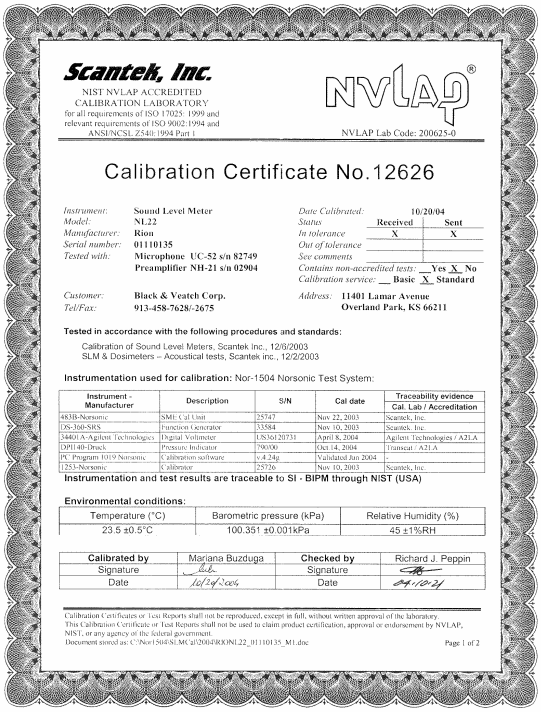

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Tel/Fax:	**913-458-7628/-2675**		

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., 12/6/2003
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Instrumentation used for calibration: Nor-1504 Norsonic Test System:

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DS-360-SRS	Function Generator	33584	Nov 10, 2003	Scantek, Inc.
34401A-Agilent Technologies	Digital Voltmeter	US36120731	April 8, 2004	Agilent Technologies / A2LA
DPI140-Druck	Pressure Indicator	790/00	Oct.14, 2004	Transcat / A2LA
PC Program 1019 Norsonic	Calibration software	v.4.24g	Validated Jan 2004	-
1253-Norsonic	Calibrator	25726	Nov 10, 2003	Scantek, Inc.

Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.5 ±0.5°C	100.351 ±0.001kPa	45 ±1%RH

Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
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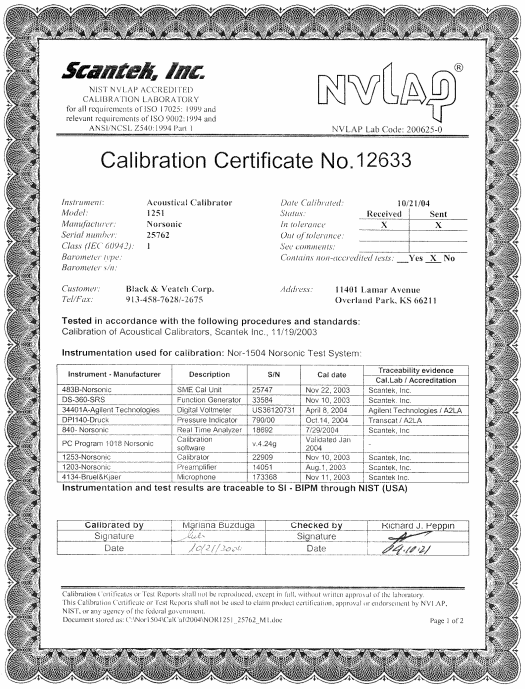

Scantek, Inc.
NIST NVLAP ACCREDITED
CALIBRATION LABORATORY
for all requirements of ISO 17025: 1999 and
relevant requirements of ISO 9002:1994 and
ANSI/NCSL Z540:1994 Part 1

NVLAP Lab Code: 200625-0

Calibration Certificate No.12633

Instrument: **Acoustical Calibrator**
Model: **1251**
Manufacturer: **Norsonic**
Serial number: **25762**
Class (IEC 60942): **1**
Barometer type:
Barometer s/n:

Date Calibrated: **10/21/04**

Status	Received	Sent
In tolerance	X	X
Out of tolerance		
See comments		

Contains non-accredited tests: **__Yes _X_ No**

Customer: **Black & Veatch Corp.**
Tel/Fax: **913-458-7628/-2675**
Address: **11401 Lamar Avenue Overland Park, KS 66211**

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., 11/19/2003

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal date	Traceability evidence Cal.Lab / Accreditation
483B-Norsonic	SME Cal Unit	25747	Nov 22, 2003	Scantek, Inc.
DS-360-SRS	Function Generator	33584	Nov 10, 2003	Scantek, Inc.
34401A-Agilent Technologies	Digital Voltmeter	US36120731	April 8, 2004	Agilent Technologies / A2LA
DPI140-Druck	Pressure Indicator	790/00	Oct.14, 2004	Transcat / A2LA
840- Norsonic	Real Time Analyzer	18692	7/29/2004	Scantek, Inc
PC Program 1018 Norsonic	Calibration software	v.4.24g	Validated Jan 2004	-
1253-Norsonic	Calibrator	22909	Nov. 10, 2003	Scantek, Inc.
1203-Norsonic	Preamplifier	14051	Aug.1, 2003	Scantek, Inc.
4134-Brüel&Kjaer	Microphone	173368	Nov 11, 2003	Scantek Inc.

Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
Signature		Signature	
Date	10/21/2004	Date	10.21.04

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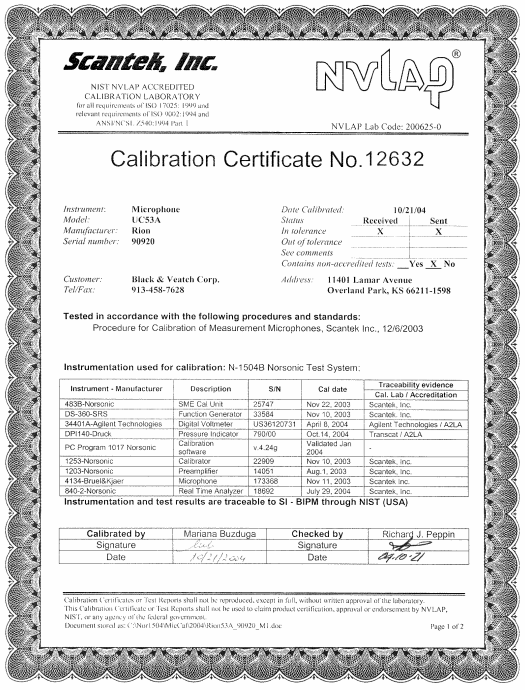

Scantek, Inc.
NIST NVLAP ACCREDITED
CALIBRATION LABORATORY
for all requirements of ISO 17025: 1999 and
relevant requirements of ISO 9002:1994 and
ANSI/NCSL Z540:1994 Part 1

NVLAP Lab Code: 200625-0

Calibration Certificate No.12632

Instrument: **Microphone**
Model: **UC-53A**
Manufacturer: **Rion**
Serial number: **90920**

Date Calibrated: **10/21/04**

Status	Received	Sent
In tolerance	X	X
Out of tolerance		
See comments		

Contains non-accredited tests: **__Yes _X_ No**

Customer: **Black & Veatch Corp.**
Tel/Fax: **913-458-7628**
Address: **11401 Lamar Avenue Overland Park, KS 66211-1598**

Tested in accordance with the following procedures and standards:
Procedure for Calibration of Measurement Microphones, Scantek Inc., 12/6/2003

Instrumentation used for calibration: N-1504B Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal date	Traceability evidence Cal. Lab / Accreditation
483B-Norsonic	SME Cal Unit	25747	Nov 22, 2003	Scantek, Inc.
DS-360-SRS	Function Generator	33584	Nov 10, 2003	Scantek, Inc.
34401A-Agilent Technologies	Digital Voltmeter	US36120731	April 8, 2004	Agilent Technologies / A2LA
DPI140-Druck	Pressure Indicator	790/00	Oct.14, 2004	Transcat / A2LA
PC Program 1017 Norsonic	Calibration software	v.4.24g	Validated Jan 2004	-
1253-Norsonic	Calibrator	22909	Nov 10, 2003	Scantek, Inc.
1203-Norsonic	Preamplifier	14051	Aug.1, 2003	Scantek, Inc.
4134-Brüel&Kjaer	Microphone	173368	Nov 11, 2003	Scantek Inc.
840-2-Norsonic	Real Time Analyzer	18692	July 29, 2004	Scantek, Inc.

Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
Signature		Signature	
Date	10/21/2004	Date	10.21.04

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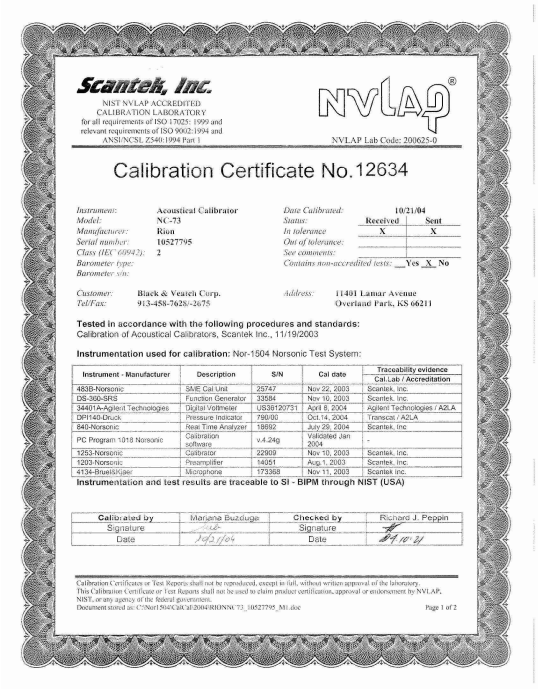

Scantek, Inc.
NIST NVLAP ACCREDITED
CALIBRATION LABORATORY
for all requirements of ISO 17025: 1999 and
relevant requirements of ISO 9002:1994 and
ANSI/NCSL Z540:1994 Part 1

NVLAP Lab Code: 200625-0

Calibration Certificate No.12634

Instrument: **Acoustical Calibrator**
Model: **NC-73**
Manufacturer: **Rion**
Serial number: **10527795**
Class (IEC 60942): **2**
Barometer type:
Barometer s/n:

Date Calibrated: **10/21/04**

Status	Received	Sent
In tolerance	X	X
Out of tolerance		
See comments		

Contains non-accredited tests: **__Yes _X_ No**

Customer: **Black & Veatch Corp.**
Tel/Fax: **913-458-7628/-2675**
Address: **11401 Lamar Avenue Overland Park, KS 66211**

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., 11/19/2003

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal date	Traceability evidence Cal.Lab / Accreditation
483B-Norsonic	SME Cal Unit	25747	Nov 22, 2003	Scantek, Inc.
DS-360-SRS	Function Generator	33584	Nov 10, 2003	Scantek, Inc.
34401A-Agilent Technologies	Digital Voltmeter	US36120731	April 8, 2004	Agilent Technologies / A2LA
DPI140-Druck	Pressure Indicator	790/00	Oct.14, 2004	Transcat / A2LA
840-Norsonic	Real Time Analyzer	18692	July 29, 2004	Scantek, Inc
PC Program 1018 Norsonic	Calibration software	v.4.24g	Validated Jan 2004	-
1253-Norsonic	Calibrator	22909	Nov 10, 2003	Scantek, Inc.
1203-Norsonic	Preamplifier	14051	Aug.1, 2003	Scantek, Inc.
4134-Brüel&Kjaer	Microphone	173368	Nov 11, 2003	Scantek Inc.

Instrumentation and test results are traceable to SI - BIPM through NIST (USA)

Calibrated by	Mariana Buzduga	Checked by	Richard J. Peppin
Signature		Signature	
Date	10/21/04	Date	10.21.04

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Appendix B

TRUMBULL SUBSTATION - Environmental Noise Assessment 2005
United Illuminating
B&V 141417

Ambient Sound Level Survey : NML-1

Address	Date	Time	Measurment Time	LAeq	LA10	LA50	LA90
1	5/4/2005	4:58 PM	1:00:00	50.6	51.7	48.0	46.6
2	5/4/2005	5:58 PM	1:00:00	49.5	50.2	48.3	46.9
3	5/4/2005	6:58 PM	1:00:00	49.1	50.5	48.6	47.2
4	5/4/2005	7:58 PM	1:00:00	50.4	51.7	49.9	48.5
5	5/4/2005	8:58 PM	1:00:00	50.7	52.3	50.1	48.5
6	5/4/2005	9:58 PM	1:00:00	48.7	50.2	47.9	45.7
7	5/4/2005	10:58 PM	1:00:00	47.8	49.8	47.2	44.7
8	5/4/2005	11:58 PM	1:00:00	49.3	50.7	46.8	44.3
9	5/5/2005	12:58 AM	1:00:00	45.4	47.9	44.7	41.5
10	5/5/2005	1:58 AM	1:00:00	45.1	48.5	43.5	39.1
11	5/5/2005	2:58 AM	1:00:00	43.1	46.3	41.3	36.9
12	5/5/2005	3:58 AM	1:00:00	46.7	49.5	44.8	40.3
13	5/5/2005	4:58 AM	1:00:00	52.4	54.3	52.1	49.6
14	5/5/2005	5:58 AM	1:00:00	55.4	56.9	55.2	53.5
15	5/5/2005	6:58 AM	1:00:00	51.9	53.1	51.6	50.4
16	5/5/2005	7:58 AM	1:00:00	51.5	52.1	50.1	48.6
17	5/5/2005	8:58 AM	1:00:00	50.7	51.1	48.6	46.7
18	5/5/2005	9:58 AM	1:00:00	47.2	48.9	46.3	44.1
19	5/5/2005	10:58 AM	1:00:00	51.3	53.1	49.8	46.9
20	5/5/2005	11:58 AM	1:00:00	52.9	54.4	52.4	50.7
21	5/5/2005	12:58 PM	1:00:00	52.9	54.6	52.5	50.5
22	5/5/2005	1:58 PM	1:00:00	53.6	55.1	53.1	51.2
23	5/5/2005	2:58 PM	1:00:00	55.4	55.5	53.2	51.5
24	5/5/2005	3:58 PM	1:00:00	54.5	55.9	54.2	52.8
			Minimum		46.3	41.3	36.9
			Median		51.7	49.2	47.1
			Maximum		56.9	55.2	53.5
Daytime 7 AM to 8 PM			*Daytime Minimum*				44.1
			Daytime Median				48.6
			Daytime Maximum				52.8
Nighttime 8 PM to 7 AM			*Nighttime Minimum*				36.9
			Nighttime Median				44.7
			Nighttime Maximum				53.5

TRUMBULL SUBSTATION - Environmental Noise Assessment 2005
United Illuminating
B&V 141417

Ambient Sound Level Survey : NML-2

Address	Time	Time	Measurment Time	LAeq	LA10	LA50	LA90
1	5/4/2005	5:15 PM	1:00:00	53.1	56.8	50.1	45.6
2	5/4/2005	6:15 PM	1:00:00	52.6	56.3	49.8	46.4
3	5/4/2005	7:15 PM	1:00:00	52.0	55.4	47.6	44.7
4	5/4/2005	8:15 PM	1:00:00	51.6	55.7	48.4	46.0
5	5/4/2005	9:15 PM	1:00:00	51.3	55.0	48.1	45.7
6	5/4/2005	10:15 PM	1:00:00	46.5	48.7	43.7	41.3
7	5/4/2005	11:15 PM	1:00:00	46.4	48.7	43.1	41.3
8	5/5/2005	12:15 AM	1:00:00	45.4	46.4	42.2	40.3
9	5/5/2005	1:15 AM	1:00:00	43.9	45.1	40.9	38.3
10	5/5/2005	2:15 AM	1:00:00	41.2	42.5	38.7	35.5
11	5/5/2005	3:15 AM	1:00:00	42.3	43.0	39.0	35.7
12	5/5/2005	4:15 AM	1:00:00	50.4	55.6	43.7	40.0
13	5/5/2005	5:15 AM	1:00:00	52.6	55.6	51.0	48.9
14	5/5/2005	6:15 AM	1:00:00	54.0	57.1	52.1	50.4
15	5/5/2005	7:15 AM	1:00:00	53.6	57.4	51.1	46.9
16	5/5/2005	8:15 AM	1:00:00	54.3	57.3	51.7	45.4
17	5/5/2005	9:15 AM	1:00:00	52.5	55.3	48.3	43.7
18	5/5/2005	10:15 AM	1:00:00	50.4	54.5	46.8	42.2
19	5/5/2005	11:15 AM	1:00:00	52.3	55.4	50.2	45.2
20	5/5/2005	12:15 PM	1:00:00	52.5	55.5	51.0	48.4
21	5/5/2005	1:15 PM	1:00:00	51.9	54.8	50.2	47.6
22	5/5/2005	2:15 PM	1:00:00	53.6	56.0	51.9	48.8
23	5/5/2005	3:15 PM	1:00:00	53.2	55.8	51.8	49.4
24	5/5/2005	4:15 PM	1:00:00	53.5	56.4	52.3	49.7
			Minimum		42.5	38.7	35.5
			Median		55.5	49.1	45.5
			Maximum		57.4	52.3	50.4
Daytime	*7 AM to 8 PM*		*Daytime Minimum*				42.2
			Daytime Median				46.4
			Daytime Maximum				49.7
Nighttime	*8 PM to 7 AM*		*Nighttime Minimum*				35.5
			Nighttime Median				41.3
			Nighttime Maximum				50.4

TRUMBULL SUBSTATION - Environmental Noise Assessment 2005
United Illuminating
B&V 141417

Ambient Sound Level Survey : NML-3

Address	Time	Time	Measurment Time	LAeq	LA10	LA50	LA90
1	5/4/2005	5:37 PM	1:00:00	58.4	60.8	57.5	54.0
2	5/4/2005	6:37 PM	1:00:00	58.0	60.4	57.0	53.4
3	5/4/2005	7:37 PM	1:00:00	59.5	60.9	57.3	53.9
4	5/4/2005	8:37 PM	1:00:00	57.8	60.1	56.4	53.5
5	5/4/2005	9:37 PM	1:00:00	59.1	59.1	54.9	50.5
6	5/4/2005	10:37 PM	1:00:00	54.5	56.9	52.5	48.5
7	5/4/2005	11:37 PM	1:00:00	54.1	56.0	51.4	47.1
8	5/5/2005	12:37 AM	1:00:00	51.6	54.1	49.7	45.0
9	5/5/2005	1:37 AM	1:00:00	50.9	53.9	47.6	42.1
10	5/5/2005	2:37 AM	1:00:00	48.5	52.2	45.1	38.6
11	5/5/2005	3:37 AM	1:00:00	49.6	52.9	46.6	41.5
12	5/5/2005	4:37 AM	1:00:00	55.4	58.6	54.1	48.8
13	5/5/2005	5:37 AM	1:00:00	60.0	62.3	58.9	55.3
14	5/5/2005	6:37 AM	1:00:00	60.5	62.7	59.8	56.8
15	5/5/2005	7:37 AM	1:00:00	60.1	62.3	59.2	55.8
16	5/5/2005	8:37 AM	1:00:00	60.4	62.2	58.7	55.8
17	5/5/2005	9:37 AM	1:00:00	58.2	60.6	56.4	52.0
18	5/5/2005	10:37 AM	1:00:00	58.7	61.3	57.2	52.7
19	5/5/2005	11:37 AM	1:00:00	60.3	62.3	59.3	56.8
20	5/5/2005	12:37 PM	1:00:00	60.1	62.2	59.5	56.9
21	5/5/2005	1:37 PM	1:00:00	62.8	63.0	59.8	57.1
22	5/5/2005	2:37 PM	1:00:00	60.6	62.2	59.9	57.8
23	5/5/2005	3:37 PM	1:00:00	61.1	62.6	60.3	58.1
24	5/5/2005	4:37 PM	1:00:00	62.0	63.5	61.3	59.1
			Minimum		52.2	45.1	38.6
			Median		60.9	57.3	53.7
			Maximum		63.5	61.3	59.1
Daytime 7 AM to 8 PM			*Daytime Minimum*				52.0
			Daytime Median				56.8
			Daytime Maximum				59.1
Nighttime 8 PM to 7 AM			*Nighttime Minimum*				38.6
			Nighttime Median				48.5
			Nighttime Maximum				55.3

Appendix C

TRUMBULL SUBSTATION
EA Noise 2005
United Illuminating
B&V 141417

Ambient Sound Level Survey

Description of the Site:	NML-3				NML-1				NML-2				NML-1				NML-2				NML-3			
Address in Meter:	1				2				3				4				5				6			
Date:	Wednesday, May 04, 2005				Wednesday, May 04, 2005				Wednesday, May 04, 2005				Thursday, May 05, 2005				Thursday, May 05, 2005				Thursday, May 05, 2005			
Start Time:	**5:29 PM**				**5:58 PM**				**6:21 PM**				**12:19 AM**				**12:44 AM**				**1:12 AM**			
Duration:	1200 sec				1200 sec				1200 sec				1200 sec				1200 sec				1200 sec			
Time Constant:	Slow				Slow				Slow				Slow				Slow				Slow			
Weighting:	Flat				Flat				Flat				Flat				Flat				Flat			
Sub Time Constant:	Slow				Slow				Slow				Slow				Slow				Slow			
Sub Weighting:	A				A				A				A				A				A			
	Leq	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**
Main	74.3	76.5	72	69.3	67.6	67.5	63.9	62.6	63.5	64.8	61.9	60.2	60.3	62.9	57.6	55.1	56.2	56.5	53.2	51.9	60.7	63.9	58.1	55.1
Sub	62.6	65.5	61.4	56.5	48.9	50	48.5	46.9	50.3	52.7	46.2	44	47.8	50.1	46.7	44.5	42.4	41.8	39.5	38.2	51.8	55.1	49.5	45.2
Calculated Octaves																								
16 Hz	62.7	62.9	59.3	56.8	59.2	59.8	56.1	53.9	56.0	58.2	55.1	52.6	53.9	53.9	48.5	45.8	49.9	49.3	46.3	44.0	51.3	53.3	48.4	45.7
31 Hz	66.3	68.2	64.0	61.0	58.7	60.3	57.9	56.2	56.5	58.7	55.6	53.4	52.9	54.6	50.4	47.5	49.3	51.0	47.4	45.2	52.8	55.9	50.4	47.4
63 Hz	70.0	72.0	66.6	63.0	59.8	61.8	58.5	56.4	56.5	59.1	55.3	52.9	54.7	56.0	50.1	46.9	49.6	50.7	46.1	43.7	54.8	58.0	51.1	47.2
125 Hz	68.4	70.3	64.4	60.0	54.5	56.6	52.2	50.0	57.1	55.5	50.2	47.2	51.6	54.0	47.4	42.9	48.3	47.1	41.4	39.1	55.1	57.1	49.3	44.8
250 Hz	60.1	62.9	58.1	53.3	47.2	47.8	43.2	41.0	50.5	49.4	42.5	39.3	45.7	47.4	41.8	38.5	39.5	37.6	34.7	33.0	47.2	50.5	41.6	37.4
500 Hz	58.0	59.8	55.6	49.9	45.1	46.7	44.5	41.8	45.5	47.6	41.6	39.1	45.0	47.3	42.8	40.3	37.5	37.0	34.7	33.4	45.9	48.8	43.4	39.7
1 kHz	58.5	61.6	57.6	52.7	45.9	47.4	45.9	43.5	46.6	49.5	42.7	40.7	44.9	47.2	44.2	41.8	39.8	39.7	37.5	36.1	49.3	52.8	47.3	42.4
2 kHz	55.2	58.5	54.1	47.8	37.6	39.7	36.8	34.7	40.7	44.2	34.2	30.7	36.1	38.5	35.0	32.1	33.0	31.3	27.7	25.8	43.5	46.8	40.1	33.4
4 kHz	47.7	51.1	46.8	39.1	28.8	31.8	25.3	21.2	35.3	39.4	30.6	22.2	23.5	25.1	18.0	15.9	22.5	18.0	14.9	14.9	33.4	35.9	23.0	17.1
8 kHz	37.8	41.1	36.7	28.4	22.3	24.9	17.4	15.2	25.7	28.4	17.6	15.1	18.6	19.2	15.3	14.9	16.6	15.3	14.9	14.9	21.6	23.4	14.9	14.9
Frequency																								
12.5 Hz	54.3	55.7	52.6	50.1	54.1	53.5	49.9	47.5	50.2	52.3	49.4	47.0	49.7	47.6	42.6	39.8	45.1	43.6	40.8	38.3	45.2	47.1	42.9	40.1
16 Hz	55.5	57.7	54.7	52.2	54.8	55.0	51.7	49.3	51.3	53.6	50.7	48.2	48.5	49.0	43.7	41.0	45.1	44.4	41.3	39.0	47.2	48.5	43.4	40.6
20 Hz	61.0	59.9	55.8	53.3	54.5	56.1	52.2	50.2	51.9	54.1	50.8	48.3	49.2	50.4	44.7	42.1	45.3	45.3	42.4	40.2	47.0	49.7	44.4	41.8
25 Hz	62.5	63.2	58.7	55.7	54.6	56.0	53.5	51.6	52.1	54.2	51.5	49.1	49.3	50.2	46.7	43.6	46.2	47.6	44.0	41.9	47.3	50.2	45.6	42.7
31.5 Hz	60.5	63.6	59.2	56.1	53.6	55.1	53.1	51.4	51.8	54.1	50.7	48.6	48.0	49.9	45.2	42.5	44.0	45.8	42.3	40.0	48.0	51.3	45.7	42.7
40 Hz	61.2	63.5	59.8	56.8	53.5	55.4	52.9	51.2	51.4	53.6	50.3	48.0	46.9	49.2	44.7	42.0	42.8	44.8	41.2	38.8	48.6	51.7	45.7	42.4
50 Hz	63.2	65.4	61.4	58.3	55.1	57.0	54.0	52.0	52.1	54.3	51.2	48.8	48.5	50.8	45.1	41.8	44.3	44.9	40.6	38.3	49.0	52.1	45.3	41.8
63 Hz	65.9	67.1	61.4	57.7	55.3	57.1	53.6	51.4	50.8	53.3	49.7	47.6	51.1	51.4	45.2	42.1	45.7	46.0	41.3	39.2	49.6	52.5	45.9	42.4
80 Hz	66.1	68.5	62.5	58.5	54.8	57.1	53.6	51.5	52.2	55.1	50.6	47.9	49.7	51.4	45.6	42.4	44.4	46.6	41.9	39.1	51.2	54.6	47.5	42.9
100 Hz	65.7	67.3	61.5	57.3	52.0	54.8	50.6	48.3	51.5	52.9	47.7	45.1	48.4	51.2	44.7	40.1	44.2	45.6	39.6	37.1	50.5	53.7	46.3	41.7
125 Hz	63.4	66.0	59.5	54.9	49.5	50.6	45.9	43.7	55.0	50.4	45.0	41.6	45.9	49.0	42.6	38.2	45.4	40.4	35.0	33.1	51.7	52.9	44.1	40.3
160 Hz	59.8	61.5	56.3	51.9	45.7	46.5	41.1	39.0	47.6	47.1	41.6	37.6	45.7	46.0	38.8	34.5	38.1	36.3	31.9	29.7	47.9	49.0	42.3	37.0
200 Hz	56.8	59.5	54.5	50.1	41.9	44.1	38.8	36.8	48.0	45.3	39.0	35.2	42.7	43.2	37.1	33.6	35.9	34.4	30.9	29.1	44.0	46.0	38.4	34.2
250 Hz	55.2	58.0	53.5	48.6	43.8	42.2	38.1	36.0	44.9	44.7	37.5	34.6	39.1	41.9	36.7	33.6	34.6	32.3	29.6	27.9	42.1	46.5	36.0	31.9
315 Hz	53.4	56.2	51.5	46.0	41.3	42.6	38.4	35.9	42.3	43.7	36.4	33.5	40.3	42.8	37.3	34.1	33.3	31.3	28.9	27.5	40.3	44.3	35.4	31.3
400 Hz	53.8	55.2	50.8	44.8	40.1	41.9	38.9	36.1	39.9	42.0	36.2	33.2	39.9	42.6	37.3	34.5	32.1	31.0	28.6	27.4	39.1	42.1	36.2	32.5
500 Hz	53.9	55.1	51.0	44.9	40.1	41.6	39.7	36.9	40.6	42.9	36.8	34.0	40.6	42.8	37.9	35.5	32.5	32.5	30.0	28.5	41.2	44.1	39.2	35.7
630 Hz	51.8	54.9	50.8	45.7	40.7	42.2	40.4	38.0	41.6	43.5	37.4	35.4	40.2	42.2	38.8	36.4	33.5	33.0	31.0	29.6	42.4	45.4	39.8	35.9
800 Hz	53.3	56.3	52.4	47.8	41.8	43.4	41.8	39.4	42.1	44.7	38.8	36.9	41.0	43.1	40.2	38.0	34.9	35.2	33.2	31.8	44.6	48.0	42.4	38.0
1 kHz	54.4	57.5	53.5	48.6	41.8	43.4	41.8	39.4	42.2	45.1	38.5	36.5	40.7	43.1	40.1	37.6	35.7	35.7	33.6	32.3	45.2	48.7	43.3	38.4
1.25 kHz	53.5	56.7	52.4	47.2	39.2	40.7	39.2	36.9	41.1	44.4	35.8	33.6	38.2	40.6	37.5	35.1	34.4	33.5	31.0	29.4	43.7	47.3	41.6	36.1
1.6 kHz	52.2	55.4	51.1	45.4	35.4	37.1	35.2	33.1	38.3	41.9	31.9	29.3	34.6	37.0	33.7	31.0	31.0	29.8	26.6	24.7	41.3	44.7	38.5	32.2
2 kHz	50.0	53.4	48.8	42.2	30.7	32.8	30.2	28.3	34.6	38.1	27.1	23.2	29.6	32.1	28.2	25.0	27.1	25.0	20.5	18.2	37.9	41.0	34.1	26.5
2.5 kHz	48.2	51.5	47.1	39.6	30.7	33.5	26.7	23.5	33.2	36.4	27.4	20.1	24.6	27.2	21.7	18.1	23.4	19.5	13.7	11.9	34.5	37.4	28.1	20.0
3.15 kHz	45.3	48.7	44.4	36.9	26.1	29.1	23.2	19.3	32.7	36.5	28.6	19.8	20.3	22.4	15.6	12.3	19.7	15.2	10.1	10.1	31.2	33.9	21.7	14.2
4 kHz	42.2	45.6	41.3	33.7	24.2	27.0	19.6	15.1	30.7	35.0	25.2	17.3	18.4	19.5	12.3	10.8	17.2	12.7	10.1	10.1	28.0	30.2	15.6	11.6
5 kHz	39.0	42.3	38.0	29.9	19.7	22.7	15.8	11.6	25.9	30.1	19.3	12.7	16.8	17.7	10.1	10.1	14.8	10.6	10.1	10.1	23.9	26.0	11.6	10.1
6.3 kHz	35.7	39.1	34.8	26.4	18.4	21.5	13.4	10.1	23.4	26.3	14.3	10.3	14.6	15.6	10.1	10.1	12.5	10.1	10.1	10.1	19.5	21.5	10.1	10.1
8 kHz	32.2	35.5	30.9	22.5	18.2	20.4	13.1	11.0	20.7	23.4	12.6	10.6	13.7	14.5	10.1	10.1	11.8	10.1	10.1	10.1	15.9	17.5	10.1	10.1
10 kHz	27.8	31.1	26.6	18.5	15.2	17.4	11.2	10.1	15.4	16.8	11.0	10.1	13.1	12.8	11.4	10.3	11.0	11.4	10.1	10.1	12.3	13.2	10.1	10.1
12.5 kHz	23.2	26.4	21.7	15.3	13.9	14.8	11.2	10.6	13.7	13.6	10.8	10.3	10.8	11.0	10.1	10.1	12.3	12.7	12.1	11.4	10.6	10.8	10.1	10.1
dBA	62.6	65.5	61.4	56.5	48.9	50	48.5	46.9	50.3	52.7	46.2	44	47.8	50.1	46.7	44.5	42.4	41.8	39.5	38.2	51.8	55.1	49.5	45.2

TRUMBULL SUBSTATION
EA Noise 2005
United Illuminating
B&V 141417

Ambient Sound Level Survey

Description of the Site:	NML-1				NML-2				NML-3			
Address in Meter:	7				8				9			
Date:	Thursday, May 05, 2005				Thursday, May 05, 2005				Thursday, May 05, 2005			
Start Time:	**11:12 AM**				**11:40 AM**				**12:07 PM**			
Duration:	1200 sec				1200 sec				1200 sec			
Time Constant:	Slow				Slow				Slow			
Weighting:	Flat				Flat				Flat			
Sub Time Constant:	Slow				Slow				Slow			
Sub Weighting:	A				A				A			
	Leq	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**	**Leq**	**L10**	**L50**	**L90**
Main	65.8	68.2	65.2	62.8	66.3	68.6	64.7	62.3	73.2	76	71.6	68.7
Sub	50	51.9	49	47.2	52.1	55.2	49.9	47.1	61	63.4	60.5	57.7
Calculated Octaves												
16 Hz	58.8	61.4	57.7	54.9	58.8	61.4	57.1	54.2	62.6	65.3	60.8	57.2
31 Hz	60.6	62.5	59.1	56.2	58.4	60.6	57.3	54.6	64.9	67.7	63.8	61.0
63 Hz	60.5	62.9	58.2	55.6	58.8	60.8	56.7	53.9	68.4	71.4	65.3	61.6
125 Hz	53.9	56.4	52.3	49.7	58.4	60.0	53.9	50.6	67.1	69.9	63.2	59.2
250 Hz	47.7	50.6	44.5	42.0	48.8	50.6	45.5	42.2	57.8	60.3	56.2	52.1
500 Hz	47.4	49.8	45.5	43.4	47.0	49.7	44.7	41.7	55.9	58.4	54.9	51.5
1 kHz	46.6	48.9	45.8	43.7	49.1	52.4	46.9	44.1	58.2	60.5	57.7	55.0
2 kHz	39.6	43.4	37.2	33.7	42.6	46.3	38.3	34.3	51.9	54.5	51.2	47.7
4 kHz	24.4	27.6	22.4	18.7	35.1	38.5	31.6	23.5	42.2	45.1	41.1	34.8
8 kHz	18.0	16.8	15.0	14.9	27.9	32.1	23.6	15.6	33.4	34.8	29.9	23.2
Frequency												
12.5 Hz	52.3	54.8	51.6	48.8	53.4	55.7	51.7	48.7	56.9	59.3	54.2	50.8
16 Hz	54.1	56.6	53.2	50.6	54.5	56.9	52.7	49.9	58.2	60.9	56.2	52.8
20 Hz	55.2	58.0	53.6	50.8	54.1	57.2	52.5	49.7	58.3	61.2	57.1	53.4
25 Hz	54.8	57.2	54.1	51.0	54.3	56.7	53.3	50.7	59.6	62.6	58.6	55.8
31.5 Hz	56.8	57.9	54.8	51.8	53.2	55.2	52.3	49.7	59.8	62.4	58.8	56.2
40 Hz	55.5	57.9	54.0	51.4	53.2	55.5	51.8	48.9	60.8	63.8	59.7	56.6
50 Hz	55.4	57.4	53.7	50.9	53.5	55.8	52.3	49.7	62.2	64.8	59.8	56.5
63 Hz	55.7	58.2	53.3	50.7	54.5	55.9	51.3	48.6	63.2	66.3	60.3	56.5
80 Hz	56.1	58.6	53.4	50.8	53.9	56.4	52.2	49.0	64.9	68.1	61.4	57.3
100 Hz	51.6	53.9	50.5	47.9	53.5	55.7	51.8	48.7	64.9	67.7	60.4	56.4
125 Hz	47.6	50.4	45.9	43.5	56.1	57.3	48.1	44.6	60.9	63.7	57.9	53.8
160 Hz	46.1	48.9	42.5	39.9	47.9	50.1	44.7	40.5	58.8	61.7	55.5	51.9
200 Hz	44.1	46.6	40.0	37.5	45.7	47.3	42.3	39.0	55.1	57.4	53.1	49.4
250 Hz	42.6	46.2	39.3	37.0	43.9	45.2	40.1	36.7	52.5	55.3	51.1	46.8
315 Hz	41.8	44.4	39.9	37.3	41.6	44.5	39.1	35.8	50.2	52.9	49.1	44.5
400 Hz	41.8	44.3	39.8	37.8	40.8	43.6	38.4	35.3	49.6	52.2	48.7	44.3
500 Hz	43.1	45.5	41.0	38.8	42.0	44.8	39.8	36.6	51.1	53.6	50.0	46.4
630 Hz	42.9	45.2	41.2	39.3	43.4	46.1	41.1	38.3	52.2	54.8	51.4	48.4
800 Hz	43.0	45.3	42.0	40.2	44.8	47.7	42.7	39.9	53.7	56.1	53.2	50.3
1 kHz	42.3	44.6	41.6	39.4	45.0	48.4	42.9	40.2	54.0	56.3	53.6	50.9
1.25 kHz	39.4	41.9	38.7	36.4	43.0	46.6	40.3	37.4	52.3	54.6	51.9	49.3
1.6 kHz	35.1	37.8	34.3	32.0	39.8	43.7	36.2	32.9	49.6	52.1	49.0	45.8
2 kHz	29.8	32.1	29.4	27.1	36.3	40.3	31.2	27.1	46.3	49.0	45.6	41.7
2.5 kHz	36.9	41.6	32.3	23.8	36.5	39.3	31.2	23.6	43.5	46.1	42.3	37.4
3.15 kHz	22.9	26.2	21.3	17.1	31.9	35.4	28.8	21.5	40.0	42.8	39.0	33.0
4 kHz	17.6	20.8	13.9	11.2	30.9	33.9	26.4	17.6	36.5	39.4	35.4	28.7
5 kHz	14.1	15.6	11.2	10.1	26.9	30.5	23.8	14.1	33.4	36.4	32.0	24.7
6.3 kHz	15.9	13.4	10.6	10.1	26.9	31.3	22.6	12.1	29.9	32.8	28.1	21.1
8 kHz	11.0	11.4	10.1	10.1	19.6	22.7	14.9	10.1	28.0	29.1	24.0	17.4
10 kHz	10.5	11.0	10.1	10.1	16.0	18.4	11.9	10.1	27.6	25.0	19.6	13.9
12.5 kHz	11.2	11.8	11.0	10.8	16.6	16.3	11.8	10.6	17.8	20.0	15.4	12.3
dBA	50	51.9	49	47.2	52.1	55.2	49.9	47.1	61	63.4	60.5	57.7