

From: [Puco ContactOPSB](#)
To: [Mark McGrail](#)
Subject: RE: Noise LEC Plant
Date: Tuesday, July 11, 2023 10:49:00 AM
Attachments: [LEC Noise Survey 2018.pdf](#)
[LEC Declaration 07-06-2023 - #22797338 v1.pdf](#)

Hello Mr. McGrail,

Thank you for reaching out to OPSB Staff with your concerns about the level of noise coming from Lordstown Energy Center (LEC). As you are aware, Staff recently conducted an unannounced noise investigation, which found no indication that LEC was operating out of compliance with its anticipated noise output as described in its OPSB certificate. Further, Staff reviewed a sound study conducted in 2018 by a third-party vendor contracted by LEC (see attached). Staff found the study's weather conditions and other variables adequately represent the conditions present during Staff's investigation. Furthermore, Staff confirmed through the attached declaration that no changes have been made to any noise emitting equipment at LEC since the time of the noise study. Accordingly, Staff finds that the study's results to corroborate Staff's investigation findings.

Staff does not deem an additional sound study necessary at this time. Staff maintains that LEC is operating within the expected sound parameters in accordance with its certificate. However, in the interest of thoroughly addressing your ongoing concerns, Staff will conduct an unannounced sound test within the next 90 days. Of course, we will share the results of that testing with you.

Again, thank you for contacting the OPSB Staff with your concerns.

Respectfully,

Matt Butler (he/him)
Public Information Officer
Ohio Power Siting Board
614-644-7670

From: Mark McGrail <markr.mcgrail@gmail.com>
Sent: Tuesday, July 11, 2023 6:18 AM
To: Puco ContactOPSB <contactopsb@puco.ohio.gov>
Subject: Noise LEC Plant

Good Morning,

As you know, I filed a noise complaint with LEC yesterday, 7/10/2023.
There has been no response, nor has the noise been mitigated.

This morning, about 6:00 am, the noise level ranged from 52.7 db to 58.1 db, averaging 54.1 db.

I know the plant can operate below this noise level within the range cited in the sound study. It appears that the operators of the plant don't care, perhaps because they don't fear any repercussions.

Mark R. McGrail

markr.mcgrail@gmail.com

330-883-8891

CAUTION: This is an external email and may not be safe. If the email looks suspicious, please do not click links or open attachments and forward the email to csc@ohio.gov or click the Phish Alert Button if available.

SIEMENS

Siemens Energy, Inc.



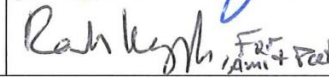
ENVIRONMENTAL ENGINEERING REPORT

Title	ACOUSTICAL TEST REPORT
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US1289	BDD120	000-0392	10	UNID 499353052
Proj. Code/Proj.-Kennz.	Doc./UA	Contents Code/Inhaltskennzeichen	Count no./Zähl-nr.	

		Confidential	Vertraulich
Original / Ursprung	Module Coordinator / Modulverantwortlicher	Handling	Handhabung

See Section 2.0 APPLICABLE DOCUMENTS	5
Related Documents/Zugehörige Dokumente	Review Level

	Department	Dept. Code	Name	Signature	Date
Prepared by	Environmental Engineering	E F ES EN PTEC-ORL	Jordan M. Haywood Fellow Engineer		SEP 20 2018
Reviewed by	Environmental Engineering	E F ES EN PTEC-ORL	Dennis DeLaby Principal Engineer		SEP 20 2018
Approved by	Environmental Engineering	E F ES EN PTEC-ORL	Amit Patel Manager		20 Sept 2018

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Title: ACOUSTICAL TEST REPORT (UNID 499353052)	US1289-BDD120-000-0392-10
Project: US1289 – CEF-LORDSTOWN	Issued: Sep. 20, 2018
Siemens Energy, Inc., Orlando, FL	Type: TEC
Part: EN	Rev. 001
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REVISION SHEET

[illegible]

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EXECUTIVE SUMMARY

Near and Far Field Sound Level testing was performed at the US1289 – CEF-Lordstown facility located in Lordstown, Ohio, per procedures and methods defined in the Siemens Acoustical Test Procedure document US1289-BDC010-000-0392-10 (UNID 499072410), Revision 002, in order to demonstrate compliance with Siemens near and far field guarantees per the Contract. The spatially averaged near field A-weighted sound pressure level is guaranteed to be less than or equal to 85 dB on the source envelope contour, as defined in the Contract. The far field sound levels are guaranteed at different levels for each of the five (5) far field positions as defined in the Contract and as summarized in the table below.

The data summary provided below details the test results from the near field sound level compliance testing during 2x1 base load combined cycle operation (both gas turbines and the steam turbine at 100% load for the ambient conditions).

**Near Field Sound Level Test Results – Aug. 28 and Aug. 31, 2018
Combined Cycle Operation**

Parameter	A-weighted Sound Level (dB re 20 µPa)
Equipment Tested	Facility Equipment Inside Near Field Source Envelope Contour Per Contract
Test Times	16:24-17:58 (Aug. 28); and 13:24-14:44 (Aug. 31)
Load, MW	~ 268 (each GT); ~ 278 (ST)
Average Sound Level, $\bar{L}_{A_{tm}}$	77.3
Measurement Uncertainty Correction	-2
Instrumentation Tolerance Correction	-1
Final Corrected and Rounded Sound Pressure Level	74
Contract Requirement	85
Guarantee Met	Yes

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The data summary provided below details the test results from the far field sound level compliance testing during 2x1 base load combined cycle operation (both gas turbines and the steam turbine at 100% load for the ambient conditions).

**Far Field Sound Level Test Results – Aug. 28, 2018
Combined Cycle Operation**

Position	Test Times	A-weighted Sound Level (dB re 20 μ Pa)	Contract Requirement	Guarantee Met
ML-1	1417-1437	43	47	Yes
ML-2	1210-1230	47	48	Yes
ML-3	1445-1505	44	51	Yes
ML-4	1239-1259	43	44	Yes
ML-5	1345-1405	38	40	Yes

Testing Representative: Near and far field sound level testing was performed by Mr. Jordan M. Haywood (Siemens Energy, Inc.). Mr. Kevin McKanna (Sargent & Lundy) witnessed a portion of the near field testing (Positions 1-105 on Aug. 28). Mr. Eduardo Mendoza (Sargent & Lundy) witnessed a portion of the near field testing (Positions 106-163 on Aug. 31). Mr. McKanna witnessed all of the far field testing on Aug. 28, 2018.

Statement of Compliance – Near Field Sound Level: The spatially averaged near field A-weighted sound level during steady-state 2x1 base load combined cycle operation for the facility equipment, when measured on the near field source envelope Contour per the Contract, were less than the Contract requirement of a spatially averaged A-weighted sound level of 85 dB and are compliant with Contract requirements.

Statement of Compliance – Far Field Sound Level: The A-weighted L_{90} far field sound levels during steady-state 2x1 base load combined cycle operation for the facility equipment, when measured at the Line of Site ML-1 through ML-5 positions and corrected for distance to the Original ML-1 through ML-5 positions per the Acoustical Test Procedure, were less than the Contract required sound levels and are compliant with Contract requirements.

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1.0 INTRODUCTION

Near and far field sound level compliance testing has been performed at the CEF-Lordstown facility (PKZ No. US1289) located in Lordstown, Ohio. Combined cycle near and far field sound level testing was performed during natural gas operation of the entire facility in 2x1 combined cycle operation, on Aug. 28 and 31, 2018 for the near field, and Aug. 28, 2018 for the far field. Testing was conducted in accordance with the Siemens Acoustical Test Procedure (ATP) document US1289-BDC010-000-0392-10 (UNID 499072410), Revision 002 [Reference 1] to demonstrate compliance with the Siemens' near and far field sound level Contract requirements.

The Siemens Energy, Inc. (Siemens) scope-of-supply for the CEF-Lordstown Project consists of (2) SSC6-8000H gas turbines with heat recovery steam generators (GT/HRSG), one (1) SST6-5000 steam turbine (ST), a 14-cell wet cooling tower, and associated pumps, auxiliaries, transformers, etc. necessary for the proper operation of the entire facility, as defined in the Scope-of-Supply/Division-of-Responsibility documents. The value of the final, rounded, spatially averaged near field A-weighted sound level for the facility as defined in the Contract guarantee data sheets, after applicable corrections for environmental influences, instrumentation tolerances and measurement uncertainty, will be presented. The values of the final far field A-weighted sound levels for the facility as defined in the Contract guarantee data sheets, after applicable corrections for distance, will be presented. In addition, this report contains a description of the test methods and procedures, test results, a figure depicting the equipment layout and near field measurement positions, a table summarizing the far field measurement positions (Original and Line of Site) including the coordinates and distance determinations, measurement calculations and corrections, plant operating parameters, atmospheric conditions and the models, serial numbers and calibration certificates of the sound level measurement equipment utilized.

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2.0 TEST METHODS AND PROCEDURES

2.1 Personnel

Mr. Jordan M. Haywood, MS, PE, QEP, with the Siemens Environmental Engineering Department, performed the near field sound level compliance measurements over a two day period due to the plant tripping at ~ 18:00 on Aug. 28; the near field sound level measurements were completed on Aug. 31, 2018. All of the far field measurements were taken on Aug. 31, 2018. Mr. Kevin McKanna (Sargent & Lundy) witnessed a portion of the near field testing (Positions 1-105 on Aug. 28). Mr. Eduardo Mendoza (Sargent & Lundy) witnessed a portion of the near field testing (Positions 106-163 on Aug. 31). Mr. McKanna witnessed all of the far field testing on Aug. 28, 2018.

2.2 Measurement Locations

2.2.1 Near Field Measurement Locations

The microphone was located at a distance of three (3) feet (1 meter) from major surfaces of the equipment, on the source envelope contour, as described in the Contract Guarantee Data Sheet and shown in Appendix B. Measurements were taken at evenly spaced intervals of approximately six (6) to ten (10) feet, and at a height of approximately five (5) feet (1.5 m) above grade. All sound level measurements were taken in accordance with the ATP [Reference 1].

2.2.2 Far Field Measurement Locations

The microphone was located at various distances from the plant Acoustical Center (AC) for each of the five (5) far field positions, all within Line of Site (LOS) of the plant (due to the measured sound levels at the Original Positions (OP) being < 3 dB above the background sound levels), and as summarized in Appendix B. Measurements were taken at a height of approximately five (5) feet (1.5 m) above grade at all locations. All sound level measurements were taken in accordance with the ATP [Reference 1].

2.3 Duration of Sound Level Measurements

2.3.1 Near Field

The sample period for each measurement was ten (10) seconds. All sound level measurements were taken in accordance with the ATP [Reference 1].

2.3.2 Far Field

The sample period for each measurement was twenty (20) minutes. All sound level measurements were taken in accordance with the ATP [Reference 1].

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2.4 Measured Sound Level

2.4.1 Near Field

The measured parameter was the time-average equivalent continuous A-weighted sound level, L_{Aeq} , which is defined as the time-average equivalent continuous A-weighted sound level, which is the true root mean square (RMS) single number representation of a sound level measured over a specified period of time. All sound measurements were made in accordance with the ATP [Reference 1].

2.4.2 Far Field

The measured parameter was the time-average continuous A-weighted statistical sound level, L_{A90} , which represents the sound level exceeded 90 percent of the time, and minimizes the effect of short term, intrusive noise sources (e.g., aircraft or occasional traffic). The nature of the noise generated by the plant (steady, even noise levels) in comparison with background sound levels was more accurately represented by using the L_{A90} descriptor. All sound measurements were made in accordance with the ATP [Reference 1].

2.5 Instrumentation

Sound level measurements were made using a Type 1 precision sound level meter. Set-up of the instrumentation at each measurement location was done in accordance with the ATP [Reference 1]. The 'Fast' sound level meter response setting was utilized.

All sound level meter instrumentation has current documents certifying conformance traceable to the National Institute of Standards and Technology (NIST). Equipment models and serial numbers of the Siemens instruments are summarized in Appendix C. Copies of the certificates of calibration are provided in Appendix C.

2.6 Ambient Conditions During Testing

Ambient conditions during all phases of near and far field testing were conducive to testing and in accordance with the ATP [Reference 1]. Details are included in Appendix A.

2.7 Plant Operating Conditions

The plant was operated at 100% baseload in 2x1 configuration during all phases of near and far field testing and in accordance with the ATP [Reference 1]. Details are included in Appendix A.

2.8 Measurements, Corrections and Calculations

Tables summarizing the average sound levels, corrections and final values are provided in Section 3.0 of this report.

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2.9 Deviations from the Acoustical Test Procedure

There were no deviations from the ATP [Reference 1].

Clarifications regarding the sound level measurements and calculations include:

- Near field testing was interrupted during the first day of testing on Tuesday August 28, 2018 at approximately 18:00 due to the units coming off line (at position 105). Near field testing was resumed on Friday August 31, 2018 (at position 106) and completed. Sargent & Lundy had Kevin McKanna witness the near field testing up to position 105, and Eduardo Mendoza witness the near field testing from positions 106 through 163, after which the measurements were completed (to a total of 223 positions) with no witness due to Mr. Mendoza having prior commitments onsite. Details are included in Appendixes A and B.
- During checks of the OP far field sound levels on August 28, 2018, background noise from aircraft and traffic was too loud to make a determination for ML-2 and ML-3, with ML-5 also having audible truck traffic as well as residents working in their yards; hence, the decision was made to return to all three locations during a time when less background noise would be expected. On August 31, 2018 (~ 7:00 a.m.), all three of these locations (ML-2, ML-3 and ML-5) yielded sound levels that were < 3 dB above background and hence (as was proven with ML-1 and ML-4 on August 28, 2018), they could not be used to determine the sound level contributions from the plant, and the LOS location measurements had to be utilized. Details are included in Appendixes A and B.
- In order to determine the distance correction for the sound levels measured at the far field LOS positions (to the far field OP), an acoustical center (AC) had to be determined. Based in part on the near field data collected on August 28, 2018, as well as a common-sense evaluation of the plant noise-source locations and layout, Mr. McKanna with Sargent & Lundy and Mr. Haywood with Siemens came to an agreement on a location for the AC. Following a detailed evaluation of the near and far field sound level measurements, Siemens has determined that the LOS position for ML-5 was essentially within the 'near field' of the Cooling Tower and hence, cannot technically be used to quantify the plant sound level contribution to the far field at the ML-5 OP (the side of the Cooling Tower facing the ML-5 direction has on average some of the loudest sound levels measured on the near field contour and in addition, the LOS ML-5 sound level measurement was approximately 10 dB louder than any of the other LOS measurements). Hence, for the ML-5 distance correction from the LOS position to the OP, the Cooling Tower was chosen as the AC, which makes technical sense and yields a (distance corrected) sound level at the ML-5 OP that is in-line with the original acoustical model results.

2.10 Data Reporting

The sound level data are provided in Section 3.0 of this report. The final results are reported in decibels rounded to the nearest ones place, in accordance with the ATP [Reference 1].

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3.0 TEST RESULTS

Sound level measurements were obtained for the purposes of determining the final, corrected, A-weighted sound level, in accordance with the ATP [Reference 1].

The data summary provided below details the test results from the near field sound level compliance testing during 2x1 base load combined cycle operation (both gas turbines and the steam turbine at 100% load for the ambient conditions).

Near Field Sound Level Test Results – Aug. 28 and Aug. 31, 2018 Combined Cycle Operation

Parameter	A-weighted Sound Level (dB re 20 μ Pa)
Equipment Tested	Facility Equipment Inside Near Field Source Envelope Contour Per Contract
Test Times	16:24-17:58 (Aug. 28); and 13:24-14:44 (Aug. 31)
Load, MW	~ 268 (each GT); ~ 278 (ST)
Average Sound Level, $\bar{L}_{A_{tn}}$	77.3
Measurement Uncertainty Correction	-2
Instrumentation Tolerance Correction	-1
Final Corrected and Rounded Sound Pressure Level	74
Contract Requirement	85
Guarantee Met	Yes

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The data summary provided below details the test results from the far field sound level compliance testing during 2x1 base load combined cycle operation (both gas turbines and the steam turbine at 100% load for the ambient conditions).

**Far Field Sound Level Test Results – Aug. 28, 2018
Combined Cycle Operation**

Position	Test Times	A-weighted Sound Level (dB re 20 μ Pa)	Contract Requirement	Guarantee Met
ML-1	1417-1437	43	47	Yes
ML-2	1210-1230	47	48	Yes
ML-3	1445-1505	44	51	Yes
ML-4	1239-1259	43	44	Yes
ML-5	1345-1405	38	40	Yes

Statement of Compliance – Near Field Sound Level: The spatially averaged near field A-weighted sound level during steady-state 2x1 base load combined cycle operation for the facility equipment, when measured on the near field source envelope Contour per the Contract, were less than the Contract requirement of a spatially averaged A-weighted sound level of 85 dB and are compliant with Contract requirements.

Statement of Compliance – Far Field Sound Level: The A-weighted L_{90} far field sound levels during steady-state 2x1 base load combined cycle operation for the facility equipment, when measured at the Line of Site ML-1 through ML-5 positions and corrected for distance to the Original ML-1 through ML-5 positions per the Acoustical Test Procedure, were less than the Contract required sound levels and are compliant with Contract requirements.

4.0 REFERENCES

- (1) Siemens Acoustical Test Procedure document 'US1289-BDC010-000-0392-10 (UNID 499072410), Revision 002', dated August 22, 2018.

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APPENDIX A
SOUND LEVEL SURVEY DATA AND CALCULATION SHEETS

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SIEMENS**Sound Level Survey - Summary Data Sheet
US1289 - CEF-Lordstown**

Unit Number(s): 10, 11, 12
 Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1

Test Equipment

Sound Level Meter:	Norsonic Nor140	Serial Number:	1403049
Preamplifier:	Norsonic	Serial Number:	12550
Microphone:	Norsonic 1225	Serial Number:	79610
Calibrator:	Norsonic 1251	Serial Number:	31729

Ambient Conditions During Testing

Time:	<u>1612</u>	Barometric Pressure:	<u>14.22 PSIa</u>
Dry Bulb Temperature:	<u>89.5°F</u>	Wind Speed:	<u>~4 mph avg. 6-7 mph max</u>
Wet Bulb Temperature:	<u>68.1°F</u>	Wind Direction (out of):	<u>N. NW</u>
Humidity:	<u>65.1%</u>	Cloud Cover:	<u>250% (no rain)</u>

Plant Operating Conditions

Power Output: Unit 11: 269 MW Unit 12: 268 MW ST-279
 Fuel Type and Flowrate: Unit 11: 111.8 KPPH ; Unit 12: 111.9 KPPH
 Water Injection Rate: n/a
 Evaporative Cooling: DN

Test Type (Near, Far or Ambient): Near
 Test Measurement Units: dB(A)
 Measurement Parameter: L_{eq}
 Sampling Period: 10-sec

Pre-Test Meter Calibration Level: 114.0 Post-Test Meter Calibration Level: 114.0
 * The measurement series must be repeated if the calibration levels differ by more than +/- 1 dB

Date: Aug 28, 2018
 Day of Week: Tuesday

Testing Performed By: Jordan M. Haywood, Siemens

Testing Witnessed By: Kevin McKenna

NOTES:

Test interrupted due to plant tripping @ 1800;
 last measured point with plant at 100% 2x1 operation
 was 10.105.

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SIEMENSSound Level Survey - Raw Data Collection Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12

Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1

Testing Performed By: Jordan M. Haywood, Siemens

Date: Aug. 28, 2018

Day of Week: Tuesday

Test Type (Near, Far or Ambient): Near

Measurement Parameter: Leq

Test Measurement Units: dB(A)

Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
1624	1	74.2		
1625	2	75.7		
1626	3	75.9		
1627	4	66.8		
1628	5	68.4		
1629	6	70.8		
1629	7	72.4		
1630	8	72.6		
1631	9	69.4		
1631	10	70.2		
1632	11	72.3		
1633	12	72.5		
1634	13	72.8		
1635	14	73.9		
1636	15	73.1		
1636	16	74.6		
1637	17	73.6		
1638	18	74.8		
1640	19	80.4		
1641	20	81.3		
1642	21	83.2		
1643	22	81.0		
1643	23	80.7		
1644	24	79.4		
1644	25	78.8		
1645	26	77.6		
1645	27	76.7		
1646	28	75.7		
1647	29	75.4		
1648	30	74.5		
1649	31	73.9		
1653	32	73.0		
1654	33	72.4		
1655	34	71.3		
1655	35	69.9		
1657	36	69.7		
1658	37	70.6		
1659	38	71.0		
1700	39	64.1		
1700	40	67.6		

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Title: ACOUSTICAL TEST REPORT (UNID 499353052)			US1289-BDD120-000-0392-10	
Project: US1289 - CEF-LORDSTOWN			Issued: Sep. 20, 2018	
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SIEMENSSound Level Survey - Raw Data Collection Sheet
US1289 - CEF-LordstownUnit Number(s): 10, 11, 12
Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1Testing Performed By: Jordan M. Haywood, SiemensDate: Aug. 28, 2018Day of Week: TuesdayTest Type (Near, Far or Ambient): Near
Test Measurement Units: dB(A)Measurement Parameter: Leq
Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
1702	41	66.4		
1702	42	65.9		
1703	43	66.6		
1704	44	65.3		
1705	45	66.1		
1706	46	64.8		
1708	47	64.7		
1709	48	65.8		
1710	49	65.7		
1711	50	66.8		
1712	51	67.3		
1713	52	67.7		
1713	53	66.3		
1714	54	67.6		
1714	55	65.6		
1715	56	64.7		
1716	57	60.2		
1717	58	59.1		
1717	59	58.2		
1718	60	58.8		
1719	61	64.2		
1719	62	63.4		
1720	63	66.8		
1720	64	66.2		
1721	65	66.4		
1721	66	66.0		
1724	67	66.6		
1725	68	67.6		
1726	69	68.0		
1727	70	67.7		
1728	71	68.3		
1729	72	68.4		
1729	73	67.1		
1730	74	69.4		
1730	75	70.3		
1731	76	71.6		
1731	77	71.9		
1732	78	71.4		
1733	79	72.2		
1734	80	71.1		

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SIEMENSSound Level Survey - Raw Data Collection Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12

Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1

Testing Performed By: Jordan M. Haywood, Siemens

Date: Aug. 28, 2018

Day of Week: Tuesday

Test Type (Near, Far or Ambient): Near

Measurement Parameter: Leq

Test Measurement Units: dB(A)

Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
1735	81	70.9		
1735	82	68.7		
1736	83	65.0		
1737	84	65.1		
1737	85	63.6		
1738	86	64.5		
1738	87	68.9		
1739	88	72.9		
1739	89	67.3		
1742	90	64.6		
1743	91	65.4		
1744	92	66.2		
1745	93	67.5		
1745	94	69.3		
1746	95	69.5		
1747	96	70.0		
1747	97	73.9		
1748	98	75.2		
1749	99	74.8		
1750	100	75.9		
1753	101	75.4		
1754	102	73.4		
1755	103	73.6		
1757	104	75.0		
1758	105	76.6		Plant Tripped @ 1800
1802	106	77.9		
1802	107	78.2		
1803	108	78.1		
1804	109	78.3		
1805	110	79.4		
1805	111	79.4		
1806	112	78.0		
1807	113	75.8		
1808	114	68.9		
1809	115	65.4		
1809	116	65.7		
1810	117	65.6		
1815	118	65.2		
1815	119	65.1		
1816	120	65.1		

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Title: ACOUSTICAL TEST REPORT (UNID 499353052)

US1289-BDD120-000-0392-10

Project: US1289 - CEF-LORDSTOWN

Issued: Sep. 20, 2018

Siemens Energy, Inc., Orlando, FL

Type: TEC

Part: EN

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SIEMENSSound Level Survey - Summary Data Sheet
US1289 - CEF-LordstownUnit Number(s): 10, 11, 12
Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1Test Equipment

Sound Level Meter:	Norsonic Nor140	Serial Number:	1403049
Preamplifier:	Norsonic	Serial Number:	12550
Microphone:	Norsonic 1225	Serial Number:	79610
Calibrator:	Norsonic 1251	Serial Number:	31729

Ambient Conditions During Testing

Time:	1300	Barometric Pressure:	14.1 psia
Dry Bulb Temperature:	78°F	Wind Speed:	5 mph
Wet Bulb Temperature:		Wind Direction (out of):	
Humidity:	58%	Cloud Cover:	~70% (no rain)

Plant Operating Conditions

Power Output: GT Unit 11: 269 MW; GT Unit 12: 267 MW; ST Unit 10: 276 MW
 Fuel Type and Flowrate: GT 11: 113 Kpph; GT 12: 112 Kpph
 Water Injection Rate: n/a
 Evaporative Cooling: OFF

Test Type (Near, Far or Ambient): Near
 Test Measurement Units: dB(A)
 Measurement Parameter: L_{eq}
 Sampling Period: 10-sec

Pre-Test Meter Calibration Level: 114.0 Post-Test Meter Calibration Level: 114.1
 * The measurement series must be repeated if the calibration levels differ by more than +/- 1 dB

Date: Aug. 31, 2018
 Day of Week: Friday

Testing Performed By: Jordan M. Haywood, Siemens

Testing Witnessed By: Ed. Mendoza 08/31/2018

NOTES:

Due to plant trip on Aug. 28 @ 1800, near-field test was interrupted. This testing is a continuation from where that left off (restart at position no. 106).

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SIEMENSSound Level Survey - Raw Data Collection Sheet
US1289 - CEF-LordstownUnit Number(s): 10, 11, 12
Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1Testing Performed By: Jordan M. Haywood, SiemensDate: Aug. 31, 2018Day of Week: FridayTest Type (Near, Far or Ambient): Near
Test Measurement Units: dB(A)Measurement Parameter: Leq
Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
	81			
	82			
	83			
	84			
	85			
	86			
	87			
	88			
	89			
	90			
	91			
	92			
	93			
	94			
	95			
	96			
	97			
	98			
	99			
	100			
	101			
	102			
	103			
	104			
	105			
1374	106	75.9	104-002	
1375	107	78.1		
1375	108	78.1		
1376	109	78.3		
1376	110	78.9		
1377	111	79.2		
1377	112	77.5		
1378	113	67.6		
1378	114	65.5		
1379	115	66.3		
1379	116	66.8		
1380	117	65.4		
1380	118	65.7		
1381	119	65.4		
1381	120	66.0		

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SIEMENSSound Level Survey - Raw Data Collection Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12

Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1

Testing Performed By: Jordan M. Haywood, Siemens

Date: Aug. 31, 2018

Day of Week: Friday

Test Type (Near, Far or Ambient): Near

Measurement Parameter: Leq

Test Measurement Units: dB(A)

Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
1333	121	65.8		
1334	122	66.0		
1334	123	69.4		
1335	124	78.9		
1335	125	79.0		
1336	126	80.4		
1338	127	81.5		
1338	128	80.3		
1339	129	81.4		
1339	130	81.8		
1340	131	81.8		
1340	132	81.1		
1341	133	80.4		
1342	134	81.3		
1342	135	81.7		
1343	136	81.7		
1343	137	81.1		
1344	138	80.6		
1344	139	81.7		
1345	140	82.0		
1345	141	81.8		
1346	142	80.9		
1346	143	81.2		
1347	144	81.9		
1347	145	82.0		
1348	146	81.1		
1348	147	80.3		
1349	148	81.3		
1350	149	81.6		
1351	150	81.5		
1351	151	80.7		
1352	152	80.6		
1352	153	81.7		
1353	154	81.8		
1353	155	81.4		
1354	156	80.3		
1354	157	79.1		
1355	158	82.8		
1355	159	80.5		
1356	160	76.9		

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SIEMENS**Sound Level Survey - Raw Data Collection Sheet**
US1289 - CEF-LordstownUnit Number(s): 10, 11, 12Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1Testing Performed By: Jordan M. Haywood, SiemensDate: Aug. 31, 2018Day of Week: FridayTest Type (Near, Far or Ambient): Near
Test Measurement Units: dB(A)Measurement Parameter: Leq
Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
1359	161	71.4		
1359	162	71.9		
1400	163	71.6		
1401	164	70.7		
1405	165	71.3		
1405	166	70.7		
1407	167	70.3		
1407	168	68.0		
1408	169	64.0		
1408	170	62.8		
1409	171	63.3		
1409	172	64.0		
1410	173	67.2		
1410	174	70.1		
1411	175	77.4		Large door tagged open & could not be shut
1411	176	79.9		
1412	177	77.6		
1412	178	70.5		
1413	179	69.2		
1415	180	68.2		
1415	181	74.4		
1416	182	78.6		
1416	183	72.0		
1417	184	72.6		
1418	185	71.1		
1419	186	71.8		
1420	187	74.1		
1421	188	76.5		
1421	189	77.4		
1423	190	70.2		
1424	191	72.1		
1424	192	73.5		
1425	193	73.1		
1425	194	71.7		
1426	195	75.4		
1426	196	77.9		
1427	197	78.0		
1427	198	77.6		
1428	199	75.1		
1429	200	80.6		

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SIEMENSSound Level Survey - Raw Data Collection Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12

Equipment Description: Entire Facility - Near Field, per ATP Sec. 5.2.2.1, Fig. 1

Testing Performed By: Jordan M. Haywood, Siemens

Date: Aug. 31, 2018

Day of Week: Friday

Test Type (Near, Far or Ambient): Near

Measurement Parameter: Leq

Test Measurement Units: dB(A)

Sampling Period: 10-sec

Time of Measurement	Test Position	Observed SPL	Record No.	Remarks
1432	201	83.6		
1432	202	83.4		
1433	203	81.5		
1433	204	82.6		
1434	205	83.4		
1434	206	84.3		
1435	207	84.7		
1435	208	83.3		
1436	209	83.3		
1436	210	86.2		
1437	211	79.7		
1437	212	80.2		
1438	213	79.0		
1438	214	78.4		
1440	215	76.5		
1441	216	78.3		
1441	217	78.6		
1442	218	78.3		
1442	219	78.9		
1443	220	78.5		
1443	221	78.0		
1444	222	79.3		
1444	223	78.4		
	224			
	225			
	226			
	227			
	228			
	229			
	230			
	231			
	232			
	233			
	234			
	235			
	236			
	237			
	238			
	239			
	240			

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**Near Field Sound Level Survey
US1289 - CEF-Lordstown**

Position	Measured L _A	"Pressure Level" ^(A)	Position	Measured L _A	"Pressure Level" ^(A)
	dB(A)	10 ^{^[dB(A)/10]}		dB(A)	10 ^{^[dB(A)/10]}
1	74.2	26,302,679.92	41	66.4	4,365,158.32
2	75.7	37,153,522.91	42	65.9	3,890,451.45
3	75.9	38,904,514.50	43	66.6	4,570,881.90
4	66.8	4,786,300.92	44	65.3	3,388,441.56
5	68.4	6,918,309.71	45	66.1	4,073,802.78
6	70.8	12,022,644.35	46	64.8	3,019,951.72
7	72.4	17,378,008.29	47	64.7	2,951,209.23
8	72.6	18,197,008.59	48	65.8	3,801,893.96
9	69.4	8,709,635.90	49	65.7	3,715,352.29
10	70.2	10,471,285.48	50	66.8	4,786,300.92
11	72.2	16,595,869.07	51	67.3	5,370,317.96
12	72.5	17,782,794.10	52	67.1	5,128,613.84
13	72.8	19,054,607.18	53	66.3	4,265,795.19
14	73.9	24,547,089.16	54	67.6	5,754,399.37
15	73.1	20,417,379.45	55	65.6	3,630,780.55
16	74.6	28,840,315.03	56	64.7	2,951,209.23
17	77.6	57,543,993.73	57	60.2	1,047,128.55
18	79.8	95,499,258.60	58	59.1	812,830.52
19	80.4	109,647,819.61	59	58.2	660,693.45
20	81.3	134,896,288.26	60	58.8	758,577.58
21	83.2	208,929,613.09	61	64.2	2,630,267.99
22	81.0	125,892,541.18	62	65.4	3,467,368.50
23	80.7	117,489,755.49	63	66.8	4,786,300.92
24	79.4	87,096,359.00	64	66.2	4,168,693.83
25	78.8	75,857,757.50	65	66.4	4,365,158.32
26	77.6	57,543,993.73	66	66.0	3,981,071.71
27	76.7	46,773,514.13	67	66.6	4,570,881.90
28	75.7	37,153,522.91	68	67.6	5,754,399.37
29	75.4	34,673,685.05	69	68.0	6,309,573.44
30	74.5	28,183,829.31	70	67.7	5,888,436.55
31	73.9	24,547,089.16	71	68.3	6,760,829.75
32	73.0	19,952,623.15	72	68.4	6,918,309.71
33	72.4	17,378,008.29	73	67.1	5,128,613.84
34	71.3	13,489,628.83	74	69.4	8,709,635.90
35	69.4	8,709,635.90	75	70.3	10,715,193.05
36	69.7	9,332,543.01	76	71.2	13,182,567.39
37	70.6	11,481,536.21	77	71.9	15,488,166.19
38	71.0	12,589,254.12	78	71.9	15,488,166.19
39	69.1	8,128,305.16	79	72.2	16,595,869.07
40	67.6	5,754,399.37	80	71.1	12,882,495.52
"Pressure Level" (Page) Total					1,883,362,708.86

(A) Equivalent to the ratio of the square of the RMS (root mean square) of the sound pressure to the squared reference pressure of 20 micropascals: $(P_{RMS}/P_{REF})^2$

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**Near Field Sound Level Survey
US1289 - CEF-Lordstown**

Position	Measured L _A	"Pressure Level" ^(A)	Position	Measured L _A	"Pressure Level" ^(A)
	dB(A)	10 ^{^[dB(A)/10]}		dB(A)	10 ^{^[dB(A)/10]}
81	70.9	12,302,687.71	121	65.8	3,801,893.96
82	68.7	7,413,102.41	122	66.0	3,981,071.71
83	65.0	3,162,277.66	123	69.4	8,709,635.90
84	65.1	3,235,936.57	124	78.9	77,624,711.66
85	63.6	2,290,867.65	125	79.0	79,432,823.47
86	64.5	2,818,382.93	126	80.4	109,647,819.61
87	68.9	7,762,471.17	127	81.5	141,253,754.46
88	72.9	19,498,446.00	128	80.5	112,201,845.43
89	67.3	5,370,317.96	129	81.4	138,038,426.46
90	64.6	2,884,031.50	130	81.8	151,356,124.84
91	65.4	3,467,368.50	131	81.8	151,356,124.84
92	66.2	4,168,693.83	132	81.1	128,824,955.17
93	67.5	5,623,413.25	133	80.4	109,647,819.61
94	69.3	8,511,380.38	134	81.3	134,896,288.26
95	69.5	8,912,509.38	135	81.7	147,910,838.82
96	70.0	10,000,000.00	136	81.7	147,910,838.82
97	73.9	24,547,089.16	137	81.1	128,824,955.17
98	75.2	33,113,112.15	138	80.6	114,815,362.15
99	74.8	30,199,517.20	139	81.7	147,910,838.82
100	75.9	38,904,514.50	140	82.0	158,489,319.25
101	75.4	34,673,685.05	141	81.8	151,356,124.84
102	73.4	21,877,616.24	142	80.9	123,026,877.08
103	73.6	22,908,676.53	143	81.2	131,825,673.86
104	75.0	31,622,776.60	144	81.9	154,881,661.89
105	76.6	45,708,818.96	145	82.0	158,489,319.25
106	75.9	38,904,514.50	146	81.1	128,824,955.17
107	78.1	64,565,422.90	147	80.3	107,151,930.52
108	78.1	64,565,422.90	148	81.3	134,896,288.26
109	78.3	67,608,297.54	149	81.6	144,543,977.07
110	78.9	77,624,711.66	150	81.5	141,253,754.46
111	79.2	83,176,377.11	151	80.7	117,489,755.49
112	77.5	56,234,132.52	152	80.6	114,815,362.15
113	67.6	5,754,399.37	153	81.7	147,910,838.82
114	65.5	3,548,133.89	154	81.8	151,356,124.84
115	66.3	4,265,795.19	155	81.4	138,038,426.46
116	66.8	4,786,300.92	156	80.3	107,151,930.52
117	65.4	3,467,368.50	157	79.1	81,283,051.62
118	65.7	3,715,352.29	158	82.8	190,546,071.80
119	65.4	3,467,368.50	159	80.5	112,201,845.43
120	66.0	3,981,071.71	160	72.9	19,498,446.00
"Pressure Level" (Page) Total					5,629,820,226.78

(A) Equivalent to the ratio of the square of the RMS (root mean square) of the sound pressure to the squared reference pressure of 20 micropascals: $(P_{RMS}/P_{REF})^2$

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Title: ACOUSTICAL TEST REPORT (UNID 499353052)			US1289-BDD120-000-0392-10	
Project: US1289 – CEF-LORDSTOWN			Issued: Sep. 20, 2018	
Siemens Energy, Inc., Orlando, FL	Type: TEC	Part: EN	Rev. 001	Page 23 of 37

**Near Field Sound Level Survey
US1289 - CEF-Lordstown**

Position	Measured L _A	"Pressure Level" ^(A)	Position	Measured L _A	"Pressure Level" ^(A)
	dB(A)	10^[dB(A)/10]		dB(A)	10^[dB(A)/10]
161	71.4	13,803,842.65	201	83.6	229,086,765.28
162	71.9	15,488,166.19	202	83.4	218,776,162.39
163	71.6	14,454,397.71	203	81.5	141,253,754.46
164	70.7	11,748,975.55	204	82.6	181,970,085.86
165	71.3	13,489,628.83	205	83.4	218,776,162.39
166	70.7	11,748,975.55	206	84.3	269,153,480.39
167	70.3	10,715,193.05	207	84.7	295,120,922.67
168	68.0	6,309,573.44	208	83.3	213,796,208.95
169	64.0	2,511,886.43	209	83.3	213,796,208.95
170	62.8	1,905,460.72	210	86.2	416,869,383.47
171	63.3	2,137,962.09	211	79.7	93,325,430.08
172	64.0	2,511,886.43	212	80.2	104,712,854.81
173	67.2	5,248,074.60	213	79.0	79,432,823.47
174	70.1	10,232,929.92	214	78.4	69,183,097.09
175	77.4	54,954,087.39	215	76.5	44,668,359.22
176	79.9	97,723,722.10	216	78.3	67,608,297.54
177	77.6	57,543,993.73	217	78.6	72,443,596.01
178	70.5	11,220,184.54	218	78.3	67,608,297.54
179	67.2	5,248,074.60	219	78.9	77,624,711.66
180	68.2	6,606,934.48	220	78.5	70,794,578.44
181	74.4	27,542,287.03	221	78.0	63,095,734.45
182	78.6	72,443,596.01	222	79.3	85,113,803.82
183	77.0	50,118,723.36	223	78.9	77,624,711.66
184	72.6	18,197,008.59			
185	71.1	12,882,495.52			
186	71.8	15,135,612.48			
187	74.1	25,703,957.83			
188	76.5	44,668,359.22			
189	77.4	54,954,087.39			
190	70.2	10,471,285.48			
191	72.1	16,218,100.97			
192	73.5	22,387,211.39			
193	73.1	20,417,379.45			
194	71.7	14,791,083.88			
195	75.4	34,673,685.05			
196	77.9	61,659,500.19			
197	78.6	72,443,596.01			
198	77.6	57,543,993.73			
199	75.1	32,359,365.69			
200	80.6	114,815,362.15			
"Pressure Level" Total					12,020,049,007.64
"Pressure Level" Average					53,901,565.06
UNCORRECTED Average L_A ^(B)					77.3

(A) Equivalent to the ratio of the square of the RMS (root mean square) of the sound pressure to the squared reference pressure of 20 micropascals: $(P_{RMS}/P_{REF})^2$

(B) Average sound level in A-weighted decibels: $10 \times \log_{10}$ ("Pressure Level" Average)

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SIEMENSSound Level Survey - Summary Data Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12
 Equipment Description: Entire Facility - Far Field, per ATP Sec. 5.2.2.2, Table 07-3, and Sec. 7.1

Test Equipment

Sound Level Meter:	Norsonic Nor140	Serial Number:	1403049
Preamplifier:	Norsonic	Serial Number:	12550
Microphone:	Norsonic 1225 *	Serial Number:	79610
Calibrator:	Norsonic 1251	Serial Number:	31729

Ambient Conditions During Testing

Time:	<u>0940</u>	Barometric Pressure:	<u>14.26 psia</u>
Dry Bulb Temperature:	<u>81°F</u>	Wind Speed:	<u>2 mph avg / 4 mph max (16)</u>
Wet Bulb Temperature:		Wind Direction (out of):	<u>all over</u>
Humidity:	<u>88.5%</u>	Cloud Cover:	<u>0%</u>

Plant Operating Conditions

Power Output: Unit 11: 277 MW / Unit 12: 271 MW / ST: 281.6 MW
 Fuel Type and Flowrate: Unit 11: 114.5 KOPH / Unit 12: 111.6 KOPH
 Water Injection Rate: n/a
 Evaporative Cooling: ON (both)

Test Type (Near, Far or Ambient): Far
 Test Measurement Units: dB(A)
 Measurement Parameter: L_{eq}
 Sampling Period: 20-min

Pre-Test Meter Calibration Level: 114.1 Post-Test Meter Calibration Level: 114.0
 * The measurement series must be repeated if the calibration levels differ by more than +/- 1 dB

Date: Aug. 28, 2018
 Day of Week: Tuesday

Testing Performed By: Jordan M. Haywood, Siemens

Testing Witnessed By: Kevin McKenna

NOTES:

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SIEMENS

Sound Level Survey - Raw Data Collection Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12
 Equipment Description: Entire Facility - Far Field, per ATP Sec. 5.2.2.2, Table 07-3, and Sec. 7.1

Testing Performed By: Jordan M. Haywood, Siemens

Date: August 28, 2018 Day of Week: Tuesday

Test Type (Near, Far or Ambient): Far Measurement Parameter: Leq
 Test Measurement Units: dB(A) Sampling Period: 20-min

Data for Original Far Field Position Locations per Contract Attachment T, Table 07-3				
Time of Measurement	Test Position	Observed SPL, dB(A)	Meter Record No.	Remarks
~1056	ML-1	51.5	N/A	5-min spot check; < 3dB above background ⇒ caution
~1109	ML-2	26.5	N/A	Extensive truck traffic - should re-check at night
~1035	ML-3	> 55	N/A	Extensive traffic & circling plane; should re-check at night
~1023	ML-4	45.8	N/A	5-min spot check; < 3dB above background ⇒ caution
~1107-1127	ML-5	55.1	-0004	Audible truck traffic on Tol Ave. (28+45)
Data for 'Line of Site' Far Field Positions ^(A)				
~1417-1437	ML-1	56.9	-0008	41° 8' 48" N, 80° 51' 13" W
~1210-1230	ML-2	56.2	-0005	41° 8' 60" N, 80° 51' 22" W
~1443-1505	ML-3	55.1	-0009	41° 8' 49" N, 80° 51' 2" W
~1239-1259	ML-4	57.0	-0006	41° 8' 58" N, 80° 50' 56" W
~1345-1405	ML-5	66.5	-0007	41° 9' 0" N, 80° 51' 0" W

(A) If Unable to Use Data from Original Position per Acoustical Test Procedure Rev. 002, Section 7.1

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SIEMENSSound Level Survey - Summary Data Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12
 Equipment Description: Entire Facility - Far Field, per ATP Sec. 5.2.2.2, Table 07-3, and Sec. 7.1

Test Equipment

Sound Level Meter:	Norsonic Nor140	Serial Number:	1403049
Preamplifier:	Norsonic	Serial Number:	12550
Microphone:	Norsonic 1225	Serial Number:	79610
Calibrator:	Norsonic 1251	Serial Number:	31729

Ambient Conditions During Testing

Time:	<u>2425 0620</u>	Barometric Pressure:	<u>14.1 psia</u>
Dry Bulb Temperature:	<u>67°F</u>	Wind Speed:	<u>~4 mph avg 6 mph max</u>
Wet Bulb Temperature:		Wind Direction (out of):	<u>N, NE, NW</u>
Humidity:	<u>86%</u>	Cloud Cover:	<u>~50% (no rain)</u>

Plant Operating Conditions

Power Output: GT Unit 11: 274 MW - GT Unit 12: 273 MW - STD: 291 MW
 Fuel Type and Flowrate: GT Unit 11: 115 KPPH ; GT Unit 12: 174 KPPH
 Water Injection Rate: n/a
 Evaporative Cooling: OFF

Test Type (Near, Far or Ambient): Far
 Test Measurement Units: dB(A)
 Measurement Parameter: L_{eq}
 Sampling Period: 20-min

Pre-Test Meter Calibration Level: 114.0 Post-Test Meter Calibration Level: 114.1
 * The measurement series must be repeated if the calibration levels differ by more than +/- 1 dB

Date: SEP 1, 2018
 Day of Week: Saturday

Testing Performed By: Jordan M. Haywood, Siemens

Testing Witnessed By: n/a

NOTES:

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SIEMENS

Sound Level Survey - Raw Data Collection Sheet
US1289 - CEF-Lordstown

Unit Number(s): 10, 11, 12
 Equipment Description: Entire Facility - Far Field, per ATP Sec. 5.2.2.2, Table 07-3, and Sec. 7.1

Testing Performed By: Jordan M. Haywood, Siemens

Date: Sep 1, 2018 Day of Week: Saturday

Test Type (Near, Far or Ambient): Far Measurement Parameter: Leq
 Test Measurement Units: dB(A) Sampling Period: 20-min

Data for Original Far Field Position Locations per Contract Attachment T, Table 07-3

Time of Measurement	Test Position	Observed SPL, dB(A)	Meter Record No.	Remarks
<u>0643</u>	ML-1			
<u>0705</u>	ML-2	<u>50.7</u>	<u>n/a</u>	<u>5-min spot check; < 3 dB above background => can't use</u>
	ML-3	<u>46.1</u>	<u>n/a</u>	<u>5-min spot check; < 3 dB above background => can't use</u>
<u>0653</u>	ML-4			
	ML-5	<u>44.6</u>	<u>n/a</u>	<u>5-min spot check; < 3 dB above background => can't use</u>

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Far Field Sound Level Survey
US1289 - CEF-Lordstown

Position	Measured L_{90} (A)	Distance (feet) from AC to: (B)		L_{A90} Correction to Original Position (C)	Siemens Guarantees
	dB(A)	Original Position	L.O.S. Position		
ML-1	53.7	3,379	1,003	43.2	47
ML-2	53.9	3,221	1,373	46.5	48
ML-3	53.3	2,270	739	43.6	51
ML-4	55.3	3,010	739	43.1	44
ML-5b	65.9	4,962	210	38.4	40

(A) Measured at a position within 'Line of Site' (L.O.S.) of facility, as the original position sound levels were all < 3 dB above background

(B) Distances for ML-1 through ML-4 based on an Acoustical Center (AC) as agreed upon with Sargent & Lundy (Kevin McKanna); and distance for ML-5 based on the AC at the Cooling Tower.

(C) L_A Correction equation for distance:

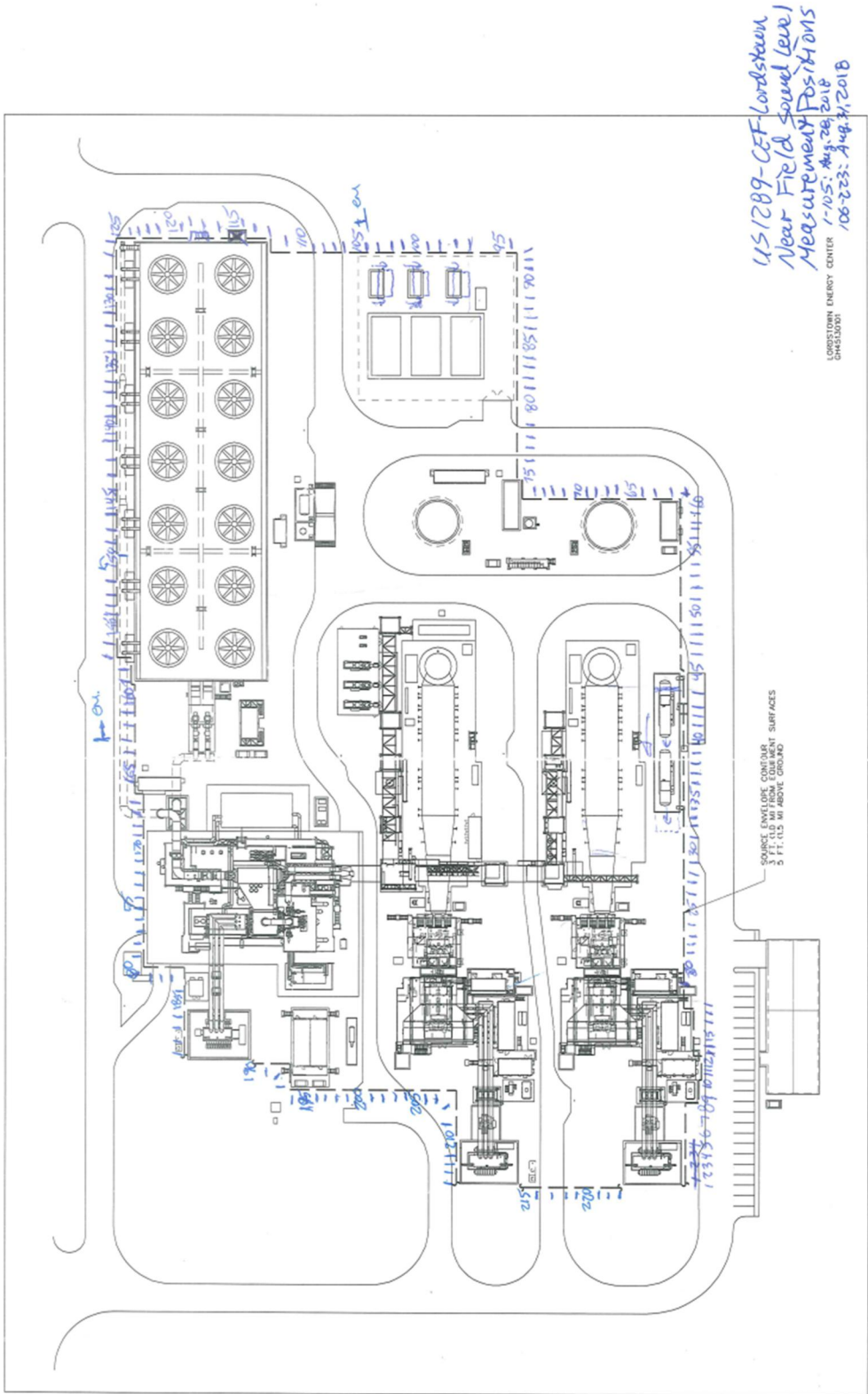
$$20 \times \log_{10} (\text{Distance from Acoustical Center to Line of Site Position} / \text{Distance from Acoustical Center to Original Measurement Position}) + \text{Measurement at Line of Site Position, dB(A)}$$

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**APPENDIX B
MEASUREMENT LOCATIONS**

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US1289 - CEF-Lordstown
Original Far Field Position Coordinate Conversions and Distances to Acoustical Center

Position	Latitude ^(A)	Longitude ^(A)	Northing (m) ^(B)	Easting (m) ^(B)	Distance ^(C)
ML-1	41.14027778	-080.85611111	4554350.81	512074.48	3.379
ML-2	41.15638889	-080.85750000	4556134.91	511950.86	3.221
ML-3	41.14277778	-080.84944444	4554616.52	512640.67	2.270
ML-4	41.14861111	-080.84055556	4555270.91	513388.66	3.010
ML-5	41.16333333	-080.84861111	4556912.73	512708.59	5.333
AC ^(D)	41.14888889	-080.85138889	4555296	512470.2	---

(A) Per Contract Attachment T, Table, 07-3, and ATP Rev. 002, Sec. 5.2.2.2

(B) Converted from Lat/Long in decimal format with the 'GPS Coordinate Converter' app (Aviation Mobile Apps, LLC, © 2016)

(C) Distance in feet from Acoustical Center as determined by the 'GPS Coordinate Converter' app (Aviation Mobile Apps, LLC, © 2016)

(D) "AC" = site 'Acoustical Center' as agreed to with Kevin McKanna, Sargent & Lundy

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US1289 - CEF-Lordstown
Line of Site Far Field Position Coordinate Conversions and Distances to Acoustical Center

Position	Latitude (A)	Longitude (A)	Northing (m) (B)	Easting (m) (B)	Distance (C)
ML-1	41.14666667	-080.85361111	4555049	512284.2	1,003
ML-2	41.14997223	-080.85611111	4555415.5	512073.8	1,373
ML-3	41.14694444	-080.85055555	4555080.3	512540.5	739
ML-4	41.14944444	-080.84888889	4555358	512679.9	739
ML-5	41.15000000	-080.85000000	4555419.5	512586.6	581
AC (D)	41.14888889	-080.85138889	4555296	512470.2	---

(A) As determined while taking far field measurements within Line of Site (LOS) of the plant on Aug. 28, 2018

(B) Converted from Lat/Long in decimal format with the 'GPS Coordinate Converter' app (Aviation Mobile Apps, LLC, © 2016)

(C) Distance in feet from Acoustical Center as determined by the 'GPS Coordinate Converter' app (Aviation Mobile Apps, LLC, © 2016)

(D) "AC" = site 'Acoustical Center' as agreed to with Kevin McKanna, Sargent & Lundy

- Distance from ML-5 (LOS) to Cooling Tower: ~ 210 feet
- Determine distance from ML-5 (OP) to Cooling Tower:
 $581 - 210 = 371 \text{ feet}$
- New distance from ML-5 (OP) to new A.C. (Cooling Tower) is:
 $5,333 - 371 = 4,962 \text{ feet}$

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APPENDIX C
TEST EQUIPMENT SUMMARY AND CALIBRATION CERTIFICATES

Make	Model	Serial Number	Equipment Description	Calibration Due
Norsonic	Nor 140	1403049	Precision Sound Analyzer	March 15, 2019
Norsonic	Type 1209	12550	Preamplifier ^(A)	March 15, 2019
Norsonic	Type 1225	79610	Microphone	March 15, 2019
Norsonic	Type 1251	31729	Sound Calibrator	March 15, 2019

(A) Calibrated as part of microphone assembly

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West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PRECISION SOUND ANALYSER

Manufactured by: **NORSONIC**
 Model No: **NOR140**
 Serial No: **1403049**
 Calibration Recall No: **28633**

Submitted By:

Customer: **CORY NICKCHEN**
 Company: **SIEMENS ENERGY, INC.**
 Address: **4400 N. ALAFAYA TRAIL**
ORLANDO FL 32826-239

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. **NOR140 NORS**

Upon receipt for Calibration, the instrument was found to be:

Within **(X)**

tolerance of the indicated specification. See attached Report of Calibration.
 The information supplied relates to the calibrated item listed above.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSS Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:



Calibration Date: **16-Mar-18**

Felix Christopher (QA Mgr.)

Certificate No: **28633 - 1**

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

ISO/IEC 17025:2005

West Caldwell Calibration Laboratories, Inc.
 uncompromised calibration
 1575 State Route 96, Victor, NY 14564, U.S.A.



Calibration Lab. Cert. # 1533.01

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Siemens Energy, Inc., Orlando, FL	Type: TEC	Part: EN	Rev. 001	Page 35 of 37

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

MICROPHONE

Manufactured by: NORSONIC
 Model No: 1225
 Serial No: 79610
 Calibration Recall No: 28633

Submitted By:

Customer: CORY NICKCHEN
 Company: SIEMENS ENERGY, INC.
 Address: 4400 N. ALAFAYA TRAIL
 ORLANDO FL 32826-239

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 1225 NORS

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
 The information supplied relates to the calibrated item listed above.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSL Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:



Calibration Date: 16-Mar-18

Felix Christopher (QA Mgr.)

Certificate No: 28633 - 2

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

ISO/IEC 17025:2005

West Caldwell Calibration Laboratories, Inc.
 uncompromised calibration
 1575 State Route 96, Victor, NY 14564, U.S.A.



Calibration Lab. Cert. # 1533.01

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Title: ACOUSTICAL TEST REPORT (UNID 499353052)			US1289-BDD120-000-0392-10	
Project: US1289 – CEF-LORDSTOWN			Issued: Sep. 20, 2018	
Siemens Energy, Inc., Orlando, FL	Type: TEC	Part: EN	Rev. 001	Page 36 of 37

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

SOUND LEVEL CALIBRATOR

Manufactured by: NORSONIC
 Model No: 1251
 Serial No: 31729
 Calibration Recall No: 28633

Submitted By:

Customer: CORY NICKCHEN
 Company: SIEMENS ENERGY, INC.
 Address: 4400 N. ALAFAYA TRAIL
 ORLANDO FL 32826-239

The subject instrument was calibrated to the indicated specification using standards traceable to the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 1251 NORS

Upon receipt for Calibration, the instrument was found to be:

Outside (X)

tolerance of the indicated specification. See attached Report of Calibration.
 The information supplied relates to the calibrated item listed above.

West Caldwell Calibration Laboratories' calibration control system meets the requirements, ISO 10012-1 MIL-STD-45662A, ANSI/NCSS Z540-1, IEC Guide 25, ISO 9001:2008 and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by: 
 Felix Christopher (QA Mgr.)

Calibration Date: 16-Mar-18

Certificate No: 28633 - 4

QA Doc. #1051 Rev. 2.0 10/1/01

Certificate Page 1 of 1

ISO/IEC 17025:2005

 **West Caldwell
Calibration
Laboratories, Inc.**
 uncompromised calibration
 1575 State Route 96, Victor, NY 14564, U.S.A.


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**BEFORE
THE OHIO POWER SITING BOARD**

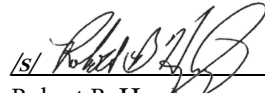
Certificate of Environmental Compatibility and Public)	Case Nos. 14-2322-EL-BGN, 16-0131-EL-BGA,
Need for the Lordstown Energy Center)	16-0494-EL-BGA, and 17-1485-EL-BGA
)	
)	
)	

DECLARATION OF BOB HUGHEY

I, Robert B. Hughey, do declare under penalty of perjury pursuant to 28 U.S.C. § 1746 as follows:

I, as the Operations Director at Lordstown Energy Center ("LEC"), am an authorized representative of LEC and affirm that no operational/equipment changes or adjustments have occurred since the most recent noise survey was conducted that would have materially amplified noise levels coming from the plant in excess of those reported in the 2018 sound level survey report.

Executed on July 6, 2023.



Robert B. Hughey

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

7/11/2023 12:04:03 PM

in

Case No(s). 14-2322-EL-BGN, 16-0131-EL-BGA, 16-0494-EL-BGA

Summary: Public Comment Response to Mr. Mark McGrail electronically filed by
Mr. Matt Butler on behalf of Staff of OPSB.