

VIA E-FILE

February 8, 2019

Ms. Barcy F. McNeal, Secretary
Ohio Power Siting Board
180 E. Broad Street, 11th Floor
Columbus, Ohio 43215

Re: **In the Matter of the Application of Hecate Energy Highland LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Solar-Powered Electric Generating Facility in Highland County, Ohio, Case No. 18-1334-EL-BGN (Before the Ohio Power Siting Board)/Preconstruction Noise Study**

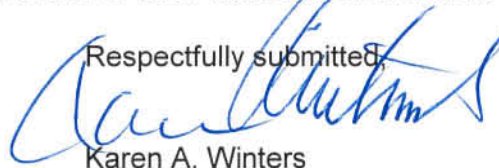
Dear Ms. McNeal:

Please find enclosed a copy of the Hecate Energy Highland LLC ("Hecate") Preconstruction Noise Study and Noise Modeling of Operations ("Preconstruction Noise Study") dated January 31, 2019 which was sent to the Ohio Power Siting Board (the "Board") Staff on February 4, 2019.

As noted to Board Staff, the Preconstruction Noise Study included collection of a single 24 hour noise meter reading at the nearest non-participating residence. The noise modeling conducted indicates that sound levels in excess of ambient noise levels resulting from anticipated operations will barely exceed the site boundaries and only in areas directly adjacent to the fence line. As a result, the Project is not anticipated to have a significant impact on surrounding community noise levels or sensitive receptors.

Please let us know if you have any questions or need additional information.

Respectfully submitted,



Karen A. Winters
Squire Patton Boggs (US) LLP

Enclosure

cc: Patti Shorr
Danelle M. Gagliardi

47 Offices in 20 Countries

Squire Patton Boggs (US) LLP is part of the international legal practice Squire Patton Boggs, which operates worldwide through a number of separate legal entities.

Please visit squirepattonboggs.com for more information.



January 31, 2019

Hecate Energy Highland LLC
621 Randolph Street
Chicago, Illinois 60661

Attn: Ms. Patti Shorr
Vice President
P: (614) 205-3798
E: PShorr@HecateEnergy.com

Re: Preconstruction Noise Study and Noise Modeling of Operations
Highland Solar Project
OH-138
Buford, OH 45171
Terracon Project No. N1197010

Dear Ms. Shorr:

Terracon Consultants, Inc. (Terracon) is pleased to summarize the results of the preconstruction noise survey and noise modeling of operations in accordance with the Ohio Power Siting Board's data request. The survey was conducted in accordance with proposal number PN1197010.

Pre-Construction Noise Survey Data Collection:

A noise survey was conducted along the property boundary of the nearest non-participating property (residence) located at 2720 Gath Road, Hillsboro, Ohio. Mr. Brad Knipper, Certified Industrial Hygienist with Terracon, conducted the survey on January 17 and 18, 2019. A Quest Technologies Sound Pro DL Sound Level Meter (SLM) was used to collect a 24-hr noise sample. The SLM sensors were configured per the manufacturer's recommendations with an exchange rate of 3 decibels (dB), slow response, no lower threshold, and A and C weighting. The SLM is calibrated annually by a third party using equipment traceable to the National Institute of Standards and Technology (NIST).

The sound level meter was placed in a waterproof enclosure and chained to a telephone pole approximately 10 feet from the side of the road. **Based on the survey results, the average sound level measured during the study at the nearest residence was 54.4 dBA.** Road traffic was found to be the most significant source of noise at this location. Sound levels further into the site and away from the road would likely be lower. The survey data and calibration certificates for the SLM and calibrator are attached.

Terracon Consultants, Inc. 611 Lunken Park Drive Cincinnati, Ohio 45226
P [513] 321-5816 terracon.com

Environmental



Facilities



Geotechnical



Materials

Table 1 lists some common sound levels of items in and around the community. One important characteristic of sound is that the intensity of sound decreases as distance from the source increases. For example, a gas-powered lawnmower produces a sound level of about 90 dB at a distance of three feet. Based on the relationship between sound and distance, the lawnmower will have a sound level of about 78 dB 12 ft away, and about 66 dB 50 ft away. Equipment that will generate noise on the solar farm can be expected to behave accordingly.

Table 1: Common sound levels¹

Everyday Sounds and Noises	Average Sound Level (measured in decibels)
Softest sound that can be heard	0
Normal breathing	10
Ticking watch	20
Soft whisper	30
Refrigerator hum	40
Normal conversation, air conditioner	60
Washing machine, dishwasher	70
City traffic (inside the car)	80–85
Gas-powered lawnmowers and leaf blowers	90
Motorcycle	95

Noise Modeling:

Terracon performed noise modelling of proposed solar farm operations using the Sound Mapping Tools, an ArcGIS toolbox for modeling the propagation of sounds (Version 4.4, June 22, 2017). The model uses the following inputs/criteria based on conditions and land cover typical of the existing conditions, and data inputs for noise generating equipment and locations proposed for the site. Noise generating equipment includes inverters, transformers, and larger-scale substation transformers. The ambient noise data utilized in the model were based on land cover and typical noise values associated with those types of land cover.

- Digital Elevation Model: 10 meter (m) resolution (derived from LIDAR)
- National Landcover Dataset: 10m (resampled from 30m)
- Weather conditions
 - Temperature: 11°Celsius (approximate yearly average)
 - Humidity: 70% (approximate yearly average)
 - Wind: 0 miles per hour (mph)
 - Seasonal Conditions: Clear, sunny day

¹ Source: National Center for Environmental health

https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html

- Inverters (2,400) – 120 Locations based on shapefile data. Amplified by 20 in the model.

Frequency (Hz)	dB	Distance (Meters)
125	65	1

- Transformers (120) – Locations set at each group of inverters

Frequency (Hz)	dB	Distance (Meters)
125	63	1

- Substations Transformers (2) – Locations set as the center of the provided substation polygon

Frequency (Hz)	dB	Distance (Meters)
125	77.8	3.05
250	74.6	3.05
500	78	3.05
1000	77.1	3.05
2000	69.3	3.05

The visual results of the model are depicted on Exhibit 1. The results show that highest sound levels are at the locations of the substation transformers (60-93 dB range) and the next tier of sound levels is adjacent to those areas (46-60 dB range). Both of these areas fall within the boundaries of the solar farm. The next tier (31-45 dB range) does extend slightly outward from the site boundary in the areas adjacent to the substation transformers. Those ranges are less than the average sound level measured during the study at the property line of the nearest residence, which was 54.4 dBA. Additional noise generator sources (inverters and transformers within the solar farm) were found to not result in noise levels of significance beyond the site boundary.

Exhibit 2 was developed using the model to depict sound levels identified in excess of ambient noise levels. This exhibit shows that sound levels in excess of ambient noise levels resulting from operations barely exceed the site boundaries and only in the areas directly adjacent to the substation fence line. **Based on the results of the model, the solar project is not anticipated to have a significant impact on surrounding community noise levels or sensitive receptors.**

Terracon appreciates the opportunity to provide services to you. If we can provide any additional environmental, occupational health, or safety-related services, please contact us at (513) 321-5816.

Sincerely,

Terracon Consultants, Inc.



Brad Knipper, MS, CIH
Project Industrial Hygienist



Rush Bowers, MSPH, CIH, CSP
Senior Industrial Hygienist
Authorized Project Reviewer

Attachments: Survey Data
Calibration Certificates
Exhibit 1: Sound Model
Exhibit 2: Sound Model – Excess of Ambient

ATTACHMENTS

Session Report

1/18/2019

Information Panel

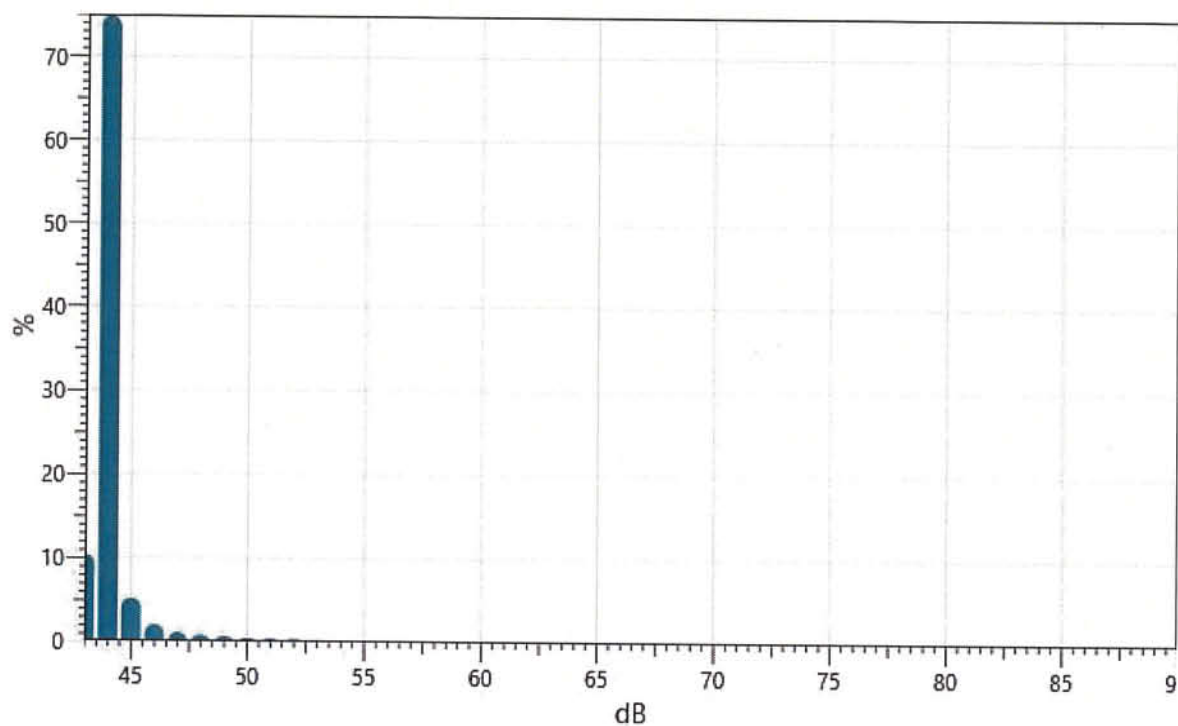
Name S045_BJJ080025_18012019_150727
Start Time 1/17/2019 1:20:09 PM
Stop Time 1/18/2019 1:20:09 PM
Device Name BJJ080025
Model Type SoundPro DL
Device Firmware Rev R.13H
Comments

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	54.4 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	3 dB	Weighting	2	C
Response	2	SLOW			

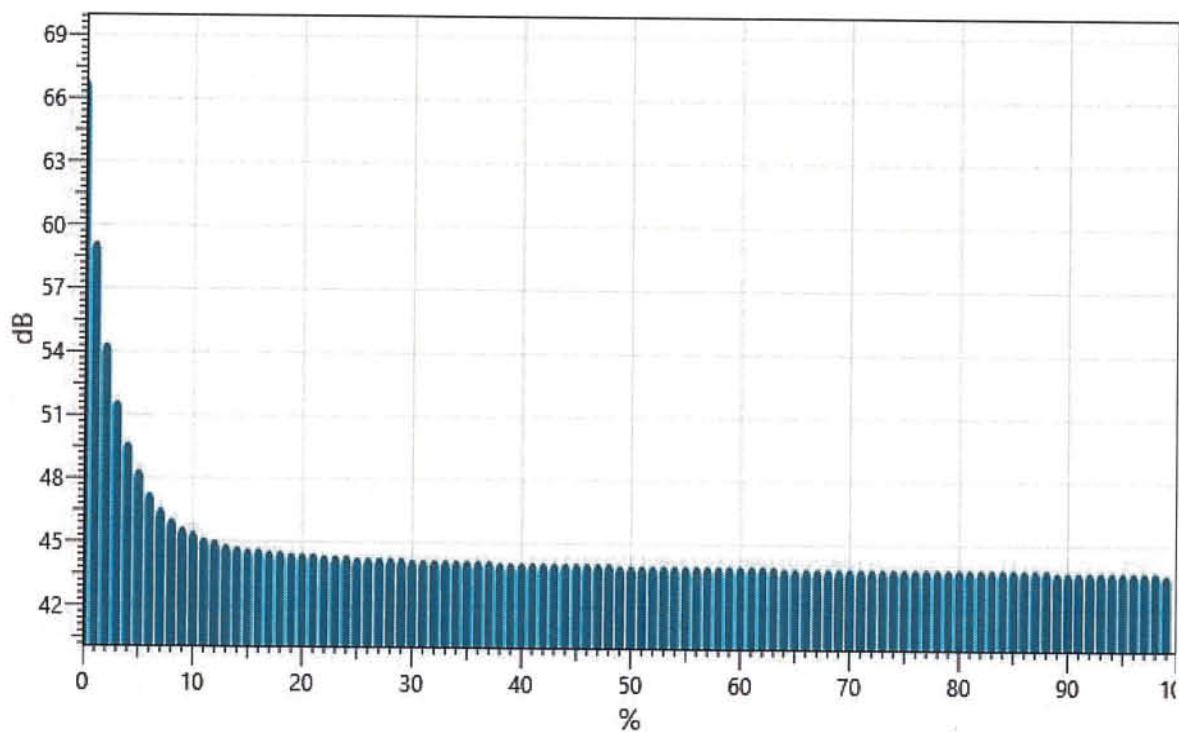
Statistics Chart

S045_BJJ080025_18012019_150727: Statistics Chart



Exceedance Chart

S045_BJJ080025_18012019_150727: Exceedance Chart



Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
43:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	10.30	10.33
44:	25.05	14.90	11.29	7.55	5.22	3.49	2.66	1.95	1.55	1.19	74.86
45:	0.92	0.72	0.62	0.57	0.50	0.47	0.41	0.35	0.30	0.30	5.16
46:	0.27	0.23	0.22	0.21	0.21	0.21	0.18	0.18	0.16	0.17	2.03
47:	0.15	0.11	0.14	0.12	0.11	0.11	0.11	0.10	0.09	0.09	1.14
48:	0.09	0.10	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.85
49:	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.71
50:	0.06	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.52
51:	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.47
52:	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.44
53:	0.05	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.32
54:	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.26
55:	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.26
56:	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.22
57:	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.18
58:	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.18
59:	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.16
60:	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.15
61:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.15
62:	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.14
63:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12
64:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12
65:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
66:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
67:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
68:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
69:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
70:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
71:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
72:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
73:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
74:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
75:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
76:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.05
77:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04

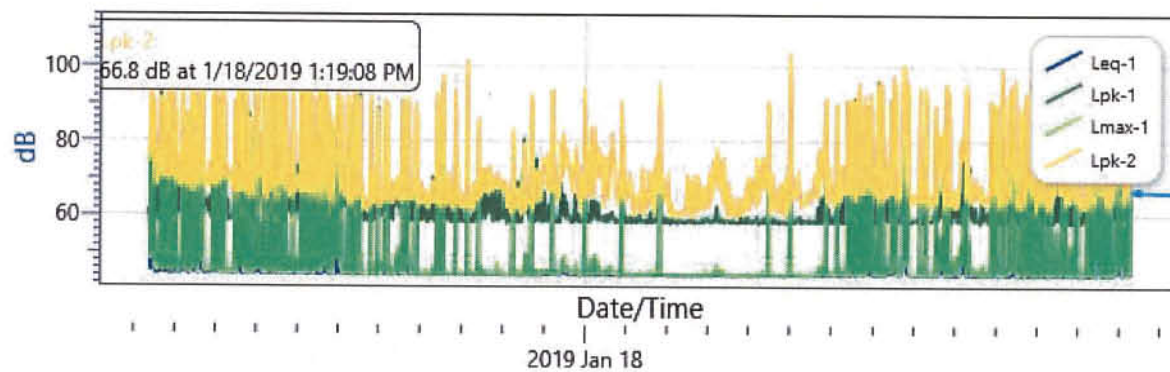
78:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
79:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
80:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
81:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		66.9	59.2	54.4	51.7	49.7	48.4	47.3	46.6	46.1
10%:	45.7	45.5	45.2	45.1	44.9	44.8	44.7	44.7	44.6	44.6
20%:	44.5	44.5	44.5	44.4	44.4	44.4	44.3	44.3	44.3	44.3
30%:	44.3	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.1
40%:	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
50%:	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0	44.0
60%:	44.0	44.0	44.0	44.0	44.0	43.9	43.9	43.9	43.9	43.9
70%:	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9
80%:	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9
90%:	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8	43.8
100%:	43.7									

Logged Data Chart

S045_BJJ080025_18012019_150727: Logged Data Chart





Calibration Certificate No. 1116110

Instrument: Sound Level Meter
Model: SoundPro SE_DL1
Manufacturer: Quest
Serial number: BJJ080025
Tested with: Microphone 4936 s/n 2712804
Preamplifier n/a s/n 0810 4852
Type (class): 1
Customer:
Tel/Fax: /

Date Calibrated: 10/22/2018 **Cal Due:** 10/22/2019

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		
Contains non-accredited tests:	Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	
Calibration service:	Basic <input checked="" type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Address:		

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/22/2012
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

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

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 11, 2018	Norsonic SA	May 11, 2019
DS-360-SRS	Function Generator	123268	May 10, 2018	SRS	May 10, 2019
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 15, 2018	Agilent Provider #93107	May 15, 2019
SD700-Extech	Meteo Station	Q769118	May 11, 2018	INNOCAL	May 11, 2019
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	34103	May 21, 2018	Scantek, Inc./ NVLAP	May 21, 2019

May 21, 2019

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.0	100.00	32.0

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	10-22-18	Date	10-22-18

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

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Page 1 of 2

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT ^{2,3}	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
FREQUENCY WEIGHTINGS: A NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.20.2
FREQUENCY WEIGHTINGS: C NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: Z NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY AND TIME WEIGHTINGS AT 1 KHZ IEC 61672-3 ED.1 CLAUSE 13	Passed	0.2
LEVEL LINEARITY ON THE REFERENCE LEVEL RANGE - IEC 61672-3 ED.1 CLAUSE 14	Passed	0.3
LEVEL LINEARITY INCLUDING THE LEVEL RANGE CONTROL - IEC 61672-3 ED.1 CLAUSE 15	Passed	0.3
TONEBURST RESPONSE - IEC 61672-3 ED.1 CLAUSE 16	Passed	0.3
PEAK C SOUND LEVEL - IEC 61672-3 ED.1 CLAUSE 17	Passed	0.35

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

² Parameters are certified at actual environmental conditions.

³

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.
Compliance with any standard cannot be claimed based solely on the periodic tests.

Tests made with the following attachments to the instrument:

Microphone: Brüel & Kjær 4936 s/n 2712804 for acoustical test
Preamplifier: Quest n/a s/n 0810 4852 for all tests
Other: line adaptor ADP005 (18pF) for electrical tests and 1448 (18pF) for noise test
Accompanying acoustical calibrator: Quest QC-10 s/n QII050103
Windscreen: none

Measured Data: in Test Report # _____ of ... pages.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

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Page 2 of 2

SoundPro SE_DLI s/n: BJJ080025 ID:
Date: 10/22/2018 By: SB
Due: 10/22/2019



Calibration Certificate

0004836

Instrument: **Acoustical Calibrator**
Model: **QC-10**
Manufacturer: **Quest**
Serial number: **QII050103**
Class (IEC 60942): **1**
Barometer type:
Barometer s/n:

Date Calibrated: **10/22/2018** Cal Due: **10/22/2019**
Status:

Received	Sent
X	X

In tolerance:

X	X
----------	----------

Out of tolerance:
See comments:
Contains non-accredited tests: Yes X No

Customer:
Tel/Fax: **/**

Address:

Tested in accordance with the following procedures and standards:

Calibration of Noise Dosimeters, Sound Meters, and Calibrators, Rev. Chf 04

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

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 11, 2018	Norsonic SA	May 11, 2019
DS-360-SRS	Function Generator	123268	May 10, 2018	SRS	May 10, 2019
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 15, 2018	Agilent Provider #93107	May 15, 2019
SD700-Extech	Meteo Station	Q769118	May 11, 2018	INNOCAL	May 11, 2019
140-Norsonic	Real Time Analyzer	1405966	May 11, 2018	Norsonic SA	May 11, 2019
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
40AG-GRAS	Microphone	173539	May 21, 2018	Scantek, Inc. / NVLAP	May 21, 2019
NN1203-Norsonic	Preamplifier	138531	May 21, 2018	Norsonic SA	May 21, 2019

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	10-22-18	Date	10-22-18

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Document stored as: C:\Nor1504\Cal\2014\Questc10-old_QII050103_M4.doc

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM STANDARDS REFERENCED IN PROCEDURES:	MET ²	NOT MET	COMMENTS
Manufacturer specifications			
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		Unit older than the standard
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		Unit older than the standard
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	Unit older than the standard
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		Unit older than the standard
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		Unit older than the standard
Older standards (obsolete)			
IEC 60942: 1997 B.2 - Preliminary inspection	X		
IEC 60942: 1997 B.3.3 - Sound pressure level	X		
IEC 60942: 1997 B.3.4 - Sound pressure level stability	X		
IEC 60942: 1997 B.3.5 - Frequency	X		
IEC 60942: 1997 B.3.6 - Total harmonic distortion	X		
ANSI S1.40: 1984 (R1997) 4.4.2 Sound pressure level in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.4 Frequency sound in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.10 Total harmonic distortion	X		Not applicable

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

²

Main measured parameters³:

Measured ⁴ /Acceptable ⁵ Tone frequency (Hz):	Measured ⁴ /Acceptable ⁵ Total Harmonic Distortion (%):	Measured ⁴ /Acceptable Level ⁵ (dB):
1000.24 ± 1.0/1000.0 ± 10.0	0.44 ± 0.10/ < 3	114.02 ± 0.02/114.0 ± 0.4

³ The stated level is valid at reference conditions.

⁴ The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=4.53

⁵ Acceptable parameters values are from the current standards

Barometer indication	Nominal indication

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.0 ± 1.0	100.00 ± 0.001	32.0 ± 2.0

Tests made with following attachments to instrument:

Calibrator ½" Adaptor Type:
Other:

Adjustments: Unit was not adjusted.

Comments: C:\Nor1504\Cal\2014\Questc10-old_QII050103_M4.doc

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.

Compliance with any standard cannot be claimed based solely on the periodic tests.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

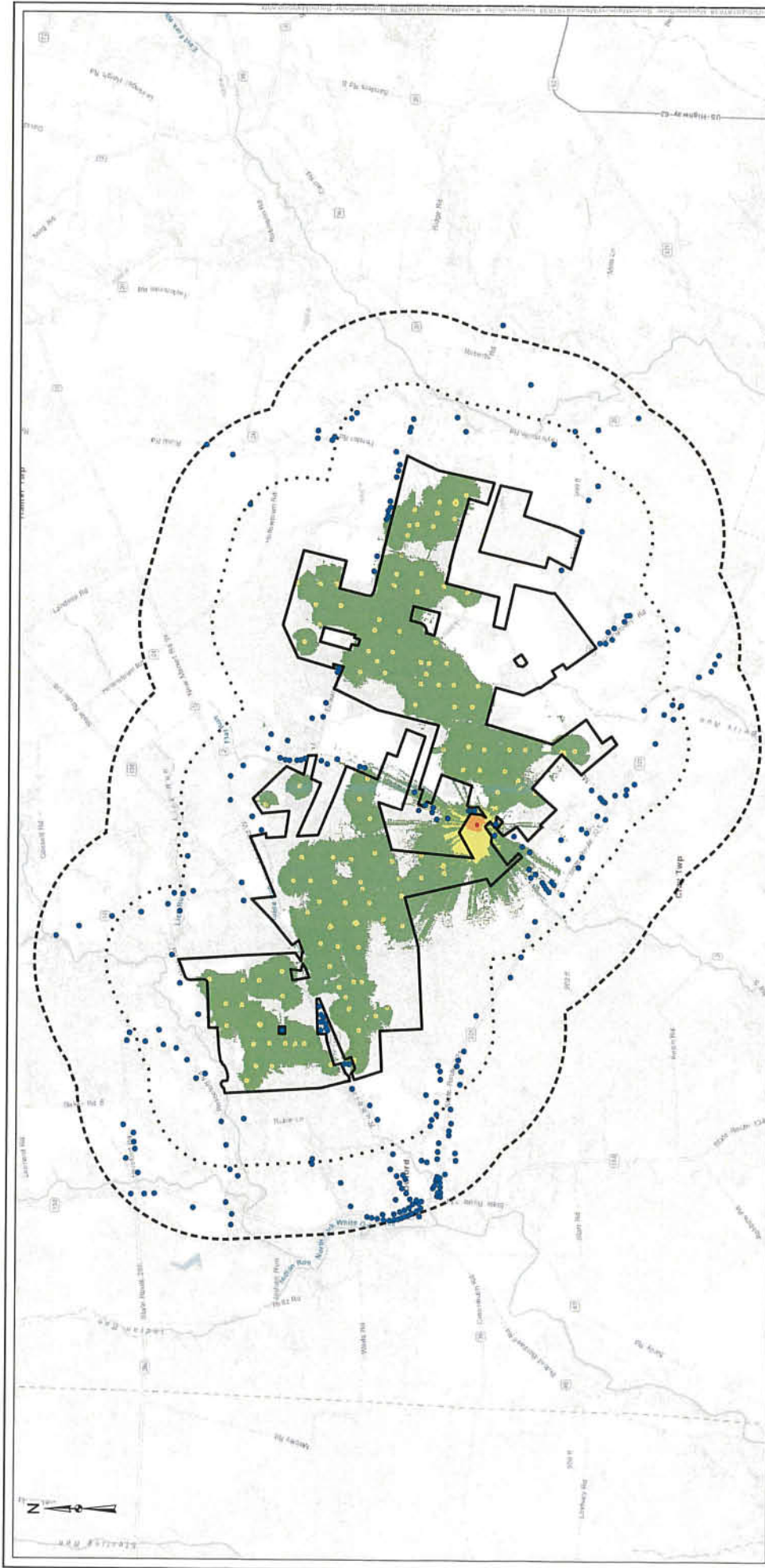
Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

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Page 2 of 2



DATA SOURCES: ESRI WMS - World Topographic Map, OpenStreetMap

Sound Model

Decibels

- ≤ 15
- 16 - 30
- 31 - 45
- 46 - 60
- 60 - 93

Legend

- Offsite Residence
- Site
- Half Mile Site Buffer
- 1-Mile Site Buffer



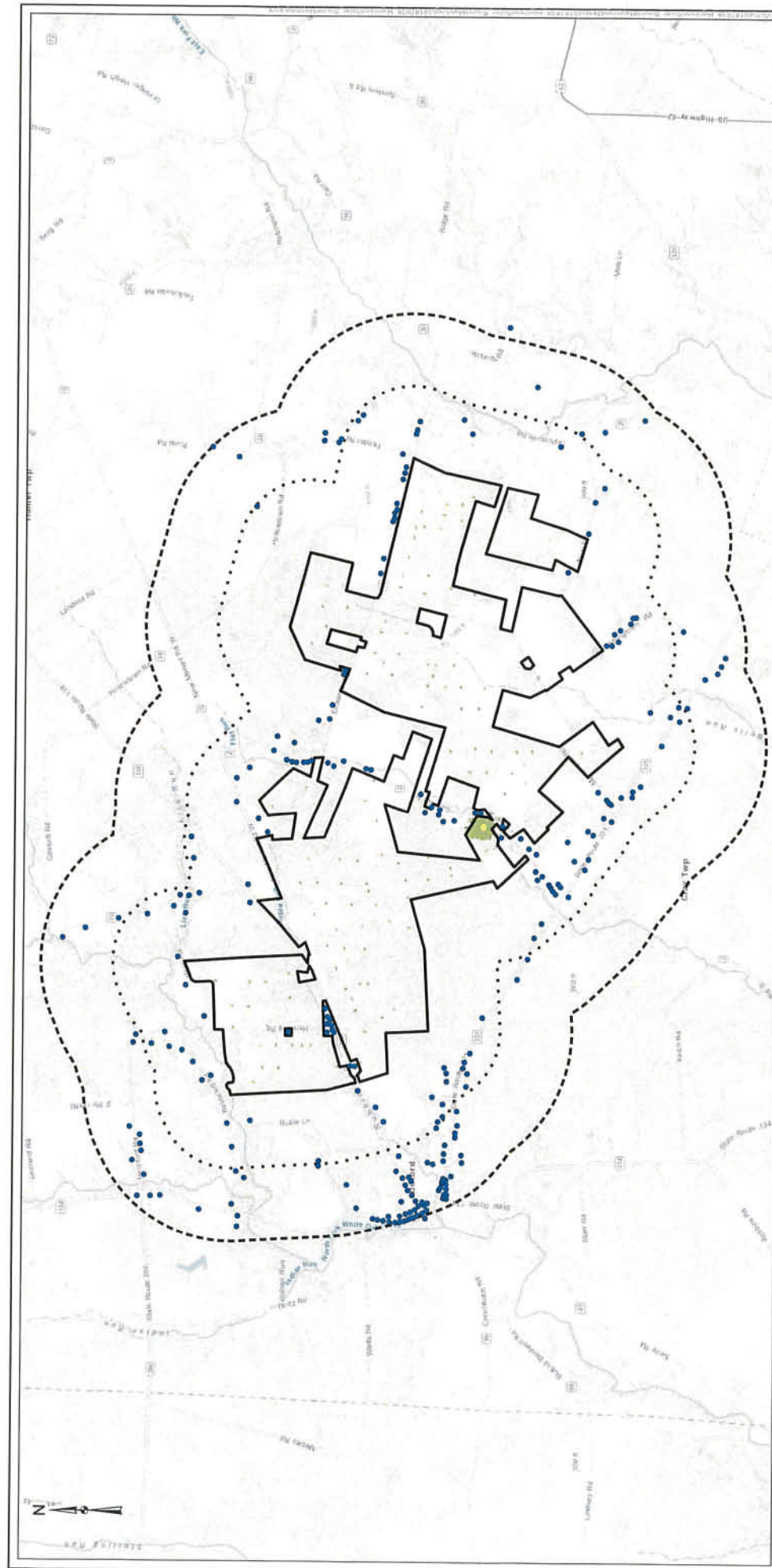
Project No.:	49187638
Date:	Jan 2019
Drawn By:	PNM
Reviewed By:	JRG

Terracon

811 Lunken Park Dr.
Cincinnati, OH 45228
PH: (513) 321 5816
terracon.com

Sound Model	Highland Solar Clay Township, OH 45171
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Exhibit	1
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Sound Model

Decibels

- ≤15
- 16 - 30
- 31 - 45
- 46 - 65

• Offsite Residence

— Site

--- Half Mile Site Buffer

... 1-Mile Site Buffer



DATA SOURCES:
ESRI VMS - World Topographic Map, OpenStreetMap

Project No.: 49187638
Date: Jan 2019
Drawn By: PNM
Reviewed By: JRG

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Sound Model - Excess of Ambient

Highland Solar
Clay Township, OH 45171

Exhibit

2

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2/8/2019 1:49:01 PM

in

Case No(s). 18-1334-EL-BGN

Summary: Correspondence re: Preconstruction Noise Study electronically filed by Ms. Karen A. Winters on behalf of Hecate Energy Highland LLC