

Acoustic Audit of
Durham York Energy Centre
Operations

Environmental Compliance Approval No. 7306-8FDKNX

May 8, 2015
Project: 114-318

Prepared for

Covanta Durham York Renewable Energy L.P.

Prepared by



Kathryn Katsiroumpas, B.Sc. E_{pp} Eng.



VALCOUSTICS

Canada Ltd.

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Acoustic Audit of Durham York Energy Centre Operations

Environmental Compliance Approval No. 7306-8FDKNX

1.0 INTRODUCTION

Valcoustics Canada Ltd. (VCL) has been retained by Covanta Durham York Renewable Energy L.P. (Covanta) to conduct an Acoustic Audit of actual noise emissions due from the operations of the Durham York Energy Centre (DYEC) located in the Municipality of Clarington, Ontario. This Acoustic Audit Report (Audit) is required as per condition 7.(5)(a) and (b) of the Environmental Compliance Approval (ECA) No. 7306-8FDKNX, issued June 28, 2011 and amended on August 12, 2014 and October 24, 2015. This ECA condition states that the Owner:

- (a) shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Acoustic Audit measurements shall be carried out in accordance with the procedures in Publication NPC-103 (Reference 1) and in accordance to the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director;
- (b) shall submit an Acoustic Audit Report on the results of the Acoustic Audit, prepared by an Independent Acoustical Consultant, in accordance with the requirements of Publication NPC-233 (Reference 2) and the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director, to the District Manager and the Director, not later than three (3) months after the commencement of operation of the Facility.

Relevant sections of the ECA are included as Appendix A.

An initial Acoustic Assessment Report (AAR) was completed by Golder Associates, dated March 2011 (Reference 3) as part of the supporting documentation prepared to obtain an ECA. Golder also subsequently prepared a "Noise Monitoring and Reporting Plan (NMRP)", dated September 2011 (Reference 4). The NMRP was prepared in accordance with the requirements set forth by the EA Notice of Approval to Proceed, Section 19 for the DYEC. The NMRP established a noise monitoring protocol to demonstrate that the DYEC complies with limits set up in Ministry of the Environment and Climate Change (MOE) NPC-205 "Sound Level Limits for

Stationary Sources in Class 1 & 2 Areas (urban)", dated October 1995. This Audit also fulfils the monitoring and compliance requirements established by the NMRP.

As noted above and required by ECA section 7 (5) (b), this initial acoustic audit report must be submitted to the MOE not later than three (3) months after the Commencement Date of Operation (February 9, 2015) which is May 10, 2015. As noted by the underlying requirements cited here, noise monitoring is to occur during "Peak Facility Activity" such as when the facility is operating at 100% maximum continuous rating (MCR). To date, while the DYEC has made significant progress towards achieving commercial operation since first fire which occurred on February 13th, the DYEC continues to operate in a shakedown mode and while was not fully operational during the continuous noise data collection period of April 6th through April 16, 2015, it did operate during Peak Facility Activity.

Sound level measurements and observations were made by VCL staff at locations representing the existing noise sensitive receptors (residential dwellings) closest to the facility corresponding to those used in the AAR and also identified in the NMRP.

1.1 SUMMARY

The receptor based and up-close measurements and subjective observations indicate compliance with the sound level limits in MOE Publication NPC-205 as well as the newly released NPC-300. Therefore, the acoustic audit concludes compliance with the requirements of ECA No. 7306-8FDKNX, Provision 7.(5). In addition, the facility has implemented the noise mitigation requirements as outlined in the March 2011 AAR prepared by Golder Associates.

2.0 SITE AND SURROUNDING AREA DESCRIPTION

The Facility accepts Municipal Solid Waste (MSW) from the Regions of Durham and York. The sources of waste are post-diversion residual waste collected at curbside as well as any residual waste materials collected at public drop-off centres and transfer stations. The only institutional, commercial, and industrial (IC&I) waste managed at the Facility includes residual waste where the Regions' have waste management procedures in place.

The maximum thermal treatment rate for the facility established by the ECA is 140,000 tonnes/year of waste. The Facility operates on a continuous basis; 24 hours/day, 7 days/week, 365 days/year. Waste may be delivered 6 days per week between 0700 to 1900 hours. The proposed operating schedule may be adjusted depending on demand and facility needs within the established setup indicated in the ECA (i.e., waste can only be received from Monday to Saturday - excluding statutory holidays, and between 0700 and 1900 hours - ECA's Condition 4(1)(b)). Note that currently, the facility is only open to truck deliveries and pickup Monday to Friday between 0700 to 1900 hours.

The Facility consists of two thermal treatment trains, each equipped with independently operated boilers/furnaces and air pollution control equipment. The treated exhaust gases are vented to a common 87.6 m stack and released into the atmosphere.

Waste is only be accepted from approved haulers that have a valid waste licence except for municipal or exempt vehicles as per Section 16(2) (a) of Regulation 347 General - Waste Management, made under the Environmental Protection Act, R.S.O. 1990. All incoming waste

vehicles must proceed to a weigh scale to allow the vehicle weight, waste type and source to be recorded by the scale operator. A maximum of 7,350 cubic metres of waste storage is provided in the storage pit with waste stored above and below the tipping floor level.

Equipment interfacing with the external environment at the Facility that were considered potential noise sources within the AAR include: HVAC units, roof ventilation units, a closed-loop cooling water cooler, a transformer, silo filling using truck mounted blowers, a silo vent dust collector, the main exhaust stack, on-site truck and front end loader traffic, an air cooled condenser, process louvres, bay doors, emergency generator and diesel fire water pumps. On-site trucking (including MSW, re-agent delivery, ash/metal pickup) and periodic testing of the emergency generator and diesel fire water pumps will be limited to daytime business (0700 to 1900) hours only.

Table 1 presents general information about the Facility relevant to this Audit report.

TABLE 1 – FACILITY DESCRIPTION

Facility	Durham – York Energy Centre
Location:	72 Osbourne Road, Courtice, Ontario, L1E 2R2 Clarington Energy Business Park, Clarington, Ontario
Main Activities/ Equipment Used:	Thermal Treatment of Solid Waste
Production:	140,000 tonnes per year at MCR 218 tonne/day at 13 MJ/kg per train.

The location of the Facility is presented Figure 1. A site plan of the facility is included in Figures 2a and 2b.

Currently, the surrounding area is primarily industrial. The lands are designated as Business Park (south of Highway 401) and Light Industrial (north of Highway 401) within the Official Plan, the DYEC which is located within the Clarington Energy Business Park was created to intensify the industrial uses in the surrounding vacant lands. Only one residential dwelling will remain within the Clarington Energy Business Park moving forward, that being POR002.

The surrounding area also includes:

- the Canadian National Railways (CN) Belleville Subdivision and the Courtice Water Pollution Control Plant to the south;
- vacant and existing industrial lands, farm land and Darlington Provincial Park to the west;
- the newly constructed Energy Drive, vacant industrial lands and Highway 401 to the north;
- existing industrial lands, farm land, park lands and the Darlington Nuclear Facility to the east.

3.0 SUMMARY OF NOISE MITIGATION MEASURES

The majority of activities associated with the facility occur within the building. As per the AAR, the following noise mitigation measures have been implemented:

- The emergency generator, located outside near the north east corner of the property (see Figure 2a), has been fitted with an acoustic enclosure, complete with air intake/discharge silencers and engine exhaust muffler.
- The fire water pumps are housed in a building near the south east corner of the site and are fitted with exhaust mufflers.
- Protocol for the facility ensures that the weekly testing of the emergency generator and fire water pumps only occurs during business (0700 to 1900) hours, is not done concurrently and is of 30 minutes duration each.

4.0 SOURCE/RECEPTOR VERIFICATION

4.1 NOISE ASSESSMENT RECEPTORS

The AAR assessed the noise impact of the facility at three receptor locations. Audit measurements were also completed in the vicinity of these receptors :

- POR001: The two-storey dwelling at this location has been demolished as part of the Energy Drive construction. However, a POR to the west has been maintained to be consistent with the AAR. The POR is a two-storey farmhouse approximately 1100 m from the property line west of the facility. This POR has been designated as POR001rev.
- POR002: Two-storey dwelling approximately 690 m from the property line east of the facility.
- POR003: One-storey dwelling approximately 870 m from the property line north of the facility.

VCL did long-term (one week) sound level measurements before DYEC startup (November 13 to 24, 2014) and during DYEC operations (April 6 to 16, 2015) at all three measurement locations representative of the POR's. These are designated as M001, M002a/b and M003, see Figure 1. With the exception of M003, the sound measurement locations are significantly closer to DYEC than the corresponding POR's. The noise monitors logged acoustic data every hour for the duration of each monitoring period. As required by the NMRP, data is presented to include hourly L_{eq} and L_{90} sound levels.

To date, DYEC has not received any noise complaints from nearby residential properties since becoming operational.

4.2 NOISE SOURCES

Noise sources within the facility are consistent with those considered in the AAR and include HVAC units, roof ventilation units, closed loop cooling water cooler, the switch yard, re-agent silo filling and dust collector vents, main exhaust stack, front end loader movements, air cooled condenser, the tipping hall (through the bay doors and louvres), louvres for the boiler, air pollution control and turbine process, the grizzly building and the residue building, emergency generator and the fire water pumps.

There are a few minor differences in operations than those outlined in the AAR, however, they have minimal influence on the resulting noise impact:

- the emergency generator is 300 kW not 250 kW;
- all truck movements occur off of Courtice Road; and
- the average number of trucks delivering MSW will be 20 per day and picking up residual material (ash, metal) will be six per day. During a worst case hour, a total of seven trucks would be expected on-site. See Appendix B for truck logs from DYEC.

The facility consists of a number of discrete noise sources. However, at a distance, sound from the facility is continuous with little to no fluctuation based on activities occurring on-site (i.e., emergency generator testing). Emergency generator testing occurred on April 6, 2015 and fire water pump testing occurred on April 10, 2015.

5.0 NOISE GUIDELINES

5.1 SOUND LIMITS

The ECA references the MOE noise guidelines contained in MOE Publication NPC-205 as the supporting AAR and the underlying EA and NMRP were all conducted to demonstrate compliance with this guideline. See Appendix C. It should be noted that these provincial guidelines have subsequently been updated by Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning". Nevertheless, the acoustic audit will demonstrate compliance to NPC-205, in conformance with MOE discussions, the ECA and all supporting documentation. Note that, in this circumstance, a facility in compliance with NPC-205 will also comply with NPC-300.

Sound measurements and subjective observations indicate that the area should be considered Class 1 – i.e., an area where the background sound level is dominated by "urban hum". However, to be conservative and consistent with the AAR, the area was assessed as Class 2. Class 2 is only applicable where the background sound level is dominated by the activities of people, usually road traffic, during the daytime and the natural environment in the evening and nighttime. The sound level limits are established by the ambient due to road traffic or the minimum sound level limits as follows:

TABLE 2 – APPLICABLE SOUND LEVEL LIMITS $L_{eq 1hr}$ (dBA)

Point of Reception (POR)	Daytime (0700 to 1900 hours)	Evening (1900 to 2300 hours)	Nighttime (2300 to 0700 hours)
POR001	50	45	45
POR002	50	45	45
POR003	50	45	45

Based on the pre-operational sound measurements and to remain consistent with the AAR, the above minimum sound level limits are applicable.

6.0 SOUND LEVEL MEASUREMENTS

Pre and post-operational sound level measurements were completed on-site and off-site of the facility. The pre-operational measurements were made November 13 to 24, 2014 and the post-operational measurements were made April 6 to 16, 2015.

As per the NMRP, noise measurements are to occur during Peak Facility Activity such as when the facility is operating at 100% maximum continuous rating (MCR). The DYEC boilers operated at approximately 75% of MCR during the first three days of noise monitoring and began to continuously operate at full thermal load as measured by steam production levels since April 10th.

Even though 100% MCR was not achieved for the entire acoustic test period, there were other noise sources associated with commissioning which significantly contributed to the acoustic performance of the facility. Intermittent turbine operation began on April 15th, producing up to 5 megawatts of electricity, which represents approximately 25% of full load. As a result, the vast majority of current DYEC operation has required bypassing generated steam to the external air cooled condensers and reducing steam pressure through a letdown station which represents an operational mode which generates more noise external to the DYEC site than the example of "peak facility activity" identified in the Noise Monitoring and Reporting Plan when both the DYEC thermal load (as measured by steam generation) and electrical load (as measured by electrical generation rate) are at 100%.

The turbine is located within the Turbine Building to minimize the propagation of noise to offsite receptors. In comparison, however, operation of the external air cooled condensers in turbine bypass mode contributes more significantly to offsite noise. The process of pressure reduction and thermal attemperation creates a large amount of turbulence in the steam duct. The noise created by this turbulence contributes to higher acoustic levels during bypass operations. Turbine bypass operation while currently the predominant mode of operation, reflects a mode of operation that is normally only expected once every 5 years by the DYEC when turbine overhaul maintenance is conducted once commercial operation is initiated.

All sound measurements were made in accordance with MOE Publication NPC-103 "Procedures". Hourly weather data was obtained from the Region of Durham for their weather station located at the Courtice Water Pollution Plant. See Appendix D. Where wind speeds exceeded 20 kph, the sound data was disregarded for that time period.

The requirements of the September 2011 Golder Associates NMRP were also followed. The off-site receptor based measurements were done for at least two locations for more than a week on a continuous basis.

7.0 ACOUSTICAL INSTRUMENTATION

Sound level measurements at all locations were made using Norsonic Nor140 sound level meters (SLM's). The SLM's were calibrated using a RION NC-74 acoustical calibrator. The measuring microphone was equipped with a wind screen. For the sound measurements at a 4.5 m height, the microphone was affixed to a pole and an extension cable used.

8.0 RESULTS

Hourly L_{eq} , L_{10} and L_{90} statistical descriptors have been plotted for each monitoring date at each location. See Appendices E and F. L_{eq} is the energy equivalent continuous sound level; meaning the constant time averaged sound level over the time period in question. L_{90} is the sound level exceeded 90% of the time over the time period in question.

The maximum and minimum hourly L_{90} values have been present in tabular format. See Tables 3 and 4. Since noise from the DYEC is steady and continuous at a distance off site, the overall L_{90} statistical descriptor is a fair representation of the L_{eq} from DYEC only. The L_{90} excludes transient sound of short duration, such as train pass-bys, people noise or aeroplanes but will still include some contribution from other steady noise sources in the area (i.e., Highway 401).

Sound measurements were done at locations M001, M002a/b and M003. M002a was used for the November 2014 measurements where the monitor was located within the Copart storage yard at a height of 1.5 m. Note that this location was well screened from most noise sources in the vicinity by the property line fence. The April 2015 measurements were done at M002b which is further west, just outside of the Copart fence at a height of 4.5 m. This better corresponds to the two-storey dwelling at POR002. Note that when comparing M002a and M002b, reduced ground effect and screening from the Copart fence account for a 6 to 7 dBA difference.

Sound from the DYEC facility is continuous. Even during short term and transient activities, such as truck movements or fire water pump testing, the off-site sound levels remain continuous as these activities were not discernable. There are also numerous other noise sources in the vicinity including Highway 401, the CN Belleville Subdivision, the Courtice Water Pollution Control Plant, the Darlington Nuclear Facility, other smaller industrial uses in the area as well as the sounds of nature and people. Since noise from DYEC is steady and continuous, the L_{90} statistical descriptor best represents its noise impact as it excludes transient activities (such as train pass-bys). It is important to note however, that other steady sounds such as Highway 401, the Darlington Nuclear Facility the Courtice Water Pollution Control Plant will all influence the L_{90} .

Subjectively, the DYEC facility was not audible in the vicinity of POR001rev, POR002 and POR003. Observations were made during the daytime period (0700 to 1200 hours) on numerous occasions as well as during the nighttime between 0400 to 0600 hours (after full load was established and turbines rolled). Even at night, during lulls in road traffic on Highway 401 (the dominant noise source at all locations), the DYEC was not audible.

At POR003, which is the same geographical location as measurement location M003, there was a slight but not perceptible increase (0 to 3 dBA) in the average maximum and minimum hourly L_{90} values from pre-operational (November 2014) conditions to post-operational (April 2015) conditions. However, since the DYEC facility was not audible at this location, even during the nighttime when the ambient was at its lowest, this increase is not attributable to noise from DYEC.

When a noise source is inaudible over the ambient, it is contributing little to no sound energy to the overall sound levels and thus is expected to be at least 10 dBA lower. Therefore at POR003, it can be assumed that the noise contribution from DYEC would be at least 10 dBA lower than the average minimum (April 2015) L_{90} sound levels of 51/48 dBA during the day/night. The resulting sound levels of 41/38 dBA day/night are well within the applicable sound level limits.

Since DYEC is also not audible at POR001 and POR002, it is expected that at these locations, the sound contribution from DYEC would be at least 10 dBA lower than the average minimum (April 2015) L_{90} sound levels measured at M001 and M002b. The average minimum L_{90} sound levels are 47/46 dBA at M001 and 50/51 dBA at M002a during the day/night. This is a conservative assessment since the measurement locations are closer to DYEC and any additional distance attenuation has not been accounted for.

9.0 YEARLY NOISE MONITORING

Compliance with the September 2011 NMRP requires yearly noise monitoring in order to demonstrate that DYEC continues to comply with the limits set out in NPC-205. This monitoring must occur once per year during peak Facility activity. It is expected that during the summer of 2015, the Facility will have the turbines operating at 100% capacity (while operating the boilers at 100% maximum continuous rating). Therefore, it would be prudent to initiate the yearly monitoring at that time to confirm compliance. This is also a preferable time of year to complete long-term monitoring when the weather is typically more stable with less precipitation and lower winds.

10.0 CONCLUSIONS

The sound emissions from the DYEC were not audible during the April 2015 post-operational measurement period and are considered to be within the sound level limits stated in the MOE publication NPC-205. Thus it is concluded that the facility is in compliance with NPC-205 and NPC-300. Submittal of this Acoustic Audit demonstrates compliance with MOE ECA No. 7306-8FDKNX.

The noise mitigation measures required by the March 2011 AAR have been adequately implemented.

Yearly sound monitoring should begin in three months time (August 2015) once the facility is at 100% turbine capacity (while maintaining full load) to confirm compliance.

11.0 REFERENCES

1. "Procedures", Ontario Ministry of the Environment, Publication NPC-103, August 1978.
2. "Information to be Submitted for Approval of Stationary Sources of Sound", Ontario Ministry of the Environment, Publication NPC-233, October 1995.
3. "Acoustic Assessment Report, Durham York Energy Centre", Golder Associates, March 2011.
4. "Noise Monitoring and Reporting Plan, Durham York Energy Centre", Golder Associates, September 2011.
5. "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", Ontario Ministry of the Environment, Publication NPC-205, October 1995.

6. “Environmental Noise Guideline – Stationary and Transportation Sources, Approval and Planning”, Ontario Ministry of the Environment, Publication NPC-300, August 2013.

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TABLE 3

SUMMARY OF PRE-OPERATIONAL SOUND MEASUREMENTS (HOURLY L₉₀)

Monitoring Date	M001				M002a				M003			
	Day/Evening ⁽²⁾		Night ⁽³⁾		Day/Evening ⁽²⁾		Night ⁽³⁾		Day/Evening ⁽²⁾		Night ⁽³⁾	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
Thursday, November 13, 2014	52	49	–	–	49	45	–	–	60	57	–	–
Friday, November 14, 2014	55	51	52	46	52	47	50	43	59	48	58	51
Saturday, November 15, 2014	52	46	51	44	46	40	47	40	58	52	54	46
Sunday, November 16, 2014	49	41	45	37	44	33	42	33	59	49	52	46
Monday, November 17, 2014	54	42	49	37	51	38	49	32	60	49	51	43
Friday, November 21, 2014	54	45	53	47	52	39	51	46	58	45	54	46
Sunday, November 23, 2014	52	41	50	43	51	42	47	41	60	52	54	45
<i>Average for Monitoring Period</i>	53	45	50	42	49	41	48	39	59	50	54	46

Notes:

- (1) See Figure 1.
- (2) Day/Evening – 0700 to 2300 hours.
- (3) Night – 2300 to 0700 hours.

TABLE 4

SUMMARY OF POST-OPERATIONAL SOUND MEASUREMENTS (HOURLY L₉₀)

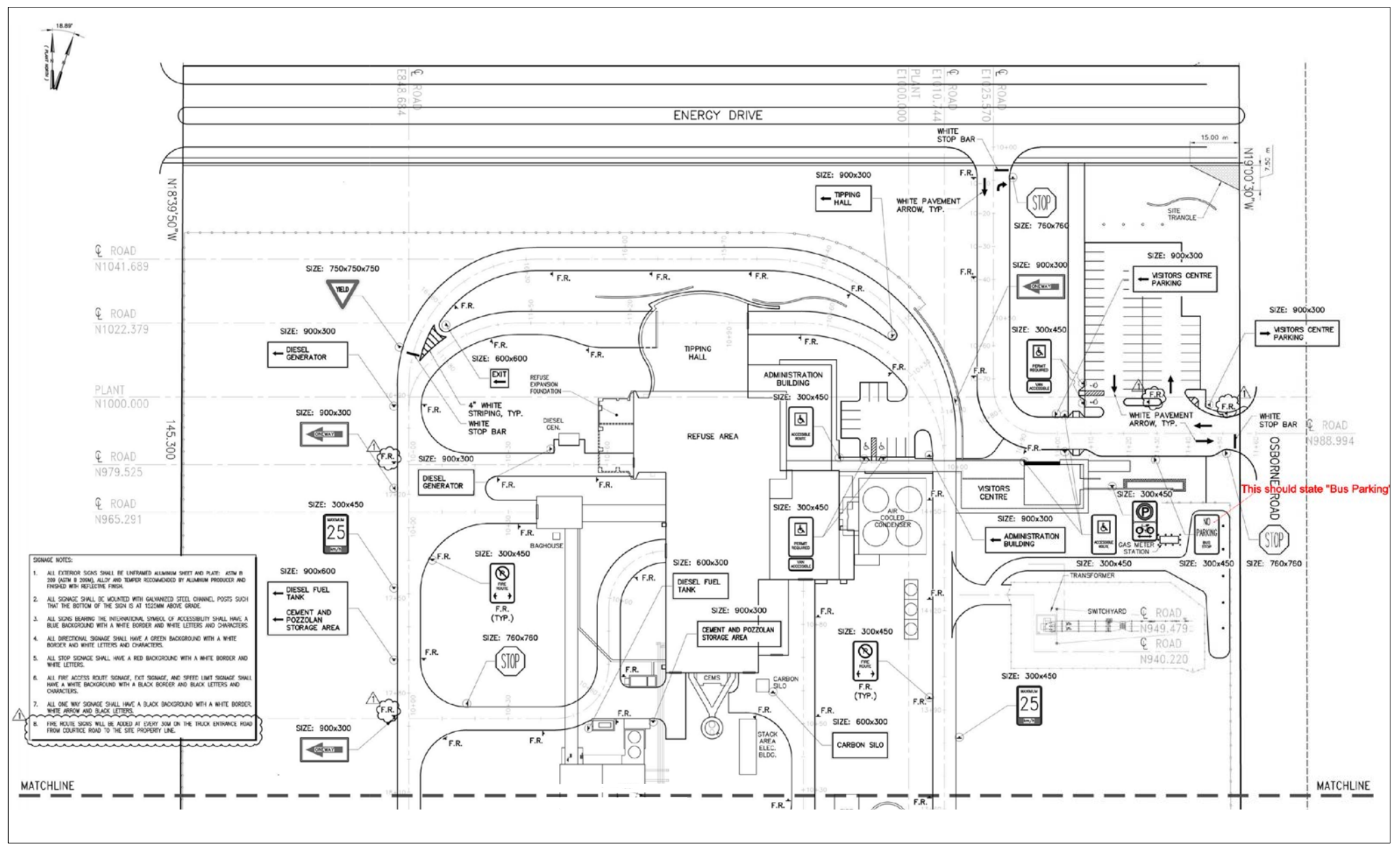
Monitoring Date	M001				M002b				M003			
	Day/Evening ⁽²⁾		Night ⁽³⁾		Day/Evening ⁽²⁾		Night ⁽³⁾		Day/Evening ⁽²⁾		Night ⁽³⁾	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
Monday, April 6, 2015	52	46	–	–	54	49	–	–	59	53	–	–
Tuesday, April 7, 2015	52	46	43	48	54	48	55	51	57	53	54	45
Saturday, April 12, 2015	54	50	–	–	56	51	–	–	58	53	–	–
Sunday, April 12, 2015	51	46	49	42	54	49	53	50	57	49	55	45
Monday, April 13, 2015	55	46	53	47	58	50	55	48	61	51	58	49
Tuesday, April 14, 2015	56	49	53	45	58	50	56	52	63	48	65	52
Wednesday, April 15, 2015	58	46	58	48	59	51	61	52	58	48	51	47
Thursday, April 16, 2015	–	–	52	47	–	–	57	50	–	–	58	48
<i>Average for Monitoring Period</i>	<i>54</i>	<i>47</i>	<i>53</i>	<i>46</i>	<i>56</i>	<i>50</i>	<i>56</i>	<i>51</i>	<i>59</i>	<i>51</i>	<i>57</i>	<i>48</i>

Notes:

- (1) See Figure 1.
- (2) Day/Evening – 0700 to 2300 hours.
- (3) Night – 2300 to 0700 hours.




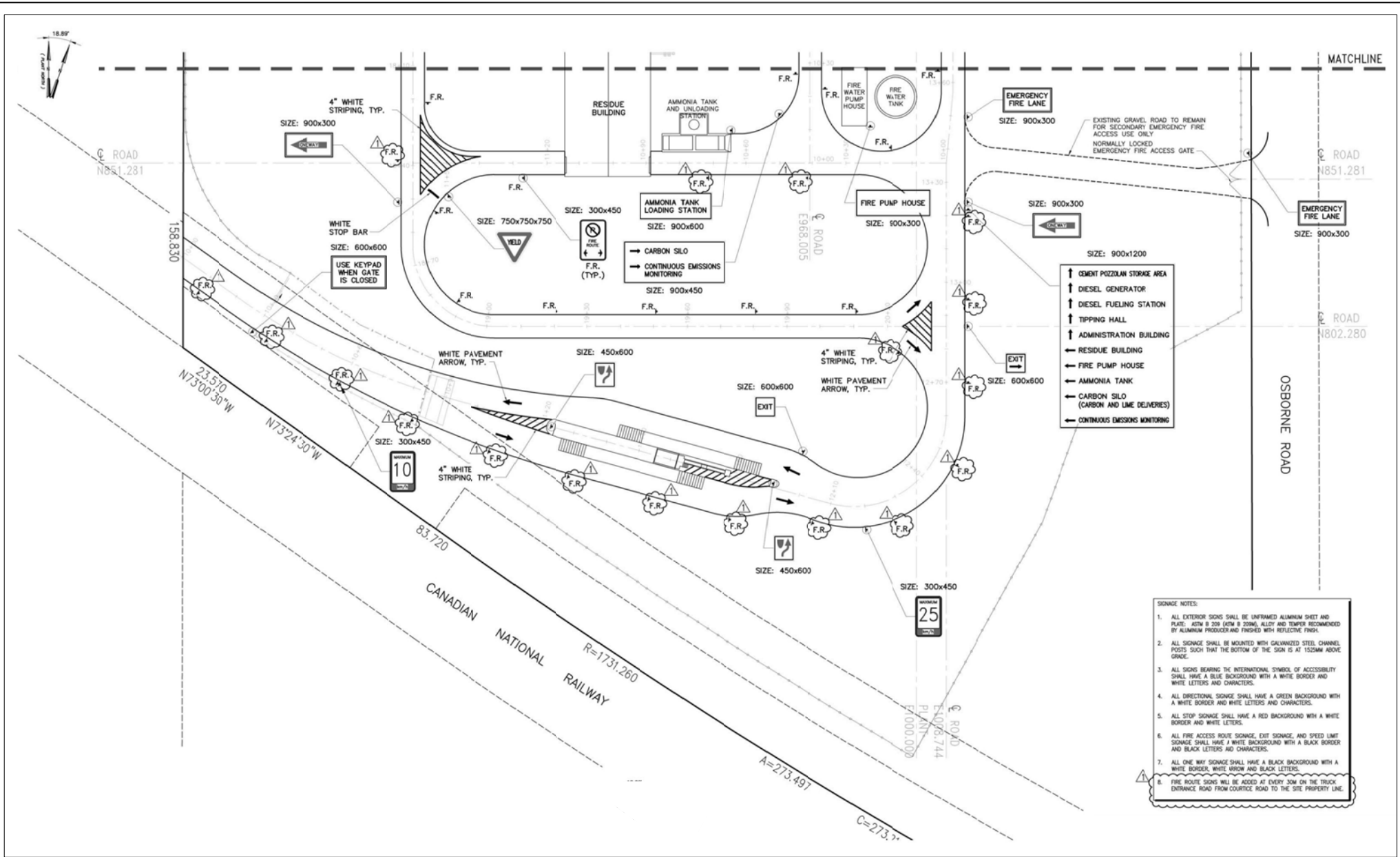
Title Area Plan with Points of Reception and Measurement Locations		Date 2015-05-01	Figure 1
Project Name DYEC - Acoustic Audit		Project No. 114-318	



- SIGNAGE NOTES:**
1. ALL EXTERIOR SIGNS SHALL BE LAMINATED ALUMINUM SHEET AND PLATE: ASTM B 209 (ASTM B 209M), ALLOY AND TEMPER RECOMMENDED BY ALUMINUM PRODUCER AND FINISHED WITH REFLECTIVE FINISH.
 2. ALL SIGNAGE SHALL BE MOUNTED WITH GALVANIZED STEEL CHANNEL POSTS SUCH THAT THE BOTTOM OF THE SIGN IS AT 1525MM ABOVE GROUND.
 3. ALL SIGNS BEARING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL HAVE A BLUE BACKGROUND WITH A WHITE BORDER AND WHITE LETTERS AND CHARACTERS.
 4. ALL DIRECTIONAL SIGNAGE SHALL HAVE A GREEN BACKGROUND WITH A WHITE BORDER AND WHITE LETTERS AND CHARACTERS.
 5. ALL STOP SIGNAGE SHALL HAVE A RED BACKGROUND WITH A WHITE BORDER AND WHITE LETTERS.
 6. ALL FIRE ACCESS ROUTE SIGNAGE, EXIT SIGNAGE, AND SPEED LIMIT SIGNAGE SHALL HAVE A WHITE BACKGROUND WITH A BLACK BORDER AND BLACK LETTERS AND CHARACTERS.
 7. ALL ONE WAY SIGNAGE SHALL HAVE A BLACK BACKGROUND WITH A WHITE BORDER, WHITE ARROW AND BLACK LETTERS.
 8. FIRE ROUTE SIGNS WILL BE ADDED AT EVERY 30M ON THE TRUCK ENTRANCE ROAD FROM COURTYARD ROAD TO THE SITE PROPERTY LINE.

This should state "Bus Parking"

			 <p>30 Wertheim Court, Unit 25 Richmond Hill, Ontario Canada L4B 1B9 solutions@valcoustics.com Phone: (905) 764-5223 Fax: (905) 764-6813</p>	<p>Title</p> <p>Site Plan - North</p>	<p>Project No.</p> <p>114-318</p>	<p>Date</p> <p>2015-05-01</p>
				<p>Project Name</p> <p>DYEC - Acoustic Audit</p>	<p>Scale</p> <p>N.T.S.</p>	<p>Figure</p> <p>2a</p>
No.	Revision/Issue	Date				



No.	Revision/Issue	Date


VALCOUSTICS
Canada Ltd.

30 Wertheim Court, Unit 25
 Richmond Hill, Ontario
 Canada L4B 1B9
 solutions@valcoustics.com
 Phone: (905) 764-5223
 Fax: (905) 764-6813

Title
Site Plan - South

Project Name
DYEC - Acoustic Audit

Project No.
114-318

Scale
N.T.S.

Date
2015-05-01

Figure
2b

APPENDIX A

ENVIRONMENTAL COMPLIANCE APPROVAL NO. 7306-8FDKNX

**CERTIFICATE OF APPROVAL
MULTI-MEDIA
Number 7306-8FDKNX
Issue Date: June 28, 2011**

The Regional Municipality of Durham
605 Rossland Rd E 5th Floor
Whitby, Ontario
L1N 6A3

and

The Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

and

Covanta Durham York Renewable Energy Limited Partnership
445 South Street
Morristown, New Jersey
United States of America
07960

Site Location: Durham York Energy Centre
72 Osbourne Road
Lot 27, Concession Broken Front, Part 1
Clarington Municipality, Regional Municipality of Durham

You have applied in accordance with Sections 9 and 27 of the Environmental Protection Act and Section 53 of the Ontario Water Resources Act for approval of:

A thermal treatment facility to be used for the receipt and manual and/or mechanical sorting of solid non-hazardous post-diversion municipal waste (Waste), temporary storage and thermal treatment of the Waste, abatement of the emissions from the processes and activities undertaken at the Site, handling, screening, sorting and/or conditioning of the residual wastes and management of the wastewater and the non-contact stormwater generated at the Site. The Facility's maximum Waste thermal treatment rate is 140,000 tonnes per year of Waste, the nominal electricity generation rate is 20 Megawatts and the nominal steam generation rate 72,000 kilograms per hour of steam.

The facility consists of the following major processes and support units:

- (1) two (2) identical combustion trains, each having a nominal capacity of 218 tonnes of Waste per day venting into the atmosphere via a common exhaust stack, having an exit diameter of 1.71 metres, extending 87.6 metres above grade.

Each combustion train is an independent process train and it consists of the following main components:

- (a) a stoker grate steam Boiler, having a design heat input of 118 Gigajoules per hour, equipped with a natural gas fired auxiliary Low NOx burner, having a nominal heat input of 59.5 Gigajoules per hour; and
- (b) the following air pollution control equipment:
 - (i) a Selective Non Catalytic Reduction System (SNCR System) with ammonia injection for NOx control;
 - (ii) an activated carbon injection system, to reduce mercury and dioxins in flue gas;
 - (iii) a dry recirculation lime injection scrubber to control acid gases;
 - (iv) a pulse jet type baghouse to control particulate emissions;
- (2) one (1) steam turbine generator set having a rated capacity of 20 Megawatts;
- (3) waste and reagent storage as described in Condition 2.:
- (4) fly ash conditioning system including two (2) surge bins, two (2) pugmills and seven (7) curing/storage bunkers;
- (5) bottom ash sorting system including conveyors, screens, a rotary drum magnet and an eddy separator;
- (6) one (1) emergency diesel generator, rated at 250 Kilowatts;
- (7) natural gas-fired combustion equipment for comfort heating;
- (8) a wastewater management system for collection, recirculation and reuse of the process water; and
- (9) a stormwater management facility for collection, transmission and discharge of non-contact runoff at the Site, as described in the attached Schedule "G",

Note: Use of the site for any other type of waste is not approved under this Certificate, and requires obtaining a separate approval amending this Certificate.

For the purpose of this Provisional Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"Acoustic Assessment Report" means the report, prepared in accordance with *Publication NPC-233* by Paul Niejadlik / Golder Associates Ltd. and dated March 2011 submitted in support of the application, that documents all sources of noise emissions and Noise Control Measures present at the Facility;

"Acoustic Assessment Summary Table" means a table summarizing the results of the Acoustic Assessment Report;

"Acoustic Audit" means an investigative procedure consisting of measurements of all noise emissions due to the operation of the Facility, assessed in comparison to the Performance Limits for the Facility regarding noise emissions, completed in accordance with the procedures set in the Ministry's *Publication NPC-103* and reported in accordance with the Ministry's *Publication NPC-233*;

"Acoustic Audit Report" means a report presenting the results of an Acoustic Audit, prepared in accordance with the Ministry's *Publication NPC-233*;

"Acoustical Consultant" means a person currently active in the field of environmental acoustics and noise/vibration control, who is familiar with Ministry noise guidelines and procedures and has a combination of formal university education, training and experience necessary to assess noise emissions from a Facility;

"Air Standards Manager" means the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, or any other person who represents and carries out the duties of the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, as those duties relate to the conditions of this Certificate;

"APC Building" means the building at the Site where the APC Equipment and the reagent indoor storage tanks are located;

"APC Equipment" means all the air pollution control equipment at the Facility, including the SNCR System, the activated carbon injection system, the dry recirculation lime injection scrubber and the pulse jet type baghouse to control emissions from the combustion chamber of the Boilers, the dust collectors to control emissions from the Residue Building and the dust collectors to control emissions from the reagent storage silos;

"Boiler Building" means the building at the Site where the Boilers, turbine generator and the air cooled condenser(s) are located;

"Boilers" means the two (2) steam boilers firing the approved Waste described in this Certificate;

"Bulky Unprocessable Items" means the incoming Waste received at the Site that cannot be processed in the Equipment;

"**CEM Systems**" means the continuous monitoring and recording systems used to measure and record the temperature and the emissions from the Boilers as specified in the attached Schedule "F";

"**Certificate**" means this entire provisional Certificate of Approval, issued in accordance with Sections 39 and 9 of the *EPA* and Section 53 of the *OWRA*, and includes any schedules attached to it, the application and the supporting documentation listed in the attached Schedule "A";

"**40 CFR 60**" means title 40, part 60 under the Code of Federal Regulations (Air Programs, U.S. Environmental Protection Agency), revised as of July 1, 1990, published by the Office of the Federal Register, National Archives and Records, Administration in the United States of America;

"**Complaint**" means a complaint received either by the Owner or the District Manager that has been confirmed by staff of the Ministry and the cause of which is attributed to the Owner's activities at the Facility;

"**Commencement Date of Operation**" means the date when the approved Waste is first received at the Site;

"**Compound of Concern**" means a contaminant that, based on generally available information, may be emitted to the atmosphere in a quantity from any source at the Facility that is significant either in comparison to the relevant Ministry Point of Impingement Limit or if a Ministry Point of Impingement Limit is not available for the compound then, based on generally available toxicological information, the compound has the potential to cause an adverse effect as defined by the *EPA* at a Point of Impingement;

"**Controlled Shutdown**" means an immediate cut-off of all waste into the Boilers, while maintaining the operation of the combustion chamber and the APC Equipment within the Performance Requirements;

"**Description Section**" means the section on page one of the Certificate describing the Owner's operations and the Equipment located at the Facility and specifying the Facility Production Limit for the Facility;

"**Dioxins and Furans**" means polychlorinated dibenzo-dioxins and polychlorinated dibenzofurans;

"**Director**" means any person appointed in writing by the Minister of the Environment pursuant to section 5 of the *EPA* and pursuant to section 5 of the *OWRA* as a Director for the purposes of Part V of the *EPA*, section 9 of the *EPA* and section 53 of the *OWRA*;

"**District Manager**" means the District Manager of the York Durham District Office of the Ministry;

"**Emergency Shutdown**" means an immediate cut-off of all waste feed into the Boilers, followed by an accelerated extinction of all combustion in the Boilers, while maintaining the combustion temperature within the Performance Requirements, except when unreasonable;

"**Emission Summary Table**" means the table prepared in accordance with *O. Reg. 419/05* and the Procedure Document listing the appropriate Point of Impingement concentrations of each Compound of Concern from the Facility and providing comparison to the corresponding Ministry Point of Impingement Limit;

"**EAA**" means the Environmental Assessment Act, R.S.O. 1990, c. E.18, as amended;

"**EA Approval**" means the Notice of Approval to Proceed with the Undertaking signed by the Minister of the Environment on November 3, 2010, EA File No. 04-EA-02-08;

"**EPA**" means the Environmental Protection Act, R.S.O. 1990, c. E.19, as amended;

"**Equipment**" means equipment or processes associated with the thermal treatment of the approved Waste described in this Certificate and in the Supporting Documentation referred to herein and any other equipment or processes handling wastes and reagents;

"**ESDM Report**" means the Emission Summary and Dispersion Modelling Report prepared in accordance with the Procedure Document by Golder Associates and dated March 2011 submitted in support of the application, and includes any amendments to the ESDM Report listed in the attached Schedule "A" and all subsequent up-dated ESDM Reports as applicable;

"**Facility**" means the entire operation associated with thermal treatment of Waste located on the property where the Equipment is located;

"**Facility Production Limit**" means the production limit placed on the main product(s) or raw materials used by the Facility that represents the design capacity of the Facility and assists in the definition of the operations approved by the Director;

"**Grizzly Building**" means the building at the Site where the bottom ash is screened and where the oversized constituents of the bottom ash (grizzly overs) are temporarily stored prior to transport for subsequent storage in the Residue Building;

"**Independent Acoustical Consultant**" means an Acoustical Consultant who is not representing the Owner and was not involved in preparing the Acoustic Assessment Report or the design/implementation of Noise Control Measures for the Facility and/or Equipment. The Independent Acoustical Consultant shall not be retained by the Acoustical Consultant involved in the noise impact assessment or the design/implementation of Noise Control Measures for the Facility and/or Equipment;

"**I-TEF**" means International Toxic Equivalency Factor derived for each dioxin and furan congener by comparing its toxicity to the toxicity of 2,3,7,8 tetrachloro dibenzo-p-dioxin, as recommended by the North Atlantic Treaty Organization Committee on Challenges to Modern Society (NATO CCMS) in 1989 and adopted by Canada in 1990;

"**I-TEQ**" means International Toxic Equivalent of dioxins and furans calculated using the I-TEFs, as recommended by the NATO CCMS in 1989 and adopted by Canada in 1990;

"**Manager**" means the Manager, Technology Standards Section, Standards Development Branch, who has been appointed under Section 5 of the *EPA* for the purposes of Section 11(1)2 of the *O. Reg. 419/05*, or any other person who represents and carries out the duties of the Manager,

Technology Standards Section, Standards Development Branch, as those duties relate to the conditions of this Certificate;

"**Ministry**" means the ministry of the government of Ontario responsible for the *EPA* and the *OWRA* and includes all officials, employees or other persons acting on its behalf or the Ontario Ministry of the Environment;

"**Municipality**" means the Municipality of Clarington;

"**NMA**" means the *Nutrient Management Act*, 2002, S.O. 2002, c. 4, as amended;

"**Noise Control Measures**" means measures to reduce the noise emission from the Facility and/or Equipment including, but not limited to silencers, acoustic louvers, enclosures, absorptive treatment, plenums and barriers;

"**LDR**" means the Lands Disposal Restrictions referred to in sections 74 through 85 of the *O. Reg. 347*, which prohibit the disposal of hazardous wastes on land until they have been treated to meet the treatment standards under the *O. Reg. 347*;

"**Leachate Toxicity Criteria**" means the concentrations of any of the contaminants listed in Schedule 4 at a concentration equal to or in excess of the concentration specified for that contaminant in Schedule 4 using the Toxicity Characteristic Leaching Procedure, defined in the *O. Reg. 347*;

"**O. Reg. 419/05**" means the *Ontario Regulation 419/05*, Air Pollution – Local Air Quality enacted under the *EPA*, as amended;

"**O. Reg. 347**" means the *Ontario Regulation 347*, R.R.O 1990 (General –Waste Management) enacted under the *EPA*, as amended;

"**OWRA**" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;

"**Owner**" means any person that is responsible for the establishment and operation of the Site being approved by this Certificate, and it includes The Regional Municipality of Durham, The Regional Municipality of York, and Covanta Durham York Renewable Energy Limited Partnership (operator), their successors and assignees;

"**PA**" means the *Pesticides Act*, R.S.O. 1990, c.P. 11, as amended;

"**Performance Requirements**" means the performance requirements and emission limits specified in the section of this Certificate entitled "Performance Requirements";

"**Point of Impingement**" means any point outside the Facility in the natural environment and as defined by s.2 of the *O. Reg. 419/05*;

"**Point of Reception**" means the Point of Reception as defined by *Publication NPC-205* and/or *Publication NPC-232*, as applicable;

"**Pre-test Information**" means the information outlined in Section 1.1 of the Source Testing Code;

"Procedure Document" means the Ministry's document entitled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated July 2005, as amended;

"Professional Engineer" means a Professional Engineer as defined within the *Professional Engineers Act*, R.S.O. 1990, c. P.28, as amended;

"Provincial Officer" means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the *OWRA* or Section 5 of the *EPA* or Section 17 of the *PA* or Section 4 of the *NMA* or Section 8 of the *SDWA*;

"Publication NPC-103" means the Ministry's Publication NPC-103 of the Model Municipal Noise Control By-Law, Final Report, dated August 1978, published by the Ministry, as amended;

"Publication NPC-205" means the Ministry's Publication NPC-205, entitled "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", dated October, 1995, as amended;

"Publication NPC-207" means the Ministry's draft technical publication entitled "Impulse Vibration in Residential Buildings", dated November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, dated August 1978, published by the Ministry, as amended;

"Publication NPC-232" means the Ministry's Publication NPC-232, entitled "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", dated October, 1995, as amended;

"Publication NPC-233" means the Ministry's Publication NPC-233, entitled "Information to be Submitted for Approval of Stationary Sources of Sound", dated October, 1995, as amended;

"Rejected Waste" means either municipal waste which cannot be processed at the Facility or waste which the Site is not approved to accept. Rejected Waste includes but is not limited to the Bulky Unprocessable Items and the Unacceptable Waste;

"Regional Director" means the Regional Director of the Central Region of the Ministry;

"Regions" means The Regional Municipality of Durham and The Regional Municipality of York;

"Report EPS 1/PG/7" means the Environment Canada Report EPS 1/PG/7, entitled "Protocols and Performance Specifications for Continuous Monitoring of Gaseous Emissions from Thermal Generation", dated September, 1993, as amended;

"Residual Waste" means waste resulting from the Waste processing activities at the Site. Residual Waste is limited to the recovered ferrous metals, the recovered non-ferrous metals, the bottom ash (consisting of the ash fines and the grizzly overs) and the fly ash (untreated and following conditioning);

"Residue Building" means the building at the Site where the bottom ash and the fly ash are processed, temporarily stored and loaded in transport vehicles for off-site disposal;

"**Schedules**" means the following schedules "A", "B", "C", "D", "F" and "G", attached to the Certificate and forming part of the Certificate;

"**SDWA**" means the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, as amended;

"**Sensitive Receptor**" means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from odour discharges from the Facility, including one or a combination of:

- (a) private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.);
- (b) institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.);
- (c) outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.); and
- (d) other outdoor public areas where there are continuous human activities (e.g.: commercial plazas and office buildings);

"**Site**" means the property where the Owner has located and operates the Facility and the Works and located at 72 Osbourne Road, 27, Concession Broken Front, Part 1 in the Municipality of Clarington, Regional Municipality of Durham;

"**Source Testing**" means monitoring, sampling and testing to measure emissions resulting from operating the Facility under conditions which yield the worst case emissions within the approved operating range of the Facility;

"**Source Testing Code**" means the Ministry's document entitled "Source Testing Code, Version 2, Report No. ARB-66-80", dated November 1980, as amended;

"**Stack**" means the stack that discharges emissions from the Boilers after those emissions have been controlled by the associated APC Equipment;

"**Substantial Completion**" has the same meaning as "substantial performance" in the *Construction Lien Act* R.S.O. 1990, c.C-30, as amended;

"**Supporting Documentation**" means the documents listed in the attached Schedule "A" of this Certificate which forms part of this Certificate;

"**Test Contaminants**" means the contaminants set out in the attached Schedule "D";

"**Tipping Building**" means the building at the Site where the incoming Waste is received, sorted and temporarily stored;

"**Total Power Failure**" means the loss of the external power supply and concurrent loss of all in-plant power generation;

"**Trained Personnel**" means one or more Site personnel trained in accordance with the requirements of Condition 9.;

"**Waste**" means municipal solid waste as defined in the *O. Reg. 347* and limited to the approved waste set out in Condition No. 2.(2);

"**Waste Processing Rate** means the mass of Waste fed into one of the Boilers;

"**Works**" means the sewage works described in the Owner's application, this Certificate and in the Supporting Documentation referred to herein, to the extent approved by this Certificate;

"**Unacceptable Waste**" means the incoming Waste received at the Site that does not meet the incoming Waste quality criteria set out in this Certificate, is of hazardous nature and requires caution when handling; and

"**Undiluted Gases**" means the flue gas stream which contains oxygen, carbon monoxide, total hydrocarbons and all contaminants in the same concentrations as they exist in the flue gas stream emerging from an individual piece of equipment, such as the combustion chamber of one Boiler or one baghouse, and into which gas stream no ambient air and/or no other gas stream originating from another piece of equipment, except for dilution air introduced within the CEM Systems, has been introduced.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

GENERAL PROVISIONS

1. GENERAL

Compliance

- (1) The Owner shall ensure compliance with all the conditions of this Certificate and shall ensure that any person authorized to carry out work on or operate any aspect of the Site, including the Works, is notified of this Certificate and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Any person authorized to carry out work on or operate any aspect of the Site shall comply with the conditions of this Certificate.

Build in Accordance

- (3) (a) Except as otherwise provided by this Certificate, the Site shall be designed, developed, built, operated, monitored, inspected and maintained in accordance with the following applications:
 - (i) Applications for a Certificate of Approval (Air) dated March 2, 2011, each signed by Cliff Curtis, Commissioner of Works, The Regional Municipality of Durham, by Erin Mahoney, Commissioner of

(b) The Residual Waste that meets any of the criteria from the definition of "hazardous waste" set out in the *O. Reg. 347* shall be handled and disposed of in accordance with the LDR requirements set out in the *EPA* and the *O. Reg. 347*.

(6) The Residual Waste, limited to the bottom ash, destined for a non-hazardous waste disposal site shall meet the definition of "incinerator ash" set out in the *O. Reg. 347*.

7. **TESTING, MONITORING and AUDITING**

Source Testing

(1) The Owner shall perform annual Source Testing in accordance with the procedures and schedule outlined in the attached Schedule "E", to determine the rate of emission of the Test Contaminants from the Stack. The first Source Testing program shall be conducted not later than six (6) months after the Commencement Date of Operation of the Facility/Equipment and subsequent Source Testing program shall be conducted once (1) every calendar year thereafter.

Continuous Monitoring

- (2) The Owner shall select, test and install appropriate CEM Systems and continuous recording devices in accordance with the requirements outlined in the attached Schedule "F" to conduct and maintain a program to continuously monitor, as a minimum, the following parameters prior to commencement of operation of the Boilers:
- (a) the temperature at one (1) second downstream of the combustion zone of each Boiler where most of the combustion has been completed and the combustion temperature is fully developed;
 - (b) the inlet temperature of the gases into each baghouse of the APC Equipment of each Boiler;
 - (c) the concentration of carbon monoxide, oxygen and organic matter (as methane) in the Undiluted Gases leaving the combustion zone via the economizer outlet of each Boiler;
 - (d) the opacity and moisture content of the flue gas and the concentration of oxygen, nitrogen oxides, sulphur dioxide, hydrogen chloride, hydrogen fluoride and ammonia in the Undiluted Gases leaving the baghouse of the APC Equipment of each Boiler.

Long-Term Sampling for Dioxins and Furans

- (3) (a) The Owner shall develop, install, maintain and update as necessary a long-term sampling system, with a minimum monthly sampling frequency, to measure the concentration of Dioxins and Furans in the Undiluted Gases leaving the APC Equipment associated with each Boiler. The performance of

this sampling system will be evaluated during the annual Source Testing programs in accordance with the principles outlined by 40 CFR 60, Appendix B, Specification 4.

- (b) The Owner shall evaluate the performance of the long-term sampling system in determining Dioxins and Furans emission trends and/or fluctuations as well as demonstrating the ongoing performance of the APC Equipment associated with the Boilers.

Ambient Air Monitoring

- (4) (a) The Regions shall develop and implement the Ambient Air Monitoring and Reporting Plan, in accordance with the requirements set out in the EA Approval and as determined to be acceptable by the Regional Director.
- (b) The Regions shall report the results of the Ambient Air Monitoring program to the Regional Director in accordance with the Ambient Air Monitoring and Reporting Plan and in accordance with the requirements of Condition 14.
- (c) The Regions shall post the Ambient Air Monitoring and Reporting Plan and the results of the Ambient Air Monitoring program on the Owner's web site for the Facility in accordance with the requirements of the EA Approval and Condition 15.

Noise Monitoring - Acoustic Audit

- (5) The Owner:
 - (a) shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Acoustic Audit measurements shall be carried out in accordance with the procedures in *Publication NPC-103* and in accordance to the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director;
 - (b) shall submit an Acoustic Audit Report on the results of the Acoustic Audit, prepared by an Independent Acoustical Consultant, in accordance with the requirements of *Publication NPC-233* and the Noise Monitoring and Reporting Plan prepared in accordance with the requirements set out in the EA Approval and as approved by the Director, to the District Manager and the Director, not later than three (3) months after the commencement of operation of the Facility.
- (6) The Director:
 - (a) may not accept the results of the Acoustic Audit if the requirements of *Publication NPC-233* or the approved Noise Monitoring and Reporting Plan were not followed;

- (b) may require the Owner to repeat the Acoustic Audit if the results of the Acoustic Audit are found unacceptable to the Director.

Residual Waste Testing

- (7)
 - (a) A minimum of six (6) months prior to the Commencement Date of Operation, the Owner shall submit to the Director for approval, a Testing Protocol for testing of the bottom ash for compliance with the criteria set out in the "incinerator ash" definition from the *O. Reg. 347* and for testing of the Residual Waste for compliance with the criteria set out in this Certificate.
 - (b) As a minimum, the Testing Protocol shall comply with the Ministry's regulatory requirements for sampling and testing of waste, including the requirements set out in the Ministry's document entitled "Principles of Sampling and Analysis of Waste for TCLP under Ontario Regulation 347", dated February 2002, as amended.
 - (c) The Testing Protocol shall include the rationale for the proposed methods and the following:
 - (i) a sampling protocol, including the proposed number of samples to be taken and their locations, to ensure that representative sample(s) are being tested for compliance with this Certificate;
 - (ii) sample(s) handling and preserving procedures;
 - (iii) analytical protocol for the applicable contaminants to ensure that appropriate analytical method(s) are being used for compliance testing required by this Certificate; and
 - (iv) a testing protocol for the bottom ash during the Site commissioning period.
 - (d) The Owner shall implement the Testing Protocol on the Commencement Date of Operation.
- (8) For handling of the bottom ash as a solid non-hazardous waste, the Owner shall follow the following schedule for compliance testing:
 - (a) for the Site commissioning period, the bottom ash shall be tested in accordance with the Testing Protocol approved by the Director;
 - (b) for the period following the Site commissioning period, the bottom ash shall be tested for the content of the combustible materials on an annual basis, until the compliance testing results indicate that the bottom ash meets the "incinerator ash" definition from the *O. Reg. 347* for three (3) consecutive years, following which a triennial compliance testing event may be carried out;

APPENDIX B

DYEC TRUCK LOGS

Covanta Durham York Renewable Energy, LP
Truck Cycle Time Report

Customer: All
 Site ID: 99

Transactions from 04/06/2015 through 04/15/2015
 Inbound and Outbound Tickets
 Third Party and Intercompany Customers

r ID: AHUXTER

Ticket	Date	Truck	Customer	Time In / Out	Time Cycle (Minutes)
10630	4/6/2015	14149	004 - Ash Customer	07:01:31 / 07:19:21	17.90
10631	4/6/2015	1552	004 - Ash Customer	07:02:46 / 07:41:42	38.96
10632	4/6/2015	1550	004 - Ash Customer	07:04:13 / 08:04:47	60.34
10633	4/6/2015	80230	001 - Regional Municipality of Durham	07:50:33 / 08:17:14	26.81
10634	4/6/2015	15175	002 - Regional Municipality of York	08:30:20 / 09:01:31	31.11
10635	4/6/2015	80186	001 - Regional Municipality of Durham	08:55:32 / 09:30:30	34.98
10636	4/6/2015	80194	001 - Regional Municipality of Durham	08:49:23 / 09:31:57	42.34
10637	4/6/2015	15172	004 - Ash Customer	09:27:19 / 10:03:29	36.10
10638	4/6/2015	1574	003 - Reagents	07:06:39 / 10:15:31	188.92
10639	4/6/2015	80230	001 - Regional Municipality of Durham	09:57:01 / 10:28:17	31.16
10640	4/6/2015	80194	001 - Regional Municipality of Durham	11:14:44 / 11:51:26	36.82
10641	4/6/2015	80186	001 - Regional Municipality of Durham	11:26:30 / 12:21:30	55.00
10642	4/6/2015	14149	004 - Ash Customer	11:49:14 / 12:25:41	36.27
10643	4/6/2015	15175	002 - Regional Municipality of York	11:57:02 / 12:45:55	48.53
10644	4/6/2015	80230	001 - Regional Municipality of Durham	12:07:28 / 13:06:40	59.12
10645	4/6/2015	15172	004 - Ash Customer	15:07:06 / 15:37:28	30.22
10646	4/6/2015	15175	002 - Regional Municipality of York	16:13:37 / 16:44:19	30.82
10647	4/7/2015	14149	004 - Ash Customer	07:01:04 / 07:21:03	19.99
10648	4/7/2015	1550	004 - Ash Customer	07:02:42 / 07:44:34	41.92
10649	4/7/2015	0182	002 - Regional Municipality of York	08:25:16 / 09:03:24	38.08
10650	4/7/2015	80194	001 - Regional Municipality of Durham	08:44:29 / 09:34:03	49.74
10651	4/7/2015	15172	004 - Ash Customer	09:41:24 / 09:56:00	14.76
10652	4/7/2015	80186	001 - Regional Municipality of Durham	10:00:48 / 10:37:03	36.55
10653	4/7/2015	80230	001 - Regional Municipality of Durham	10:15:00 / 10:57:02	42.02
10654	4/7/2015	80194	001 - Regional Municipality of Durham	10:52:50 / 11:28:31	35.81
10655	4/7/2015	80171	001 - Regional Municipality of Durham	10:57:48 / 11:56:48	59.00
10656	4/7/2015	15175	002 - Regional Municipality of York	11:45:57 / 12:20:47	34.90
10657	4/7/2015	84	07 - Gerdau	11:16:17 / 12:29:17	73.00
10658	4/7/2015	80186	001 - Regional Municipality of Durham	12:00:48 / 12:44:31	43.83
10659	4/7/2015	14149	004 - Ash Customer	12:33:08 / 12:52:44	19.36
10660	4/7/2015	80230	001 - Regional Municipality of Durham	12:27:59 / 13:11:52	43.93
10661	4/7/2015	0182	002 - Regional Municipality of York	12:10:49 / 13:14:08	63.59
10662	4/7/2015	80194	001 - Regional Municipality of Durham	12:50:03 / 13:40:49	50.46
10663	4/7/2015	80171	001 - Regional Municipality of Durham	13:51:13 / 14:22:48	31.35
10664	4/7/2015	15172	004 - Ash Customer	14:29:17 / 14:48:51	19.34
10665	4/7/2015	80186	001 - Regional Municipality of Durham	14:12:56 / 14:52:11	39.55
10666	4/7/2015	80230	001 - Regional Municipality of Durham	15:13:22 / 15:40:43	27.21
10667	4/7/2015	80194	001 - Regional Municipality of Durham	15:23:06 / 16:11:19	48.13
10668	4/7/2015	15175	002 - Regional Municipality of York	16:12:31 / 16:45:19	32.88

Covanta Durham York Renewable Energy, LP
Truck Cycle Time Report

Customer: All
 Site ID: 99

Transactions from 04/06/2015 through 04/15/2015
 Inbound and Outbound Tickets
 Third Party and Intercompany Customers

r ID: AHUXTER

Ticket	Date	Truck	Customer	Time In / Out	Time Cycle (Minutes)
10669	4/7/2015	80171	001 - Regional Municipality of Durham	16:55:05 / 17:26:50	31.45
10670	4/7/2015	80230	001 - Regional Municipality of Durham	17:34:46 / 18:06:49	32.03
10671	4/8/2015	14149	004 - Ash Customer	07:02:11 / 07:19:39	17.28
10672	4/8/2015	1552	004 - Ash Customer	07:03:55 / 07:48:16	44.61
10673	4/8/2015	80230	001 - Regional Municipality of Durham	07:58:11 / 08:26:16	28.05
10674	4/8/2015	80194	001 - Regional Municipality of Durham	08:03:09 / 08:57:58	54.49
10675	4/8/2015	80186	001 - Regional Municipality of Durham	08:47:14 / 09:29:09	41.95
10676	4/8/2015	80225	001 - Regional Municipality of Durham	09:20:21 / 10:01:05	40.84
10677	4/8/2015	15172	004 - Ash Customer	10:02:04 / 10:21:41	19.37
10678	4/8/2015	0182	002 - Regional Municipality of York	09:43:49 / 10:25:59	42.10
10679	4/8/2015	80230	001 - Regional Municipality of Durham	10:03:54 / 10:48:58	45.04
10680	4/8/2015	80194	001 - Regional Municipality of Durham	10:29:19 / 11:19:41	50.22
10681	4/8/2015	80186	001 - Regional Municipality of Durham	11:19:25 / 11:56:19	36.94
10682	4/8/2015	80225	001 - Regional Municipality of Durham	11:59:59 / 12:47:02	47.43
10683	4/8/2015	80230	001 - Regional Municipality of Durham	12:23:16 / 13:09:13	45.97
10684	4/8/2015	80194	001 - Regional Municipality of Durham	12:52:35 / 13:37:42	45.07
10685	4/8/2015	0182	002 - Regional Municipality of York	13:48:16 / 14:16:29	28.13
10686	4/8/2015	80186	001 - Regional Municipality of Durham	13:51:31 / 14:52:00	60.69
10687	4/8/2015	80225	001 - Regional Municipality of Durham	14:38:12 / 15:44:25	66.13
10688	4/8/2015	0176	002 - Regional Municipality of York	14:32:25 / 15:47:35	75.10
10689	4/8/2015	80194	001 - Regional Municipality of Durham	15:01:15 / 16:46:14	104.99
10690	4/8/2015	80230	001 - Regional Municipality of Durham	15:10:00 / 17:43:24	153.24
10691	4/8/2015	80186	001 - Regional Municipality of Durham	17:27:53 / 18:30:30	62.77
10692	4/8/2015	15172	002 - Regional Municipality of York	15:37:44 / 18:31:56	174.12
10693	4/9/2015	14149	004 - Ash Customer	07:00:00 / 07:21:23	21.23
10694	4/9/2015	80225	001 - Regional Municipality of Durham	08:00:33 / 08:44:34	44.01
10695	4/9/2015	80230	001 - Regional Municipality of Durham	08:05:20 / 09:03:56	58.36
10696	4/9/2015	0182	002 - Regional Municipality of York	08:46:14 / 09:27:09	40.95
10697	4/9/2015	80186	001 - Regional Municipality of Durham	08:53:27 / 09:52:13	58.86
10698	4/9/2015	80194	001 - Regional Municipality of Durham	08:58:06 / 10:28:06	90.00
10699	4/9/2015	15172	004 - Ash Customer	09:56:07 / 10:32:53	36.46
10700	4/9/2015	80225	001 - Regional Municipality of Durham	10:32:45 / 11:15:38	42.93
10701	4/9/2015	80230	001 - Regional Municipality of Durham	10:46:01 / 11:40:47	54.46
10702	4/9/2015	80186	001 - Regional Municipality of Durham	11:50:22 / 12:32:25	42.03
10703	4/9/2015	14149	004 - Ash Customer	12:46:08 / 13:18:44	32.36
10704	4/9/2015	80194	001 - Regional Municipality of Durham	11:51:59 / 13:25:59	94.00
10705	4/9/2015	80225	001 - Regional Municipality of Durham	12:36:05 / 14:11:33	95.28
10706	4/9/2015	0182	002 - Regional Municipality of York	12:25:48 / 14:13:11	107.63
10707	4/9/2015	80230	001 - Regional Municipality of Durham	13:23:28 / 14:49:36	86.08

Covanta Durham York Renewable Energy, LP
Truck Cycle Time Report

Customer: All
 Site ID: 99

Transactions from 04/06/2015 through 04/15/2015
 Inbound and Outbound Tickets
 Third Party and Intercompany Customers

or ID: AHUXTER

Ticket	Date	Truck	Customer	Time In / Out	Time Cycle (Minutes)
10708	4/9/2015	0176	002 - Regional Municipality of York	12:54:07 / 14:51:49	117.42
10709	4/9/2015	80186	001 - Regional Municipality of Durham	14:32:06 / 15:21:22	49.16
10710	4/9/2015	80194	001 - Regional Municipality of Durham	14:50:59 / 15:51:15	60.56
10711	4/9/2015	15172	004 - Ash Customer	15:20:36 / 15:53:02	32.66
10712	4/9/2015	80230	001 - Regional Municipality of Durham	16:35:23 / 17:01:27	26.04
10713	4/9/2015	80186	001 - Regional Municipality of Durham	16:48:21 / 17:33:43	45.22
10714	4/9/2015	80194	001 - Regional Municipality of Durham	17:06:10 / 18:06:44	60.34
10715	4/10/2015	14150	004 - Ash Customer	07:00:33 / 07:28:18	27.85
10716	4/10/2015	80230	001 - Regional Municipality of Durham	07:24:19 / 08:03:18	38.99
10717	4/10/2015	80194	001 - Regional Municipality of Durham	07:26:58 / 08:44:05	77.47
10718	4/10/2015	80227	001 - Regional Municipality of Durham	08:20:02 / 09:26:20	66.18
10719	4/10/2015	80186	001 - Regional Municipality of Durham	08:07:26 / 09:27:58	80.32
10720	4/10/2015	0182	002 - Regional Municipality of York	08:36:03 / 10:10:57	94.54
10721	4/10/2015	15172	004 - Ash Customer	10:01:31 / 10:27:34	26.03
10722	4/10/2015	80230	001 - Regional Municipality of Durham	09:47:33 / 10:36:03	48.70
10723	4/10/2015	98	21 - stark iron & metal	10:34:43 / 11:05:37	30.94
10724	4/10/2015	80194	001 - Regional Municipality of Durham	10:40:56 / 11:25:16	44.60
10725	4/10/2015	80227	001 - Regional Municipality of Durham	11:03:19 / 11:59:02	55.83
10726	4/10/2015	80186	001 - Regional Municipality of Durham	11:27:51 / 12:29:44	61.93
10727	4/10/2015	168	09 - Triple M Metal	12:17:23 / 12:48:56	31.33
10728	4/10/2015	80230	001 - Regional Municipality of Durham	12:11:54 / 12:57:41	45.87
10729	4/10/2015	0176	002 - Regional Municipality of York	12:04:49 / 12:59:22	54.73
10730	4/10/2015	14150	004 - Ash Customer	12:39:16 / 13:23:41	44.25
10731	4/10/2015	0182	002 - Regional Municipality of York	12:40:56 / 13:26:42	45.86
10732	4/10/2015	80194	001 - Regional Municipality of Durham	12:45:44 / 13:58:46	73.02
10733	4/10/2015	80227	001 - Regional Municipality of Durham	13:28:34 / 14:40:41	72.07
10734	4/10/2015	80186	001 - Regional Municipality of Durham	14:20:21 / 15:09:52	49.31
10735	4/10/2015	0182	002 - Regional Municipality of York	14:35:57 / 15:46:45	70.88
10736	4/10/2015	80230	001 - Regional Municipality of Durham	14:33:53 / 15:48:15	74.62
10737	4/10/2015	80194	001 - Regional Municipality of Durham	15:19:13 / 16:18:58	59.45
10738	4/10/2015	80227	001 - Regional Municipality of Durham	16:04:49 / 17:00:47	55.98
10739	4/10/2015	0176	002 - Regional Municipality of York	17:32:52 / 18:08:26	35.74
10740	4/10/2015	14149	004 - Ash Customer	18:15:39 / 18:38:14	22.75
10741	4/13/2015	14150	004 - Ash Customer	07:01:49 / 07:16:36	14.87
10742	4/13/2015	1552	004 - Ash Customer	07:04:28 / 07:39:57	35.29
10743	4/13/2015	1550	004 - Ash Customer	07:07:12 / 08:11:19	64.07
10744	4/13/2015	80186	001 - Regional Municipality of Durham	08:29:08 / 09:01:14	32.06
10745	4/13/2015	80194	001 - Regional Municipality of Durham	08:41:33 / 09:31:48	50.15
10746	4/13/2015	80225	001 - Regional Municipality of Durham	09:58:08 / 10:45:24	47.16

Covanta Durham York Renewable Energy, LP
Truck Cycle Time Report

Customer: All
 Site ID: 99

Transactions from 04/06/2015 through 04/15/2015
 Inbound and Outbound Tickets
 Third Party and Intercompany Customers

r ID: AHUXTER

Ticket	Date	Truck	Customer	Time In / Out	Time Cycle (Minutes)
10747	4/13/2015	14149	004 - Ash Customer	10:54:00 / 11:19:20	25.20
10748	4/13/2015	80194	001 - Regional Municipality of Durham	11:11:07 / 11:52:03	40.96
10749	4/13/2015	0176	002 - Regional Municipality of York	11:33:56 / 12:23:52	49.96
10750	4/13/2015	80186	001 - Regional Municipality of Durham	11:30:15 / 12:25:14	54.99
10751	4/13/2015	14150	004 - Ash Customer	12:09:26 / 12:28:24	18.98
10752	4/13/2015	571	003 - Reagents	10:27:14 / 12:45:32	138.18
10753	4/13/2015	80225	001 - Regional Municipality of Durham	12:39:56 / 13:19:33	39.77
10755	4/13/2015	28	07 - Gerdau	13:06:35 / 13:36:05	29.70
10756	4/13/2015	80194	001 - Regional Municipality of Durham	13:25:19 / 14:00:00	34.81
10757	4/13/2015	80186	001 - Regional Municipality of Durham	14:33:48 / 15:02:44	28.96
10758	4/13/2015	80225	001 - Regional Municipality of Durham	15:12:56 / 15:52:43	39.87
10759	4/13/2015	0176	002 - Regional Municipality of York	15:15:33 / 16:23:07	67.74
10760	4/13/2015	28	07 - Gerdau	16:14:34 / 16:55:00	40.66
10761	4/13/2015	15172	004 - Ash Customer	17:46:39 / 18:20:21	33.82
10762	4/14/2015	14150	004 - Ash Customer	07:02:45 / 07:22:37	19.92
10763	4/14/2015	0182	002 - Regional Municipality of York	07:01:07 / 07:34:11	33.04
10764	4/14/2015	80194	001 - Regional Municipality of Durham	07:22:14 / 08:04:16	42.02
10765	4/14/2015	80230	001 - Regional Municipality of Durham	07:19:01 / 08:05:33	46.32
10766	4/14/2015	80225	001 - Regional Municipality of Durham	08:08:04 / 08:42:09	34.05
10767	4/14/2015	08123	002 - Regional Municipality of York	09:16:25 / 09:50:39	34.14
10768	4/14/2015	80194	001 - Regional Municipality of Durham	09:35:42 / 10:22:46	47.04
10769	4/14/2015	80230	001 - Regional Municipality of Durham	09:54:26 / 10:42:18	47.92
10770	4/14/2015	15172	004 - Ash Customer	10:25:43 / 10:45:04	19.61
10771	4/14/2015	80225	001 - Regional Municipality of Durham	10:22:08 / 11:20:43	58.35
10772	4/14/2015	80186	001 - Regional Municipality of Durham	10:12:50 / 11:22:01	69.51
10773	4/14/2015	80194	001 - Regional Municipality of Durham	11:46:08 / 12:23:32	37.24
10774	4/14/2015	0182	002 - Regional Municipality of York	12:08:34 / 12:49:51	41.17
10775	4/14/2015	14150	004 - Ash Customer	12:45:11 / 13:05:06	19.95
10776	4/14/2015	80230	001 - Regional Municipality of Durham	12:14:21 / 13:12:24	58.03
10777	4/14/2015	80225	001 - Regional Municipality of Durham	13:05:15 / 13:44:46	39.31
10778	4/14/2015	80186	001 - Regional Municipality of Durham	13:18:55 / 14:11:23	52.68
10779	4/14/2015	80194	001 - Regional Municipality of Durham	13:50:31 / 14:38:18	47.87
10780	4/14/2015	80230	001 - Regional Municipality of Durham	14:49:09 / 15:19:36	30.27
10781	4/14/2015	80194	001 - Regional Municipality of Durham	16:07:00 / 16:39:33	32.33
10782	4/14/2015	15172	004 - Ash Customer	16:16:36 / 16:43:29	26.93
10783	4/14/2015	80225	001 - Regional Municipality of Durham	16:11:07 / 17:21:25	70.18
10784	4/14/2015	80186	001 - Regional Municipality of Durham	17:13:30 / 17:50:56	37.26
10785	4/15/2015	0182	002 - Regional Municipality of York	07:01:43 / 07:32:04	30.61
10786	4/15/2015	80194	001 - Regional Municipality of Durham	07:22:04 / 08:04:04	42.00

Covanta Durham York Renewable Energy, LP
Truck Cycle Time Report

Customer: All
 Site ID: 99

Transactions from 04/06/2015 through 04/15/2015
 Inbound and Outbound Tickets
 Third Party and Intercompany Customers

r ID: AHUXTER

Ticket	Date	Truck	Customer	Time In / Out	Time Cycle (Minutes)
10787	4/15/2015	80230	001 - Regional Municipality of Durham	07:17:22 / 08:05:19	47.97
10788	4/15/2015	80186	001 - Regional Municipality of Durham	07:51:36 / 08:29:37	38.01
10789	4/15/2015	80225	001 - Regional Municipality of Durham	08:21:25 / 09:12:01	50.76
10790	4/15/2015	0067	002 - Regional Municipality of York	09:36:12 / 10:13:00	36.88
10791	4/15/2015	15172	004 - Ash Customer	09:57:23 / 10:26:50	29.27
10792	4/15/2015	14150	004 - Ash Customer	10:03:31 / 10:43:47	40.16
10793	4/15/2015	80230	001 - Regional Municipality of Durham	10:01:24 / 10:50:56	49.32
10794	4/15/2015	80194	001 - Regional Municipality of Durham	09:50:33 / 10:52:05	61.72
10795	4/15/2015	80186	001 - Regional Municipality of Durham	10:49:08 / 11:20:26	31.18
10796	4/15/2015	0182	002 - Regional Municipality of York	11:40:42 / 12:08:33	27.91
10797	4/15/2015	80225	001 - Regional Municipality of Durham	11:47:54 / 12:42:29	54.75
10798	4/15/2015	80230	001 - Regional Municipality of Durham	12:26:19 / 13:09:21	43.02
10799	4/15/2015	80194	001 - Regional Municipality of Durham	12:38:54 / 13:37:12	58.58
10800	4/15/2015	80186	001 - Regional Municipality of Durham	13:22:43 / 14:29:01	66.58
10801	4/15/2015	15172	004 - Ash Customer	15:03:50 / 15:22:48	18.98
10802	4/15/2015	80225	001 - Regional Municipality of Durham	14:17:02 / 15:48:34	91.32
10803	4/15/2015	14150	004 - Ash Customer	15:37:37 / 16:15:50	38.13
10804	4/15/2015	0182	002 - Regional Municipality of York	14:47:51 / 16:31:13	103.62
10805	4/15/2015	80194	001 - Regional Municipality of Durham	15:34:16 / 17:04:16	90.00
10806	4/15/2015	80230	001 - Regional Municipality of Durham	14:58:39 / 17:05:26	126.87
10807	4/15/2015	80186	001 - Regional Municipality of Durham	17:12:12 / 17:52:24	40.12
10808	4/15/2015	80225	001 - Regional Municipality of Durham	18:14:36 / 18:52:54	38.18

Report Grand Totals

Average Cycle	49.40
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*178 tickets and 178 transactions***End of Report**

APPENDIX C

ENVIRONMENTAL NOISE GUIDELINES

APPENDIX C

ENVIRONMENTAL NOISE GUIDELINES

MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE (MOE)

Reference: MOE Publication NPC-205, October 1995: "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (URBAN)".

For sound from a stationary source, including Quasi-Steady Impulsive Sound but not including other impulsive sound, the sound level limit expressed in terms of the One Hour Equivalent Sound level (L_{eq}) is the background One Hour Equivalent Sound Level (L_{eq}) typically caused by road traffic as obtained pursuant to Section 6 for that point of reception.

No restrictions apply to a stationary source resulting in a One hour Equivalent Sound Level (L_{eq}) lower than the minimum values for that time period specified in Table 205-1.

TABLE 205-1

MINIMUM VALUES OF ONE HOUR L_{eq} OR L_{LM} BY TIME OF DAY

Time of Day	One Hour L_{eq} (dBA) or L_{LM} (dBAI)	
	Class 1 Area	Class 2 Area
0700 - 1900 hours	50	50
1900 - 2300 hours	47	45
2300 - 0700 hours	45	45

For impulsive sound from a metal working operation (such as from a punch press) the applicable sound level limit is 60 dBAI, if the stationary source were operating before January 1, 1980, and otherwise is 50 dBAI. The sound level limits are expressed in terms of the Logarithmic Mean Impulse Sound Level (L_{LM}).

APPENDIX D

WEATHER DATA

```

;
; Intellution Historical Data Report
; Generated 09/12/2014 11:22:51 AM
; Start Time: 01/11/14 00:00:00
; Duration: 30:00:00:00
; Interval: 00:10:00
; Historical Input Data path: D:\FIX\HTRDATA
; Retrieval modes: (S)a (A)verage (H)igh (L)ow (R)aw
;

```

Date	Time	CCSCADA0	CCSCADA0	CCSCADA0:CC-DG-ZIT-0001-ZI.F_CV (A)
01/11/2014	01:00:00	20.35294	4.606637	185.9443
01/11/2014	02:00:00	20.64931	4.358097	189.7958
01/11/2014	03:00:00	20.48648	4.106907	188.3227
01/11/2014	04:00:00	17.75387	3.814847	192.4016
01/11/2014	05:00:00	18.6198	4.254857	186.1671
01/11/2014	06:00:00	17.06799	4.315113	187.7986
01/11/2014	07:00:00	16.05514	4.218565	176.1691
01/11/2014	08:00:00	13.96501	3.90187	175.6934
01/11/2014	09:00:00	17.19374	3.639966	176.5133
01/11/2014	10:00:00	17.29782	3.582278	173.4382
01/11/2014	11:00:00	17.73271	4.077265	179.7411
01/11/2014	12:00:00	26.04626	4.569018	177.6602
01/11/2014	13:00:00	24.57835	5.218154	178.6215
01/11/2014	14:00:00	24.53021	5.364685	168.8788
01/11/2014	15:00:00	23.30179	5.368971	167.8092
01/11/2014	16:00:00	21.2906	5.744845	177.547
01/11/2014	17:00:00	23.19455	5.385744	169.7036
01/11/2014	18:00:00	20.94643	5.225196	165.114
01/11/2014	19:00:00	18.08367	4.938372	164.8346
01/11/2014	20:00:00	19.67281	4.767743	168.6896
01/11/2014	21:00:00	22.83796	4.694766	166.8018
01/11/2014	22:00:00	21.80368	4.425044	164.0294
01/11/2014	23:00:00	23.17592	4.28019	164.048
02/11/2014	01:00:00	23.24268	3.096745	162.6566
02/11/2014	02:00:00	22.82338	1.928275	162.3579
02/11/2014	03:00:00	21.46353	1.492696	161.9832
02/11/2014	04:00:00	18.89428	1.277935	165.7903
02/11/2014	05:00:00	21.39649	0.920439	167.1031
02/11/2014	06:00:00	18.41095	0.863615	169.4234
02/11/2014	07:00:00	16.73128	0.383318	162.7256
02/11/2014	08:00:00	14.68468	1.194307	164.4932
02/11/2014	09:00:00	18.67844	2.944901	164.3188
02/11/2014	10:00:00	17.72505	4.130914	162.9947
02/11/2014	11:00:00	24.3076	5.227243	145.9268
02/11/2014	12:00:00	25.33016	6.161219	152.7651
02/11/2014	13:00:00	22.13803	7.354381	140.206
02/11/2014	14:00:00	19.80794	7.998971	142.9074

02/11/2014	15:00:00	13.79148	8.775031	114.6395
02/11/2014	16:00:00	15.68859	8.758944	108.9972
02/11/2014	17:00:00	10.7264	7.871732	102.8983
02/11/2014	18:00:00	9.473549	6.868369	113.9445
02/11/2014	19:00:00	9.416481	6.291326	104.8013
02/11/2014	20:00:00	8.894317	6.564487	89.15154
02/11/2014	21:00:00	7.54473	6.966707	89.62313
02/11/2014	22:00:00	12.42719	6.6069	87.21377
02/11/2014	23:00:00	15.96007	5.940065	91.12131
03/11/2014	01:00:00	5.95923	4.924895	83.89348
03/11/2014	02:00:00	7.740717	5.306931	91.53653
03/11/2014	03:00:00	5.640244	5.953043	87.5289
03/11/2014	04:00:00	10.23945	6.623809	89.73421
03/11/2014	05:00:00	8.623448	7.611791	84.31196
03/11/2014	06:00:00	6.445618	7.930612	73.82595
03/11/2014	07:00:00	5.877699	8.390932	73.74487
03/11/2014	08:00:00	7.054233	9.027854	69.95783
03/11/2014	09:00:00	6.886829	9.25423	66.32572
03/11/2014	10:00:00	12.16463	9.284336	59.13454
03/11/2014	11:00:00	9.963571	9.419024	59.16381
03/11/2014	12:00:00	9.391504	10.182	54.8314
03/11/2014	13:00:00	4.944643	11.25477	68.06175
03/11/2014	14:00:00	12.12658	12.34012	71.81902
03/11/2014	15:00:00	8.043382	11.30932	62.81555
03/11/2014	16:00:00	25.23454	11.48727	45.55687
03/11/2014	17:00:00	6.079325	10.81671	72.95979
03/11/2014	18:00:00	7.113496	11.39014	84.62537
03/11/2014	19:00:00	5.964084	11.44629	68.34039
03/11/2014	20:00:00	14.94478	11.90858	82.42835
03/11/2014	21:00:00	8.131051	11.70774	74.30453
03/11/2014	22:00:00	2.410329	11.23938	63.04747
03/11/2014	23:00:00	0.349847	11.07447	53.81398
04/11/2014	01:00:00	3.520613	11.15081	37.43436
04/11/2014	02:00:00	4.801317	11.65018	58.15932
04/11/2014	03:00:00	0.26884	11.71835	42.71651
04/11/2014	04:00:00	1.538154	12.39077	311.9488
04/11/2014	05:00:00	3.365808	12.75329	44.0918
04/11/2014	06:00:00	5.135545	12.30701	39.37557
04/11/2014	07:00:00	4.331135	12.23577	55.293
04/11/2014	08:00:00	14.97224	12.05741	36.22409
04/11/2014	09:00:00	19.1489	12.31815	31.65159
04/11/2014	10:00:00	12.73649	12.41412	24.93498
04/11/2014	11:00:00	16.2767	12.41715	35.28637
04/11/2014	12:00:00	21.29393	12.50681	45.0965
04/11/2014	13:00:00	13.73671	12.29436	51.07328
04/11/2014	14:00:00	13.99521	12.23052	48.51156
04/11/2014	15:00:00	5.794614	11.76651	71.77115

04/11/2014	16:00:00	10.1052	11.36734	71.2459
04/11/2014	17:00:00	15.49302	10.82739	67.38667
04/11/2014	18:00:00	8.507463	10.55634	65.59334
04/11/2014	19:00:00	9.02078	10.5448	67.82909
04/11/2014	20:00:00	8.382913	10.8098	60.09786
04/11/2014	21:00:00	18.7314	11.03193	50.29341
04/11/2014	22:00:00	26.41904	11.19946	45.95894
04/11/2014	23:00:00	9.654666	10.86933	70.59509
05/11/2014	01:00:00	13.08709	11.56066	84.86723
05/11/2014	02:00:00	20.24411	10.44157	93.55698
05/11/2014	03:00:00	16.66852	9.173142	90.89386
05/11/2014	04:00:00	15.99733	8.649754	79.3195
05/11/2014	05:00:00	9.257592	8.385559	64.34892
05/11/2014	06:00:00	15.12963	8.615282	58.03041
05/11/2014	07:00:00	14.74686	8.836122	58.2423
05/11/2014	08:00:00	14.66151	8.730927	61.27135
05/11/2014	09:00:00	15.56674	8.97357	60.29863
05/11/2014	10:00:00	14.43734	9.308121	58.44499
05/11/2014	11:00:00	24.24999	9.184813	49.76839
05/11/2014	12:00:00	13.46148	9.927642	58.23524
05/11/2014	13:00:00	9.84607	9.946063	63.07991
05/11/2014	14:00:00	7.326012	10.1159	69.73853
05/11/2014	15:00:00	9.344902	10.57405	92.64211
05/11/2014	16:00:00	14.8918	10.07106	115.0239
05/11/2014	17:00:00	8.180812	9.767601	116.3291
05/11/2014	18:00:00	6.356793	9.430088	120.8286
05/11/2014	19:00:00	5.362186	9.362563	133.5434
05/11/2014	20:00:00	4.261071	9.206738	130.8821
05/11/2014	21:00:00	3.992387	9.160558	215.2561
05/11/2014	22:00:00	7.740576	8.490484	45.18141
05/11/2014	23:00:00	4.24936	8.742679	321.4954
06/11/2014	01:00:00	1.868731	8.47583	241.5562
06/11/2014	02:00:00	3.145973	7.422898	224.1728
06/11/2014	03:00:00	8.300058	8.65828	320.2562
06/11/2014	04:00:00	7.231562	6.800218	203.7896
06/11/2014	05:00:00	7.411254	7.258546	218.7908
06/11/2014	06:00:00	9.985812	7.634726	240.1675
06/11/2014	07:00:00	8.534559	7.894383	238.201
06/11/2014	08:00:00	8.711465	8.501349	226.4237
06/11/2014	09:00:00	10.91274	9.295651	252.8746
06/11/2014	10:00:00	17.39565	10.04228	259.9067
06/11/2014	11:00:00	14.97268	10.37966	268.0147
06/11/2014	12:00:00	14.21907	10.44494	263.0869
06/11/2014	13:00:00	12.55273	9.808294	282.8254
06/11/2014	14:00:00	11.15402	9.92354	270.0569
06/11/2014	15:00:00	9.457497	9.702707	278.6711
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06/11/2014	19:00:00	12.58552	7.958013	221.2089
06/11/2014	20:00:00	10.23175	7.57445	242.5023
06/11/2014	21:00:00	10.2695	7.052426	224.7412
06/11/2014	22:00:00	6.384261	6.693939	195.0064
06/11/2014	23:00:00	5.969747	6.31761	199.1354
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07/11/2014	02:00:00	8.343657	5.763664	155.4705
07/11/2014	03:00:00	7.178552	5.446442	141.5462
07/11/2014	04:00:00	17.42172	4.048399	145.0112
07/11/2014	05:00:00	17.80559	3.807854	154.1312
07/11/2014	06:00:00	19.37033	3.558236	150.6703
07/11/2014	07:00:00	23.46484	3.420661	148.5976
07/11/2014	08:00:00	19.33269	3.349196	150.1419
07/11/2014	09:00:00	25.57424	3.512435	147.2313
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07/11/2014	13:00:00	18.37696	3.564743	148.9174
07/11/2014	14:00:00	21.00487	4.001841	143.8948
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07/11/2014	19:00:00	6.389333	3.134558	103.4989
07/11/2014	20:00:00	4.661485	3.052884	100.6581
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07/11/2014	22:00:00	6.940957	2.433071	107.4395
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08/11/2014	02:00:00	1.691636	1.460264	145.232
08/11/2014	03:00:00	3.237161	1.629344	160.9483
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08/11/2014	08:00:00	18.23136	5.886715	332.9834
08/11/2014	09:00:00	19.12355	6.633268	332.773
08/11/2014	10:00:00	23.90733	6.22211	27.39902
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08/11/2014	12:00:00	18.99431	6.521533	163.4138
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08/11/2014	15:00:00	21.57614	7.686321	17.59493
08/11/2014	16:00:00	24.65454	7.464746	40.29891
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08/11/2014	19:00:00	10.13962	7.193818	63.0289
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08/11/2014	22:00:00	12.9902	6.885077	92.52998
08/11/2014	23:00:00	19.3463	6.123302	104.6468
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09/11/2014	02:00:00	12.28113	4.464424	97.60657
09/11/2014	03:00:00	10.54373	4.691356	82.19215
09/11/2014	04:00:00	14.54505	4.075738	85.18211
09/11/2014	05:00:00	11.90003	4.371896	83.95802
09/11/2014	06:00:00	13.00172	4.287254	85.50555
09/11/2014	07:00:00	10.09027	4.241594	79.9679
09/11/2014	08:00:00	7.90473	4.237528	81.94309
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09/11/2014	10:00:00	10.51514	4.839235	52.19009
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09/11/2014	12:00:00	20.11437	5.157171	44.76493
09/11/2014	13:00:00	16.87305	5.508473	46.33499
09/11/2014	14:00:00	16.63498	6.094849	46.73953
09/11/2014	15:00:00	17.9567	6.659295	27.68657
09/11/2014	16:00:00	14.45824	7.110755	28.05656
09/11/2014	17:00:00	9.132052	7.292106	27.52084
09/11/2014	18:00:00	18.73191	8.148254	25.07916
09/11/2014	19:00:00	23.21159	8.596169	45.68857
09/11/2014	20:00:00	8.583948	8.119682	59.66011
09/11/2014	21:00:00	4.716974	8.131197	63.77459
09/11/2014	22:00:00	5.470146	8.148177	65.89594
09/11/2014	23:00:00	10.89284	8.705307	75.58312
10/11/2014	01:00:00	9.882104	8.770621	77.96194
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10/11/2014	03:00:00	9.941792	8.742886	81.66176
10/11/2014	04:00:00	8.291069	7.828257	86.77179
10/11/2014	05:00:00	6.515707	7.680158	84.28889
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10/11/2014	11:00:00	6.161523	9.062376	277.9982
10/11/2014	12:00:00	8.791365	9.637287	276.2871
10/11/2014	13:00:00	13.78679	9.483081	276.632
10/11/2014	14:00:00	17.36404	9.155834	265.9106
10/11/2014	15:00:00	20.98929	9.304339	261.3148
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10/11/2014	17:00:00	22.82971	10.01744	260.3131
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11/11/2014	02:00:00	16.47603	11.15918	261.6187
11/11/2014	03:00:00	17.69643	11.07368	261.8492
11/11/2014	04:00:00	13.65206	11.48797	270.1258
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11/11/2014	06:00:00	6.546348	9.955894	238.7239
11/11/2014	07:00:00	11.52275	9.920586	251.9023
11/11/2014	08:00:00	8.607654	11.0024	255.7645
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11/11/2014	10:00:00	3.468797	13.78512	194.9659
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11/11/2014	12:00:00	11.1048	11.93356	111.4659
11/11/2014	13:00:00	8.641529	13.59247	267.6149
11/11/2014	14:00:00	8.422555	14.78555	335.5596
11/11/2014	15:00:00	5.182468	15.23993	320.4828
11/11/2014	16:00:00	3.599948	16.50869	317.4821
11/11/2014	17:00:00	6.403408	14.97137	259.5561
11/11/2014	18:00:00	8.530154	15.7273	280.0203
11/11/2014	19:00:00	5.62585	14.97705	253.6965
11/11/2014	20:00:00	4.274786	16.13825	288.0816
11/11/2014	21:00:00	11.00768	15.67196	288.3404
11/11/2014	22:00:00	6.544498	14.92898	143.3419
11/11/2014	23:00:00	9.066496	13.08928	25.26274
12/11/2014	01:00:00	7.404383	10.93205	54.01575
12/11/2014	02:00:00	15.66192	11.79211	87.37653
12/11/2014	03:00:00	17.3106	10.81271	86.6123
12/11/2014	04:00:00	24.45137	8.938412	88.68929
12/11/2014	05:00:00	23.03636	8.092373	90.29557
12/11/2014	06:00:00	19.47156	7.740385	79.84262
12/11/2014	07:00:00	21.55521	6.595715	85.78162
12/11/2014	08:00:00	23.56071	6.041256	85.72916
12/11/2014	09:00:00	23.5233	5.801713	92.28465
12/11/2014	10:00:00	21.48105	5.508553	77.72787
12/11/2014	11:00:00	19.31787	5.386137	87.85878
12/11/2014	12:00:00	18.43565	5.100554	81.6896
12/11/2014	13:00:00	13.58055	5.350658	76.00188
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12/11/2014	18:00:00	17.60298	4.555829	98.49647
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13/11/2014	02:00:00	12.41366	4.033168	77.87843
13/11/2014	03:00:00	12.6804	4.147715	69.97247
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13/11/2014	05:00:00	12.25791	4.042371	72.14399
13/11/2014	06:00:00	11.64958	3.867262	69.84848
13/11/2014	07:00:00	10.18077	3.567204	70.86314
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13/11/2014	09:00:00	12.74606	3.520367	83.57585
13/11/2014	10:00:00	16.55687	3.607562	88.94207
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13/11/2014	12:00:00	12.2225	3.430576	56.84409
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13/11/2014	16:00:00	8.977003	3.750368	64.80972
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13/11/2014	18:00:00	7.987353	3.274344	90.50717
13/11/2014	19:00:00	10.96173	3.003865	79.2536
13/11/2014	20:00:00	13.09137	2.133698	85.83047
13/11/2014	21:00:00	14.24297	1.605003	90.27546
13/11/2014	22:00:00	13.20186	1.025048	87.94422
13/11/2014	23:00:00	11.49214	0.605585	83.10429
14/11/2014	01:00:00	11.03059	0.318454	91.58666
14/11/2014	02:00:00	10.69941	0.452199	80.97312
14/11/2014	03:00:00	10.56886	0.479181	85.39794
14/11/2014	04:00:00	13.88371	0.738459	86.24282
14/11/2014	05:00:00	9.740949	0.248931	93.63189
14/11/2014	06:00:00	4.681582	-7.88E-01	123.6241
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14/11/2014	09:00:00	10.46112	1.195143	113.0448
14/11/2014	10:00:00	15.81942	1.795621	130.5451
14/11/2014	11:00:00	18.60618	2.382133	125.1915
14/11/2014	12:00:00	14.3608	2.85566	129.2875
14/11/2014	13:00:00	15.75396	2.574149	137.0584
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14/11/2014	15:00:00	16.19245	2.717726	110.5534
14/11/2014	16:00:00	20.98344	2.133149	116.1449
14/11/2014	17:00:00	13.41647	1.60852	127.1059
14/11/2014	18:00:00	10.6081	1.042113	115.7636
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15/11/2014	11:00:00	7.799866	3.840773	62.5279
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15/11/2014	13:00:00	18.33948	4.452846	50.4811
15/11/2014	14:00:00	17.92593	3.95131	54.46089
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15/11/2014	16:00:00	17.25105	3.527245	57.06262
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15/11/2014	18:00:00	16.39138	2.378487	97.52271
15/11/2014	19:00:00	8.48526	2.151562	88.60364
15/11/2014	20:00:00	10.30792	2.373029	81.93501
15/11/2014	21:00:00	11.3306	2.200624	99.91428
15/11/2014	22:00:00	6.607756	2.000823	102.5771
15/11/2014	23:00:00	10.07681	2.515086	89.70363
16/11/2014	01:00:00	9.023361	2.770776	59.21931
16/11/2014	02:00:00	8.023592	3.127516	57.9321
16/11/2014	03:00:00	6.106164	2.927323	68.872
16/11/2014	04:00:00	11.60502	3.438432	51.84265
16/11/2014	05:00:00	12.90456	2.635012	45.30055
16/11/2014	06:00:00	8.09928	2.795297	60.39257
16/11/2014	07:00:00	18.21948	2.533113	43.16525
16/11/2014	08:00:00	17.97785	2.029553	29.83024
16/11/2014	09:00:00	15.51392	1.801829	53.07901
16/11/2014	10:00:00	9.767531	1.747616	76.50119
16/11/2014	11:00:00	10.09836	2.172066	57.5672
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16/11/2014	13:00:00	8.190302	2.223867	66.29562
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16/11/2014	16:00:00	10.65933	2.504049	54.83974
16/11/2014	17:00:00	13.94087	2.738073	51.63664
16/11/2014	18:00:00	8.73273	2.375783	79.67265
16/11/2014	19:00:00	5.555439	2.87592	63.22592
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17/11/2014	02:00:00	8.118671	1.61133	232.074
17/11/2014	03:00:00	11.99291	1.328052	217.0313
17/11/2014	04:00:00	12.34213	1.397952	219.0104
17/11/2014	05:00:00	11.13073	1.731007	224.6875
17/11/2014	06:00:00	15.1554	1.793946	220.6096
17/11/2014	07:00:00	11.69769	2.205639	218.2037
17/11/2014	08:00:00	10.97305	2.469897	228.816
17/11/2014	09:00:00	10.10846	2.357412	245.2813
17/11/2014	10:00:00	7.718656	2.81199	221.9694
17/11/2014	11:00:00	2.849679	3.212335	254.2184
17/11/2014	12:00:00	1.76965	3.506727	274.866
17/11/2014	13:00:00	1.123835	3.234728	236.6791
17/11/2014	14:00:00	0.853065	3.150866	108.775
17/11/2014	15:00:00	5.172272	3.053825	84.87131
17/11/2014	16:00:00	10.18614	3.220175	82.51675
17/11/2014	17:00:00	10.66191	3.318384	84.19759
17/11/2014	18:00:00	13.72447	3.486295	73.46249
17/11/2014	19:00:00	13.52087	3.433074	76.92753
17/11/2014	20:00:00	19.47968	2.1497	93.3942
17/11/2014	21:00:00	26.4993	1.293544	86.68213
17/11/2014	22:00:00	24.99349	-9.51E-02	87.4103
17/11/2014	23:00:00	22.81363	-8.98E-01	83.63692
18/11/2014	01:00:00	19.13711	-1.94E+00	74.5279
18/11/2014	02:00:00	22.43212	-2.86E+00	85.97202
18/11/2014	03:00:00	20.99621	-3.57E+00	83.19324
18/11/2014	04:00:00	24.95357	-3.91E+00	84.11065
18/11/2014	05:00:00	24.03471	-3.49E+00	70.32852
18/11/2014	06:00:00	24.17333	-3.75E+00	73.00602
18/11/2014	07:00:00	24.06899	-4.19E+00	73.07051
18/11/2014	08:00:00	23.96311	-3.91E+00	70.36679
18/11/2014	09:00:00	21.68437	-3.30E+00	66.04156
18/11/2014	10:00:00	23.85205	-3.31E+00	72.31768
18/11/2014	11:00:00	22.91192	-2.58E+00	69.37341
18/11/2014	12:00:00	24.74076	-2.18E+00	71.47186
18/11/2014	13:00:00	24.49889	-1.49E+00	71.65115
18/11/2014	14:00:00	24.01441	-1.61E+00	68.98035
18/11/2014	15:00:00	22.0065	-1.19E+00	64.9357
18/11/2014	16:00:00	23.44002	-1.17E+00	64.02882
18/11/2014	17:00:00	28.79847	-1.18E+00	63.04005
18/11/2014	18:00:00	24.38295	-1.36E+00	65.27551
18/11/2014	19:00:00	23.61786	-1.38E+00	71.85505
18/11/2014	20:00:00	25.95992	-1.55E+00	75.21922
18/11/2014	21:00:00	27.67831	-1.88E+00	79.33361
18/11/2014	22:00:00	25.41115	-2.02E+00	78.50391

18/11/2014	23:00:00	25.8096	-2.35E+00	79.18845
19/11/2014	01:00:00	23.65936	-2.86E+00	81.64181
19/11/2014	02:00:00	20.77914	-3.28E+00	79.40927
19/11/2014	03:00:00	20.21421	-3.65E+00	78.43046
19/11/2014	04:00:00	19.75619	-4.14E+00	82.54588
19/11/2014	05:00:00	17.80007	-4.22E+00	86.07349
19/11/2014	06:00:00	14.05816	-4.77E+00	88.25181
19/11/2014	07:00:00	17.30476	-4.73E+00	91.30826
19/11/2014	08:00:00	10.04812	-4.91E+00	102.0167
19/11/2014	09:00:00	10.97432	-3.56E+00	84.28181
19/11/2014	10:00:00	15.72024	-2.16E+00	72.5824
19/11/2014	11:00:00	20.60163	-2.03E+00	52.52625
19/11/2014	12:00:00	24.79026	-1.97E+00	48.07046
19/11/2014	13:00:00	21.41427	-2.04E+00	44.83422
19/11/2014	14:00:00	28.29549	-1.51E+00	27.40423
19/11/2014	15:00:00	28.40257	-1.63E+00	304.166
19/11/2014	16:00:00	33.78524	-1.47E+00	191.4022
19/11/2014	17:00:00	36.60955	-1.82E+00	235.3286
19/11/2014	18:00:00	32.71136	-1.24E+00	334.7667
19/11/2014	19:00:00	33.73714	-5.51E-01	314.4727
19/11/2014	20:00:00	37.25732	0.459812	314.4696
19/11/2014	21:00:00	39.88046	0.751566	228.4941
19/11/2014	22:00:00	15.74393	3.105707	68.71413
19/11/2014	23:00:00	17.92288	2.492106	72.7414
20/11/2014	01:00:00	25.80969	1.164101	79.87046
20/11/2014	02:00:00	21.27617	0.661909	74.02649
20/11/2014	03:00:00	18.37636	0.686715	74.63407
20/11/2014	04:00:00	18.76449	1.26E-02	77.40961
20/11/2014	05:00:00	23.68931	-1.64E-02	76.42047
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20/11/2014	08:00:00	21.42325	-1.07E+00	69.41174
20/11/2014	09:00:00	20.60397	-1.10E+00	72.79822
20/11/2014	10:00:00	21.97549	-8.55E-01	73.59914
20/11/2014	11:00:00	19.57542	-2.67E-01	72.71526
20/11/2014	12:00:00	25.81146	0.159233	81.432
20/11/2014	13:00:00	26.5359	-9.81E-02	79.47132
20/11/2014	14:00:00	24.47713	0.205947	82.01698
20/11/2014	15:00:00	18.06734	0.137109	81.6904
20/11/2014	16:00:00	22.42375	-4.78E-01	84.18678
20/11/2014	17:00:00	21.99688	-1.31E+00	85.56185
20/11/2014	18:00:00	18.94919	-2.04E+00	88.59111
20/11/2014	19:00:00	16.0134	-2.52E+00	85.99744
20/11/2014	20:00:00	15.51277	-3.05E+00	94.28802
20/11/2014	21:00:00	14.60547	-3.57E+00	95.89091
20/11/2014	22:00:00	15.53221	-3.99E+00	96.30682
20/11/2014	23:00:00	15.73896	-4.25E+00	97.70219

21/11/2014	01:00:00	13.5112	-4.16E+00	89.10166
21/11/2014	02:00:00	12.84807	-4.25E+00	90.81845
21/11/2014	03:00:00	9.928988	-5.41E+00	109.3477
21/11/2014	04:00:00	10.34522	-5.98E+00	124.7665
21/11/2014	05:00:00	9.044691	-5.31E+00	141.9914
21/11/2014	06:00:00	9.51667	-5.92E+00	135.7932
21/11/2014	07:00:00	6.156258	-6.70E+00	138.6238
21/11/2014	08:00:00	4.985645	-6.42E+00	115.3146
21/11/2014	09:00:00	8.923159	-5.10E+00	139.7145
21/11/2014	10:00:00	8.419306	-3.57E+00	133.3033
21/11/2014	11:00:00	7.726875	-2.12E+00	104.8083
21/11/2014	12:00:00	6.760288	-1.30E+00	62.14517
21/11/2014	13:00:00	7.508785	-5.75E-01	56.28129
21/11/2014	14:00:00	11.73394	-1.17E-01	84.01529
21/11/2014	15:00:00	15.64271	0.180635	91.3035
21/11/2014	16:00:00	17.22539	-1.01E-01	86.70332
21/11/2014	17:00:00	19.61039	-4.11E-01	87.96896
21/11/2014	18:00:00	17.25707	-1.49E+00	91.44656
21/11/2014	19:00:00	16.42435	-2.12E+00	89.60087
21/11/2014	20:00:00	16.88635	-2.30E+00	86.85459
21/11/2014	21:00:00	15.90034	-2.58E+00	93.25871
21/11/2014	22:00:00	10.13178	-3.17E+00	95.65707
21/11/2014	23:00:00	16.11247	-2.61E+00	90.66441
22/11/2014	01:00:00	9.823598	-2.07E+00	94.98087
22/11/2014	02:00:00	22.30604	0.861546	54.2939
22/11/2014	03:00:00	32.46081	1.43854	51.3927
22/11/2014	04:00:00	27.01937	2.304706	55.7583
22/11/2014	05:00:00	34.06393	2.709294	51.07934
22/11/2014	06:00:00	26.54929	3.040492	50.43937
22/11/2014	07:00:00	31.70868	3.276099	46.57125
22/11/2014	08:00:00	29.80472	3.790968	45.57875
22/11/2014	09:00:00	29.04631	4.198818	48.07017
22/11/2014	10:00:00	29.69286	4.842688	41.00637
22/11/2014	11:00:00	23.44032	5.455574	49.33039
22/11/2014	12:00:00	36.74953	5.674401	44.63746
22/11/2014	13:00:00	18.28997	5.38919	58.79852
22/11/2014	14:00:00	20.93756	5.64513	57.90768
22/11/2014	15:00:00	22.96507	6.01561	55.93508
22/11/2014	16:00:00	23.23177	6.296427	53.56784
22/11/2014	17:00:00	21.1517	6.809248	54.14483
22/11/2014	18:00:00	10.31017	6.998062	60.67483
22/11/2014	19:00:00	13.58546	7.151762	56.88821
22/11/2014	20:00:00	9.211028	7.002492	72.9857
22/11/2014	21:00:00	7.112186	6.874961	71.19412
22/11/2014	22:00:00	7.793407	6.983937	65.76783
22/11/2014	23:00:00	7.043638	6.710896	69.53014
23/11/2014	01:00:00	7.3251	7.195324	73.42668

23/11/2014	02:00:00	7.519278	6.953216	61.74318
23/11/2014	03:00:00	8.030411	7.077353	78.7826
23/11/2014	04:00:00	5.418612	7.772924	76.53403
23/11/2014	05:00:00	4.434176	7.064568	65.17159
23/11/2014	06:00:00	6.684215	7.170996	39.37778
23/11/2014	07:00:00	2.515392	7.154381	86.52115
23/11/2014	08:00:00	3.696633	7.050935	39.31388
23/11/2014	09:00:00	2.828297	7.449394	296.0593
23/11/2014	10:00:00	3.308007	8.231354	285.9919
23/11/2014	11:00:00	3.881076	8.822209	92.31812
23/11/2014	12:00:00	8.523311	8.18335	39.52777
23/11/2014	13:00:00	4.4877	7.838587	42.60081
23/11/2014	14:00:00	7.932353	8.258863	322.6677
23/11/2014	15:00:00	5.115641	8.498353	301.2059
23/11/2014	16:00:00	10.1123	8.727268	259.9286
23/11/2014	17:00:00	16.43248	9.036216	289.8738
23/11/2014	18:00:00	19.02905	9.023518	288.3628
23/11/2014	19:00:00	16.36328	9.920022	272.2031
23/11/2014	20:00:00	18.75061	9.20267	259.3981
23/11/2014	21:00:00	21.59669	10.4878	257.6481
23/11/2014	22:00:00	23.47229	10.16882	263.3462
23/11/2014	23:00:00	24.12458	9.646705	262.2785
24/11/2014	01:00:00	25.40056	9.293618	261.4487
24/11/2014	02:00:00	23.7617	8.628644	259.0171
24/11/2014	03:00:00	35.06314	9.945542	264.8352
24/11/2014	04:00:00	31.33784	9.362256	267.2281
24/11/2014	05:00:00	24.5792	10.01238	266.3197
24/11/2014	06:00:00	20.93648	10.69282	284.1922
24/11/2014	07:00:00	32.21953	11.8983	334.8204
24/11/2014	08:00:00	32.0373	12.34047	30.35418
24/11/2014	09:00:00	32.29747	12.36398	16.16733
24/11/2014	10:00:00	25.07948	11.90885	11.66556
24/11/2014	11:00:00	25.54396	12.13595	49.99592
24/11/2014	12:00:00	20.29655	12.00167	67.61697
24/11/2014	13:00:00	19.00343	12.40579	109.3351
24/11/2014	14:00:00	42.93694	13.58444	41.2383
24/11/2014	15:00:00	34.98769	11.32617	28.61232
24/11/2014	16:00:00	40.59182	11.6805	26.22692
24/11/2014	17:00:00	48.4191	12.47519	43.38787
24/11/2014	18:00:00	50.082	10.1733	50.89237
24/11/2014	19:00:00	33.80607	8.733239	54.39658
24/11/2014	20:00:00	27.70412	8.451659	59.41366
24/11/2014	21:00:00	27.60329	8.181779	55.15231
24/11/2014	22:00:00	21.96078	8.151087	59.05371
24/11/2014	23:00:00	21.35988	7.654503	61.5629
25/11/2014	01:00:00	27.35421	5.351476	59.028
25/11/2014	02:00:00	18.86798	5.204977	62.2506

25/11/2014	03:00:00	32.38087	4.946159	52.80143
25/11/2014	04:00:00	19.8104	4.888017	66.12907
25/11/2014	05:00:00	21.19497	4.609268	60.67992
25/11/2014	06:00:00	22.66968	4.533065	59.60058
25/11/2014	07:00:00	16.91251	4.403805	71.57595
25/11/2014	08:00:00	24.22558	4.294651	59.49477
25/11/2014	09:00:00	17.68599	4.185497	61.479
25/11/2014	10:00:00	16.51952	5.901362	64.78958
25/11/2014	11:00:00	19.16729	5.784332	59.42566
25/11/2014	12:00:00	24.4826	5.511527	57.10466
25/11/2014	13:00:00	14.91924	5.012653	65.89979
25/11/2014	14:00:00	15.68147	4.732586	70.01865
25/11/2014	15:00:00	14.94219	4.81739	68.47961
25/11/2014	16:00:00	17.48918	4.655143	73.9873
25/11/2014	17:00:00	18.83173	4.329402	74.48856
25/11/2014	18:00:00	15.40541	4.500887	64.06837
25/11/2014	19:00:00	15.54829	4.651762	69.08977
25/11/2014	20:00:00	15.05204	4.511275	70.13269
25/11/2014	21:00:00	18.74609	4.360571	77.51914
25/11/2014	22:00:00	14.15492	4.471509	72.82072
25/11/2014	23:00:00	7.233154	3.891732	109.565
26/11/2014	01:00:00	7.48978	3.535401	93.67106
26/11/2014	02:00:00	6.803757	3.236626	111.1318
26/11/2014	03:00:00	2.611107	2.882398	140.2297
26/11/2014	04:00:00	4.264025	3.238759	70.87312
26/11/2014	05:00:00	2.445464	3.592274	82.92768
26/11/2014	06:00:00	3.912205	3.294606	174.6455
26/11/2014	07:00:00	5.649119	3.011014	205.3294
26/11/2014	08:00:00	6.8763	2.629362	211.1203
26/11/2014	09:00:00	7.317061	3.155567	209.822
26/11/2014	10:00:00	10.62521	3.29517	215.2378
26/11/2014	11:00:00	9.615872	3.524976	233.9158
26/11/2014	12:00:00	11.26894	3.62873	262.325
26/11/2014	13:00:00	12.57722	3.715368	268.6061
26/11/2014	14:00:00	10.27762	3.842821	259.987
26/11/2014	15:00:00	9.638011	3.629514	236.6996
26/11/2014	16:00:00	9.954684	3.495805	225.5858
26/11/2014	17:00:00	8.33351	3.144923	224.2549
26/11/2014	18:00:00	6.382695	2.867616	247.648
26/11/2014	19:00:00	5.868042	2.839664	229.5121
26/11/2014	20:00:00	3.751132	2.672659	247.5624
26/11/2014	21:00:00	1.241279	2.669263	230.0737
26/11/2014	22:00:00	9.318808	1.98129	240.8323
26/11/2014	23:00:00	10.41787	1.259992	227.2061
27/11/2014	01:00:00	11.81068	-3.37E-01	215.064
27/11/2014	02:00:00	9.279024	-8.04E-01	197.0207
27/11/2014	03:00:00	5.734683	-1.24E+00	152.483

27/11/2014	04:00:00	6.381076	-1.62E+00	182.9697
27/11/2014	05:00:00	7.700819	-2.01E+00	179.1407
27/11/2014	06:00:00	8.3674	-2.35E+00	204.4008
27/11/2014	07:00:00	10.46236	-1.93E+00	204.9475
27/11/2014	08:00:00	3.406797	-1.46E+00	131.1734
27/11/2014	09:00:00	5.53818	-9.41E-01	184.8854
27/11/2014	10:00:00	1.770947	3.38E-02	161.3592
27/11/2014	11:00:00	5.050611	0.3804	35.24908
27/11/2014	12:00:00	5.059548	0.690318	49.69088
27/11/2014	13:00:00	6.882784	1.239017	81.35346
27/11/2014	14:00:00	12.18879	2.204662	106.4471
27/11/2014	15:00:00	9.468965	2.929841	134.3773
27/11/2014	16:00:00	12.91236	2.082903	138.0235
27/11/2014	17:00:00	11.2345	1.741845	137.6406
27/11/2014	18:00:00	11.78955	1.477201	159.9697
27/11/2014	19:00:00	11.22483	1.304302	147.9925
27/11/2014	20:00:00	14.16765	0.662409	145.2582
27/11/2014	21:00:00	12.00935	0.285151	149.1672
27/11/2014	22:00:00	9.534495	0.331217	146.8663
27/11/2014	23:00:00	7.386868	-1.74E-01	127.8575
28/11/2014	01:00:00	14.69477	-6.54E-01	108.9537
28/11/2014	02:00:00	12.77187	-1.41E+00	109.7871
28/11/2014	03:00:00	14.27137	-1.87E+00	98.17653
28/11/2014	04:00:00	11.2178	-2.25E+00	90.86612
28/11/2014	05:00:00	12.61641	-2.75E+00	90.2064
28/11/2014	06:00:00	15.76577	-3.25E+00	95.71359
28/11/2014	07:00:00	17.52863	-3.54E+00	93.90138
28/11/2014	08:00:00	18.27222	-3.56E+00	99.92725
28/11/2014	09:00:00	20.49646	-3.09E+00	106.8494
28/11/2014	10:00:00	19.06781	-2.34E+00	101.4024
28/11/2014	11:00:00	17.18984	-1.57E+00	108.9662
28/11/2014	12:00:00	15.71875	-1.37E+00	108.9876
28/11/2014	13:00:00	14.37563	-7.17E-01	112.9031
28/11/2014	14:00:00	18.67515	-8.47E-01	86.92296
28/11/2014	15:00:00	11.2152	-7.36E-01	100.7638
28/11/2014	16:00:00	10.23891	-8.32E-01	94.636
28/11/2014	17:00:00	7.243338	-1.06E+00	119.7504
28/11/2014	18:00:00	7.023078	-1.08E+00	100.6152
28/11/2014	19:00:00	9.148695	-1.12E+00	107.8
28/11/2014	20:00:00	9.932212	-1.08E+00	106.032
28/11/2014	21:00:00	7.915376	-1.14E+00	114.5896
28/11/2014	22:00:00	7.155385	-1.27E+00	116.3253
28/11/2014	23:00:00	7.133324	-1.28E+00	121.0473
29/11/2014	01:00:00	2.069039	-1.32E+00	169.2514
29/11/2014	02:00:00	2.486171	-1.04E+00	214.05
29/11/2014	03:00:00	6.707676	-1.19E+00	208.9155
29/11/2014	04:00:00	8.80725	-8.42E-01	232.9438

29/11/2014	05:00:00	12.53676	0.992081	322.1231
29/11/2014	06:00:00	17.46027	1.456868	330.1178
29/11/2014	07:00:00	21.04346	1.699302	332.0161
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30/11/2014	18:00:00	8.240114	11.1245	75.29903
30/11/2014	19:00:00	7.653382	10.41403	76.3352
30/11/2014	20:00:00	19.61073	9.153316	162.4876
30/11/2014	21:00:00	18.51342	8.671871	153.5953
30/11/2014	22:00:00	12.68642	8.482821	148.232
30/11/2014	23:00:00	17.58901	7.827516	140.5135

Intellution Historical Data Report
 Generated 16/04/2015 2:32:15 PM
 ; Start Time: 06/04/15 00:00:00
 ; Duration: 16:00:00:00
 ; Interval: 01:00:00

Original Input Data path: D:\FIX\HTRDATA
 ; Retrieval modes: (S)ample (A)verage (H)igh (L)ow (R)aw

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04/06/2015	13:00:00	17.33518	5.907088	296.1431
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04/07/2015	04:00:00	7.384411	3.532673	223.6287
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04/07/2015	07:00:00	13.89284	4.334327	242.3184
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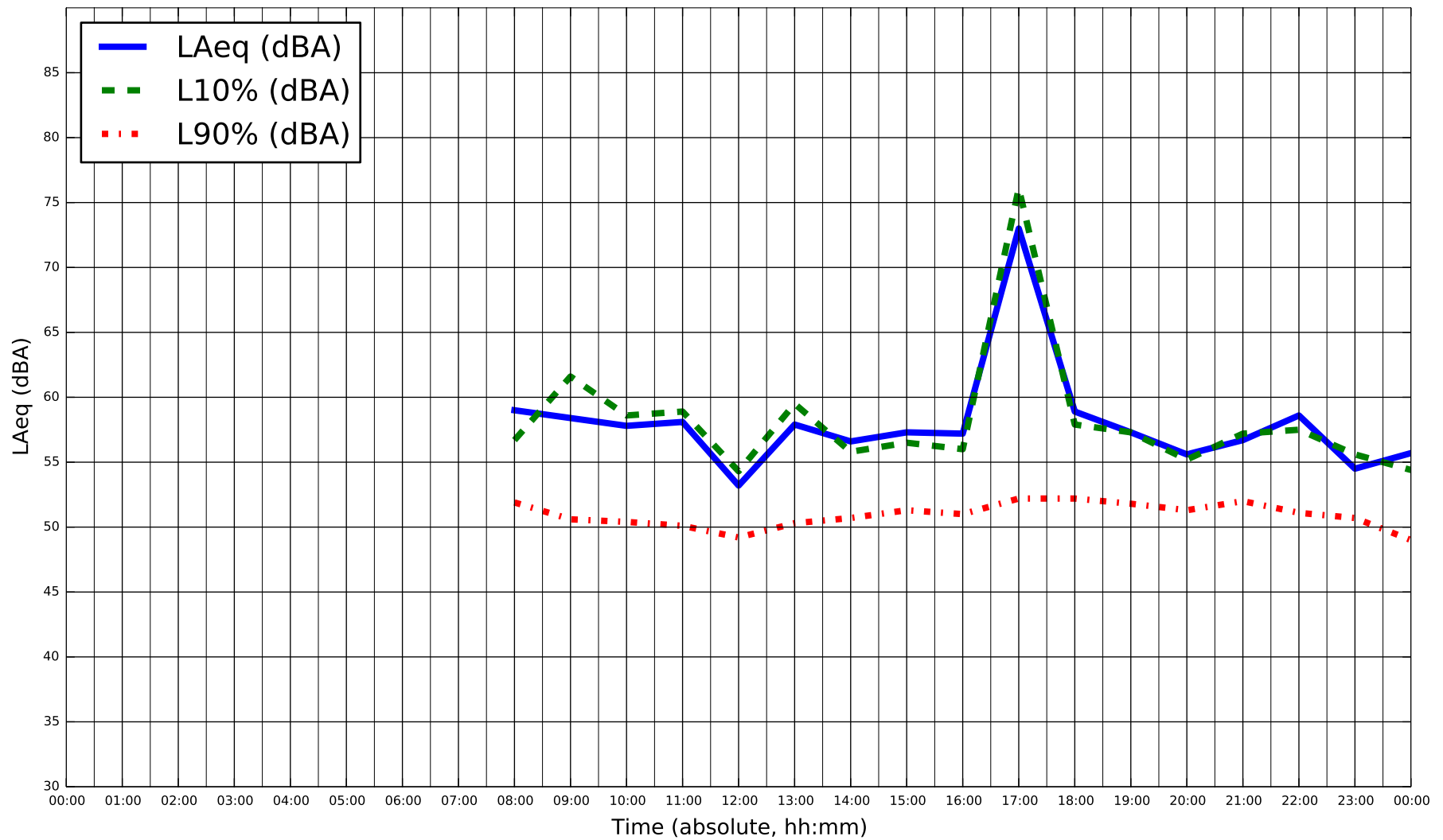
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15/04/2015	14:00:00	8.343554	8.547797	46.65496
15/04/2015	15:00:00	6.827548	8.949044	59.04314
15/04/2015	16:00:00	6.431719	10.12187	66.63382
15/04/2015	17:00:00	5.511412	9.817216	60.01362
15/04/2015	18:00:00	5.505635	11.13334	68.76436
15/04/2015	19:00:00	4.429052	10.71953	81.24801
15/04/2015	20:00:00	2.171643	11.10012	164.0303
15/04/2015	21:00:00	0.9057611	8.380924	283.3563
15/04/2015	22:00:00	3.392255	8.516545	223.0149
15/04/2015	23:00:00	1.343404	8.267246	135.6651
16/04/2015	00:00:00	4.511227	9.083452	156.3786
16/04/2015	01:00:00	13.3813	11.21499	219.5839
16/04/2015	02:00:00	10.05488	7.827401	273.3419
16/04/2015	03:00:00	16.41787	7.879348	250.3217
16/04/2015	04:00:00	15.76269	6.684717	251.742
16/04/2015	05:00:00	12.38193	5.796664	241.8759
16/04/2015	06:00:00	14.54031	6.21425	255.9161
16/04/2015	07:00:00	14.19111	7.026151	247.4754
16/04/2015	08:00:00	15.4685	9.568995	269.4644
16/04/2015	09:00:00	19.10759	11.01653	276.1975
16/04/2015	10:00:00	21.68518	10.56666	280.2457
16/04/2015	11:00:00	21.48945	10.01223	278.4326
16/04/2015	12:00:00	19.04073	9.984083	284.0337
16/04/2015	13:00:00	18.11489	9.969402	281.4037

APPENDIX E

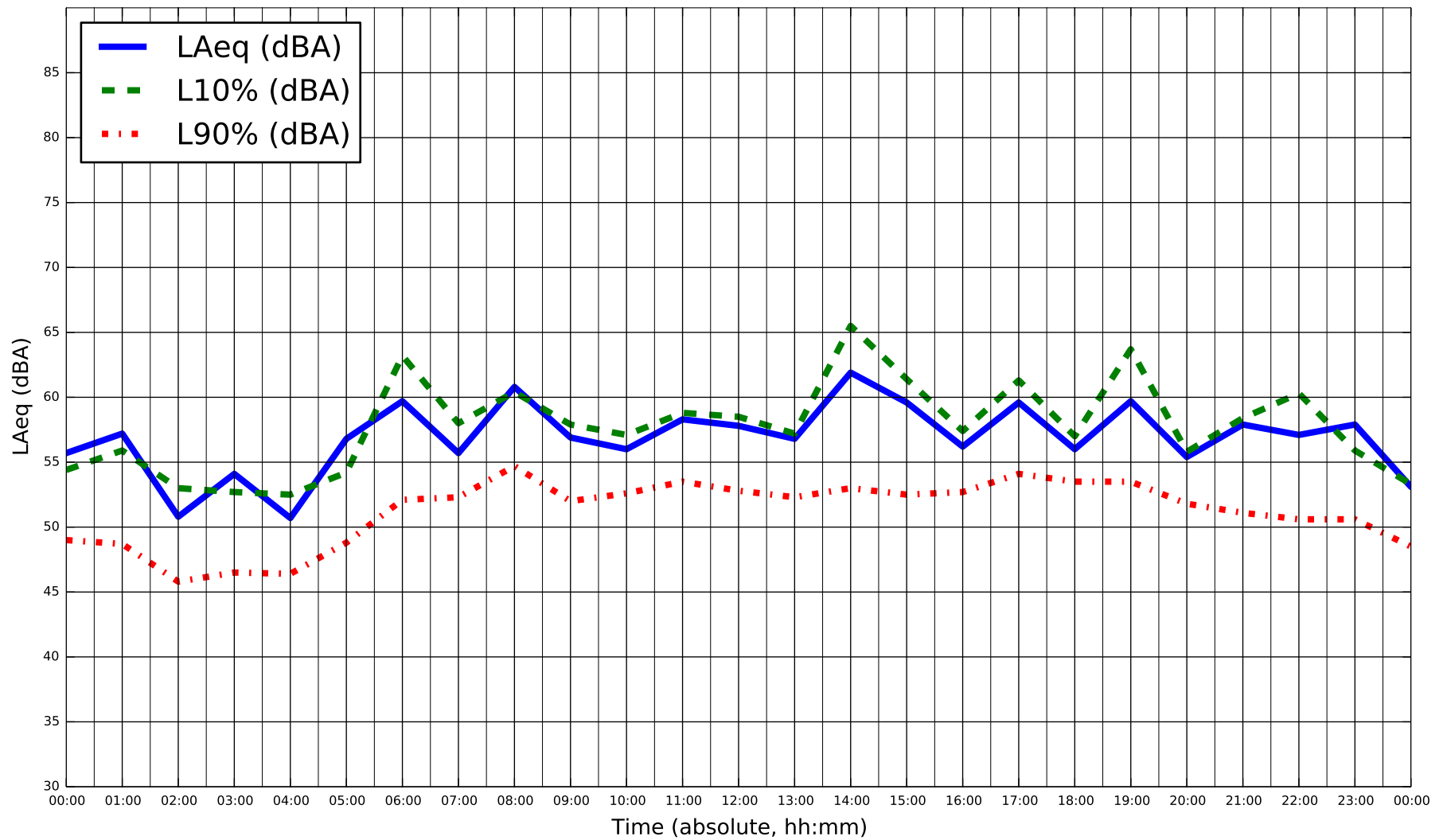
NOVEMBER 2014 PRE-OPERATIONAL SOUND MEASUREMENT RESULTS



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday Nov 13, 2014
 Project Num.
114-318

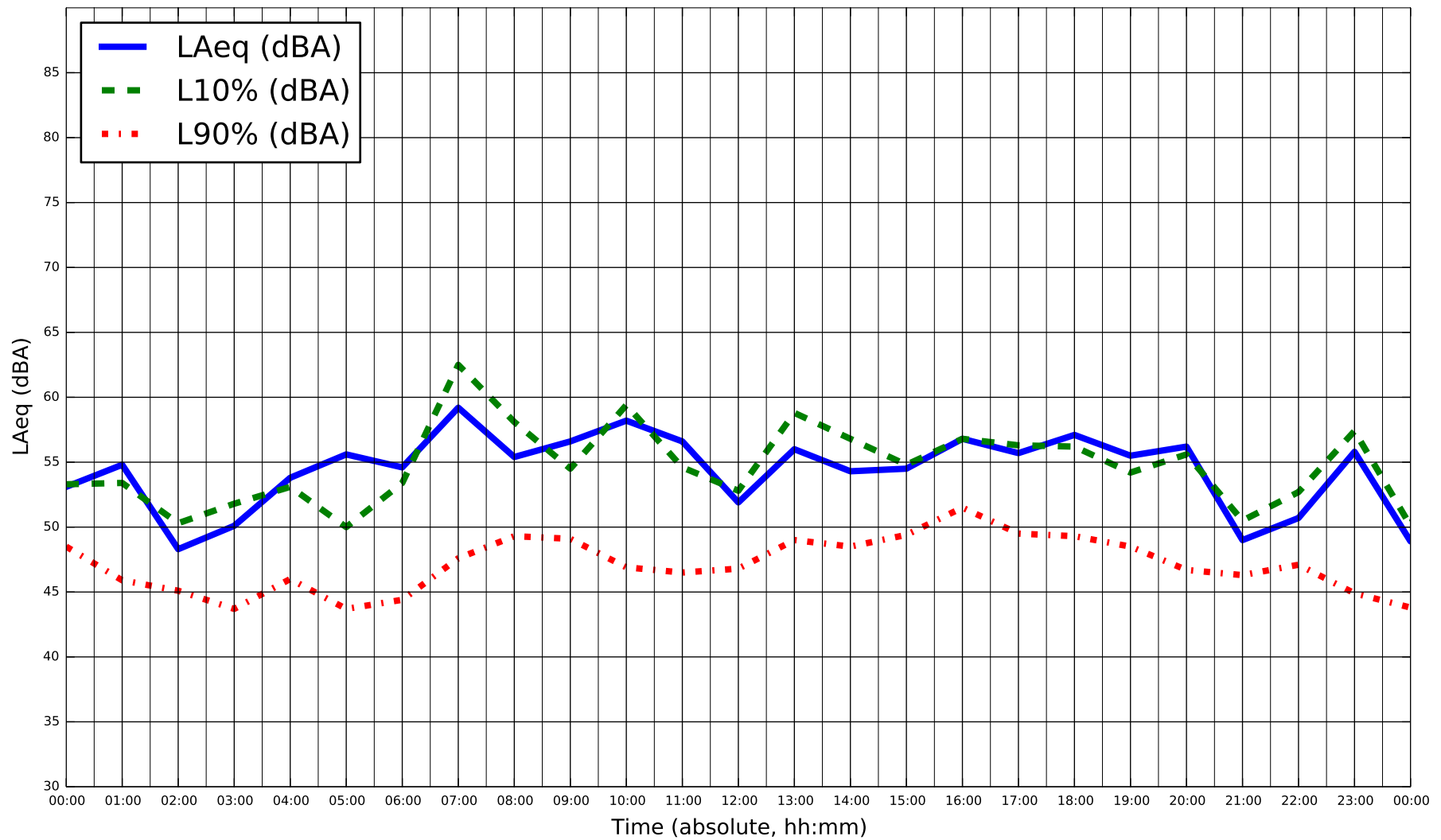
Figure
E-1



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Friday Nov 14, 2014
 Project Num.
114-318

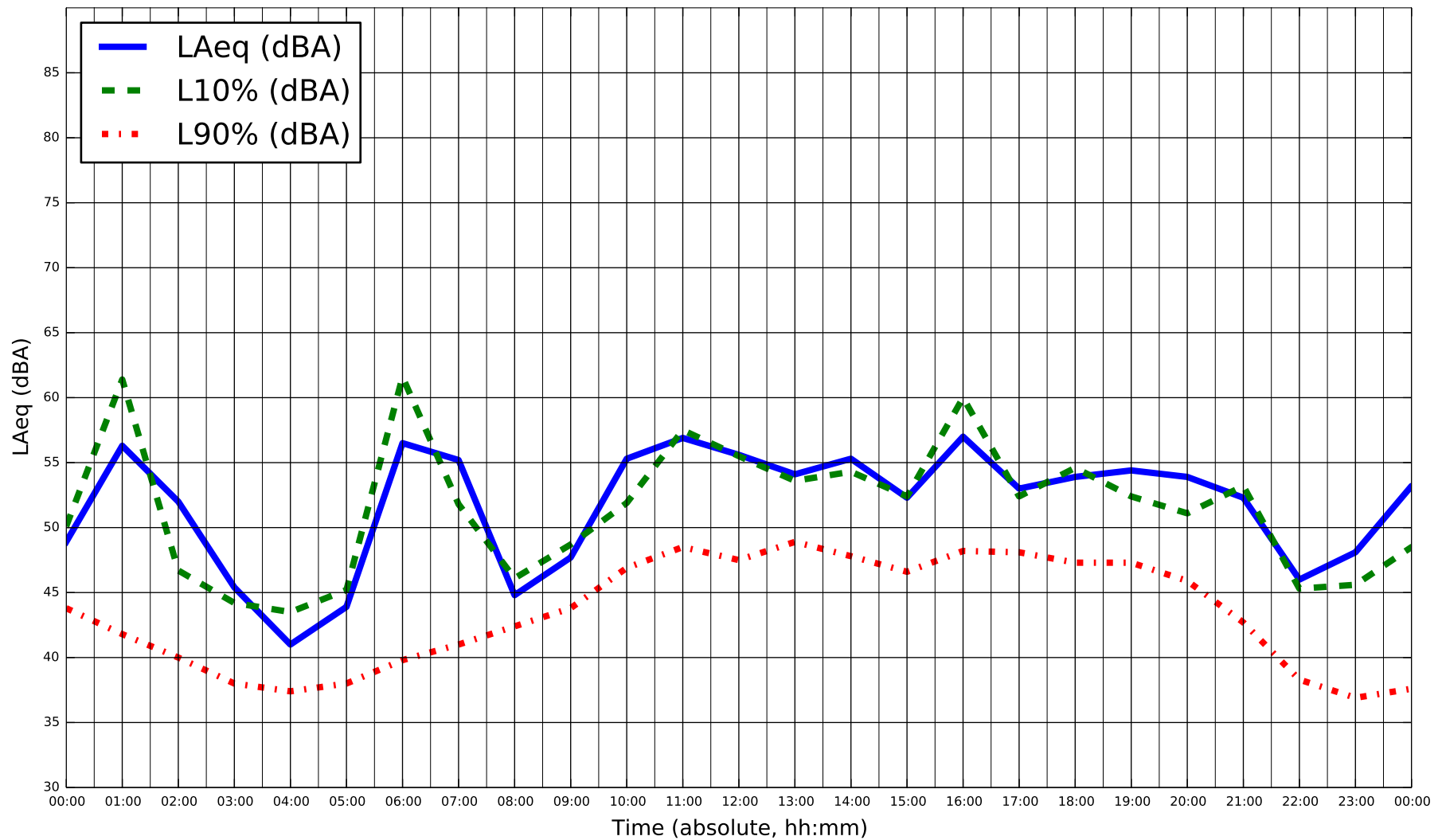
Figure
E-2



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday Nov 15, 2014
 Project Num.
114-318

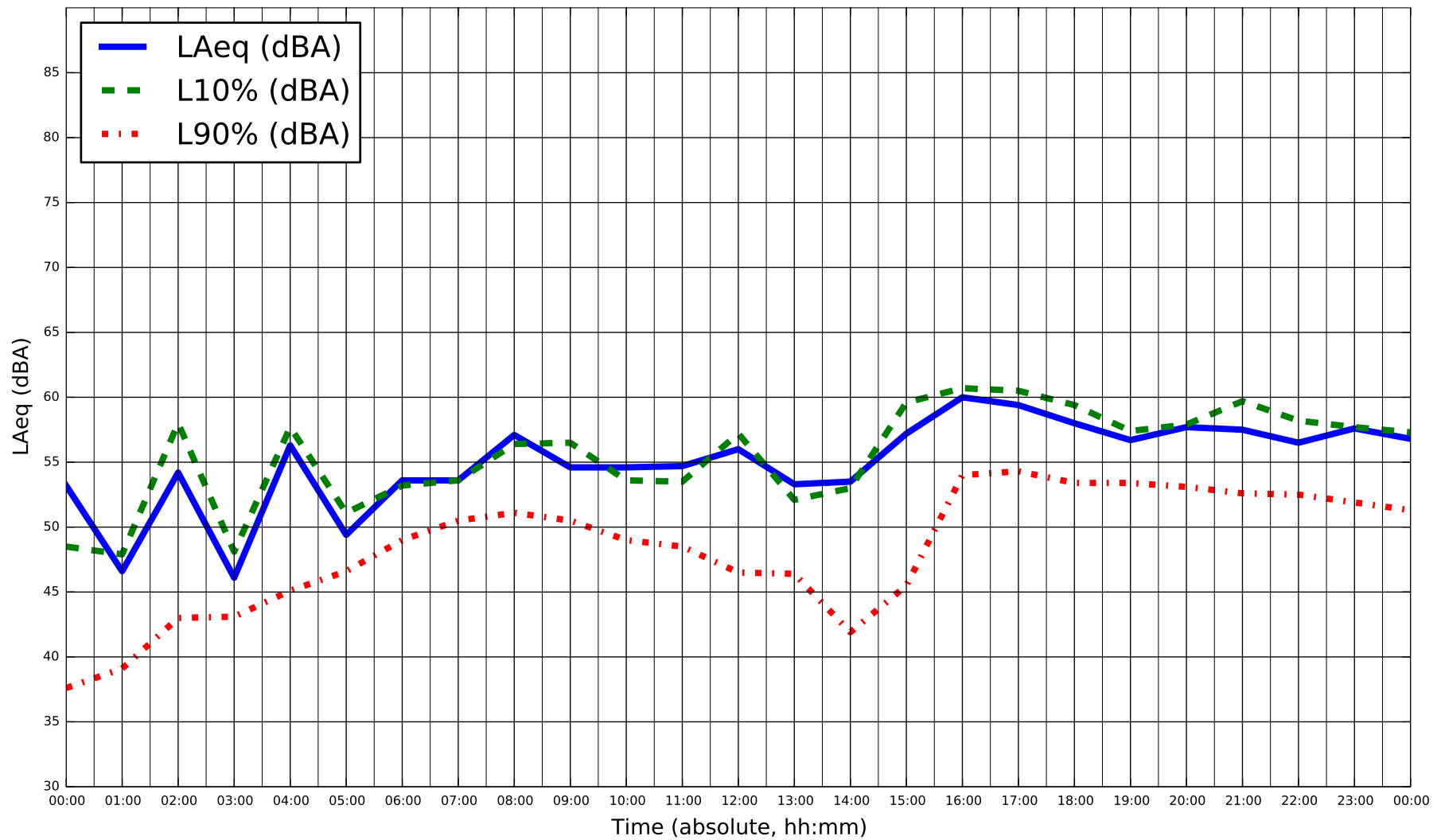
Figure
E-3



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday Nov 16, 2014
 Project Num.
114-318

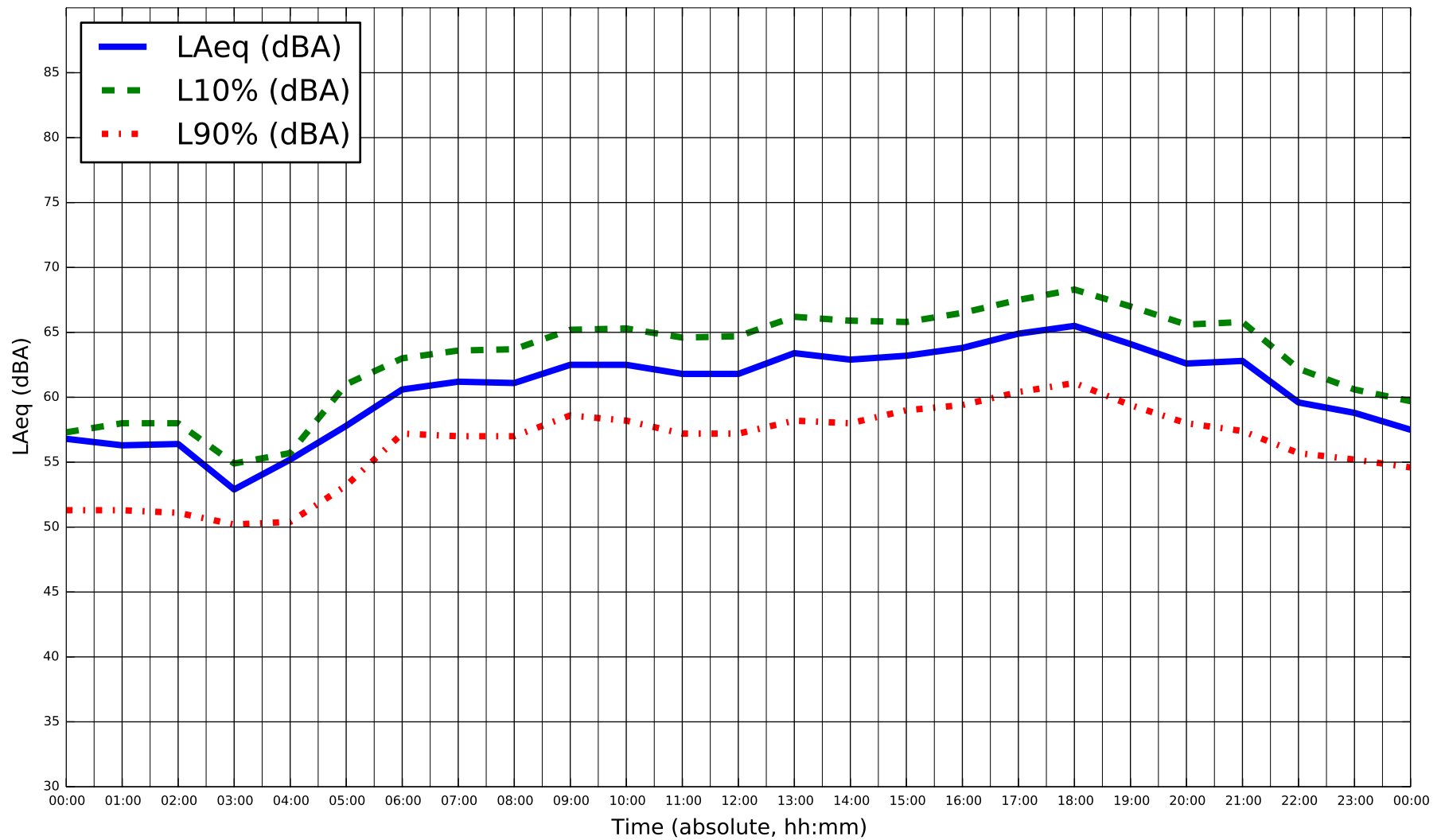
Figure
E-4




Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

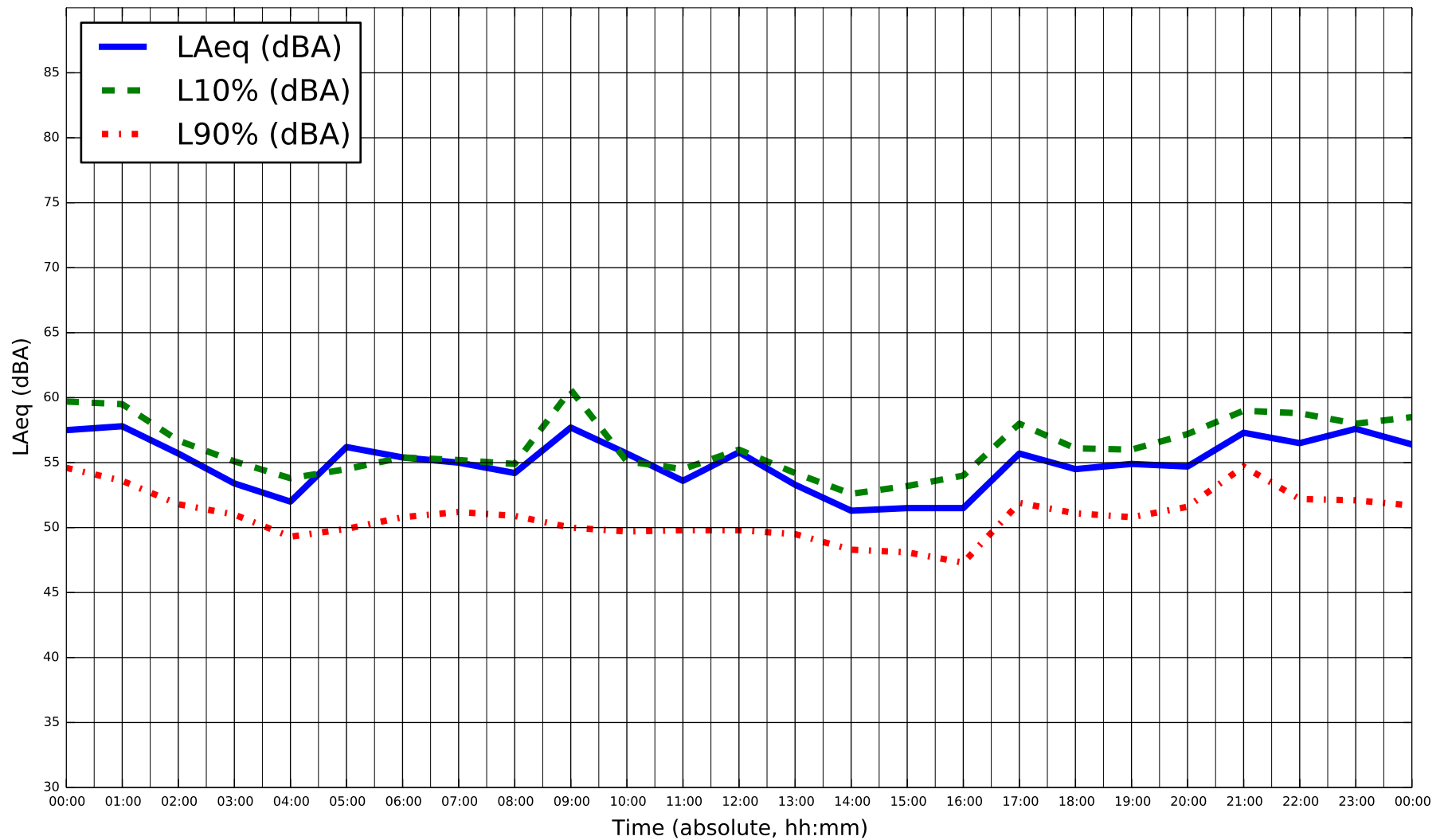
Measurement Date
Monday Nov 17, 2014
 Project Num.
114-318

Figure
E-5



* Sustained winds over 20 km/hr during monitoring on Nov 18, 2014

	Title	Measurement Date	Figure
	Project Name	Project Num.	
	Ambient Sound Measurements - Location M001	Tuesday Nov 18, 2014	E-6
	DYEC - Acoustic Audit	114-318	



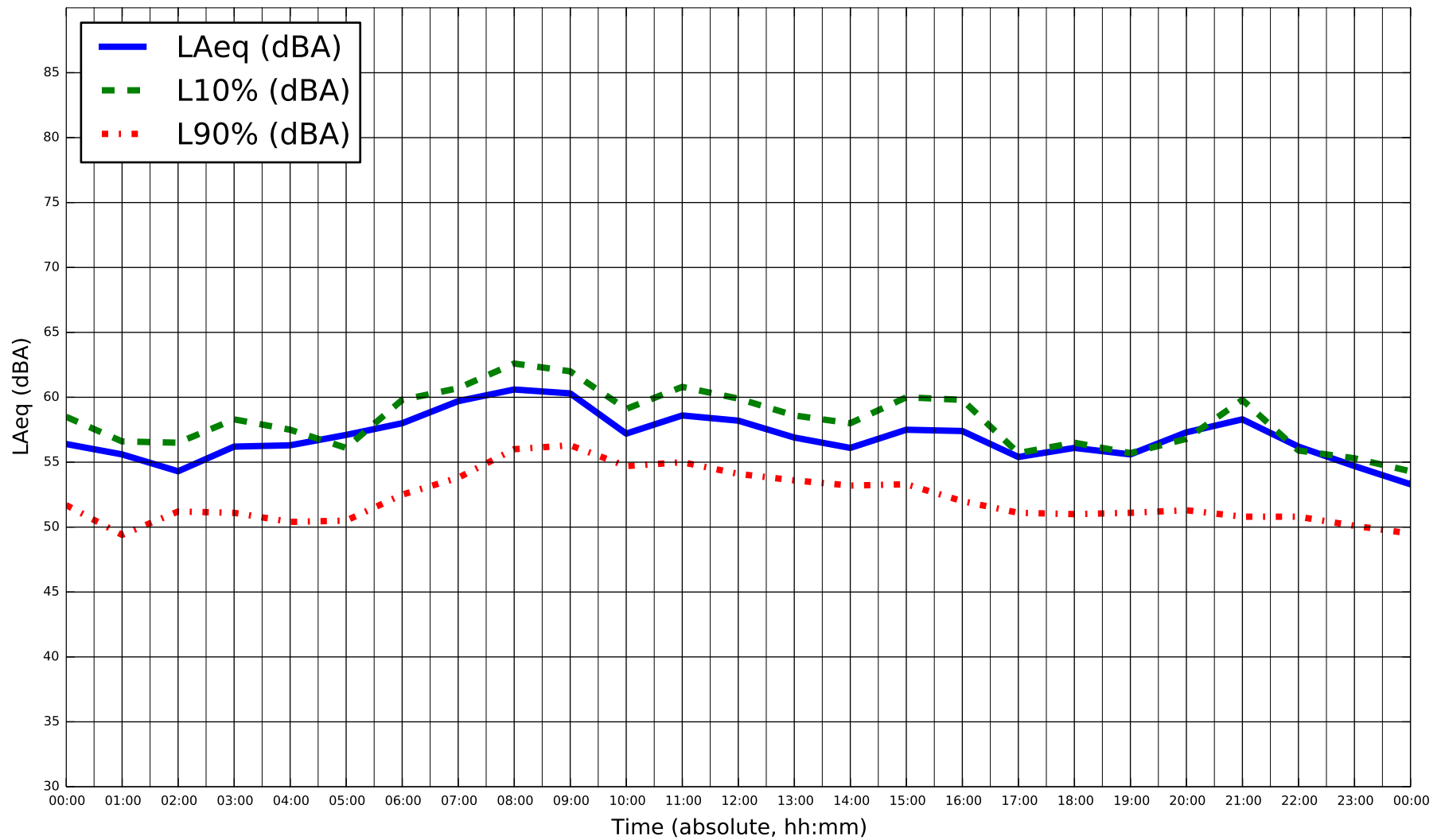
* Sustained winds over 20 km/hr during monitoring on Nov 19, 2014



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Wednesday Nov 19, 2014
 Project Num.
114-318

Figure
E-7



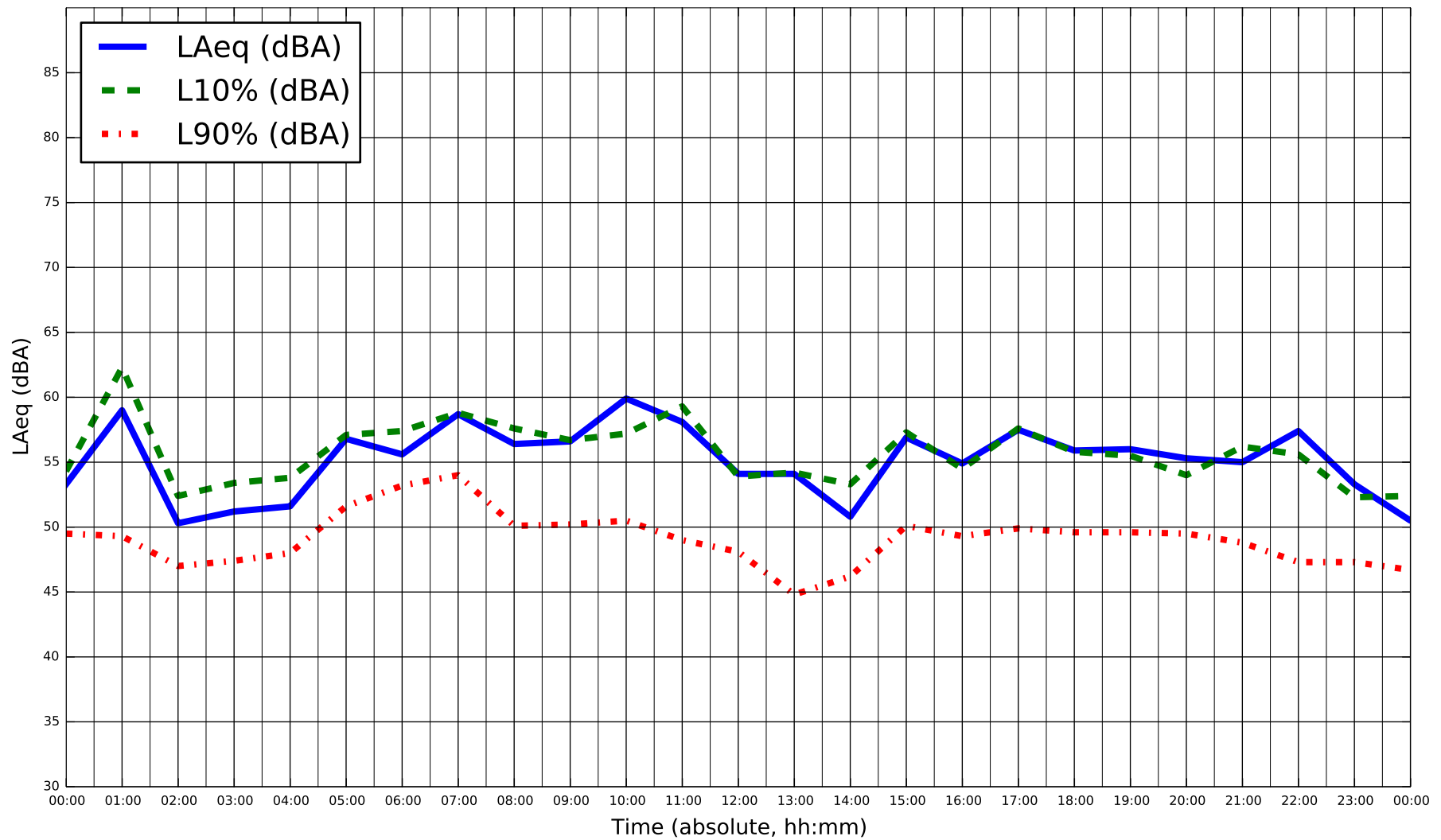
* Sustained winds over 20 km/hr during monitoring on Nov 20, 2014



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday Nov 20, 2014
 Project Num.
114-318

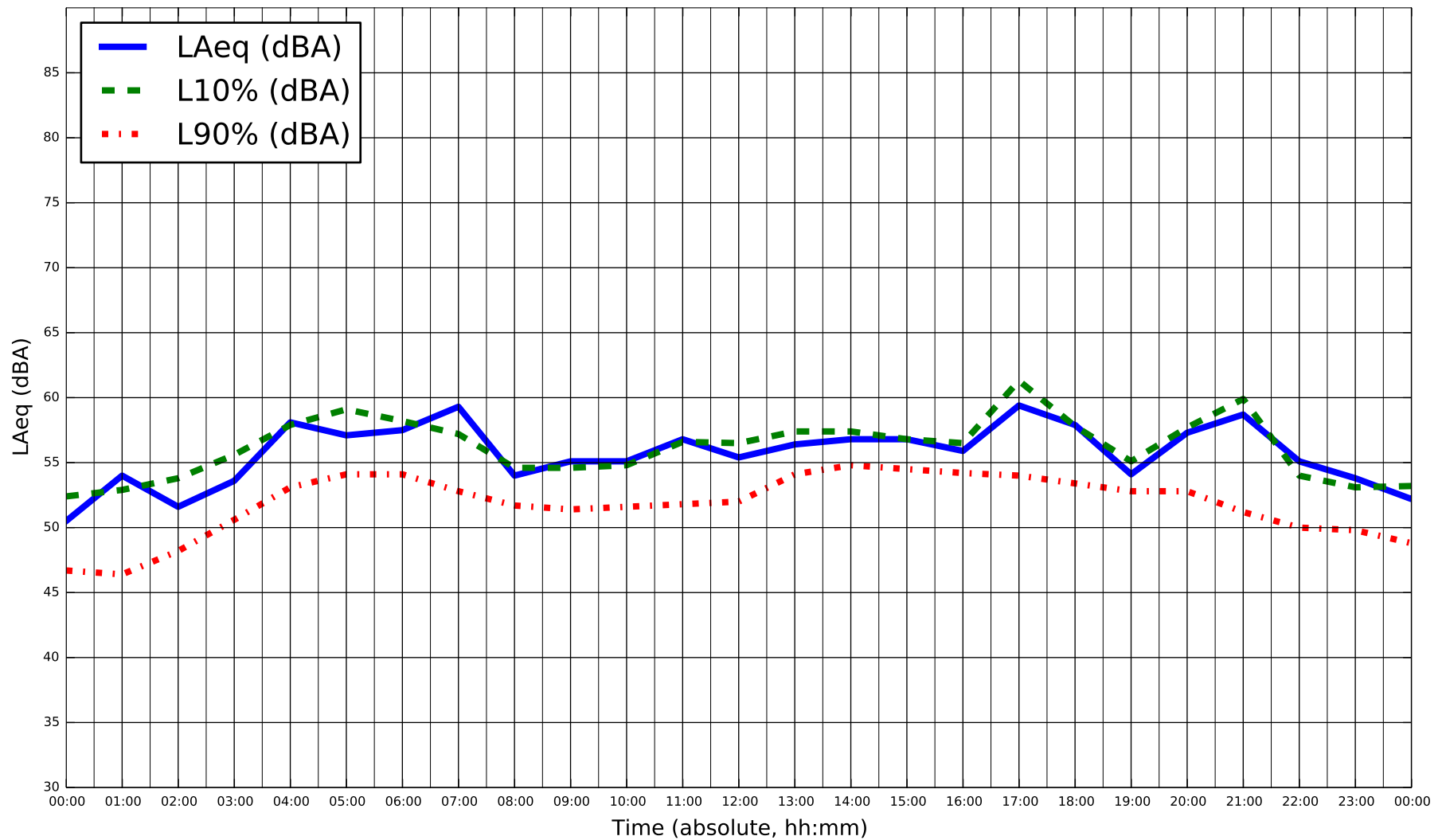
Figure
E-8



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Friday Nov 21, 2014
 Project Num.
114-318

Figure
E-9



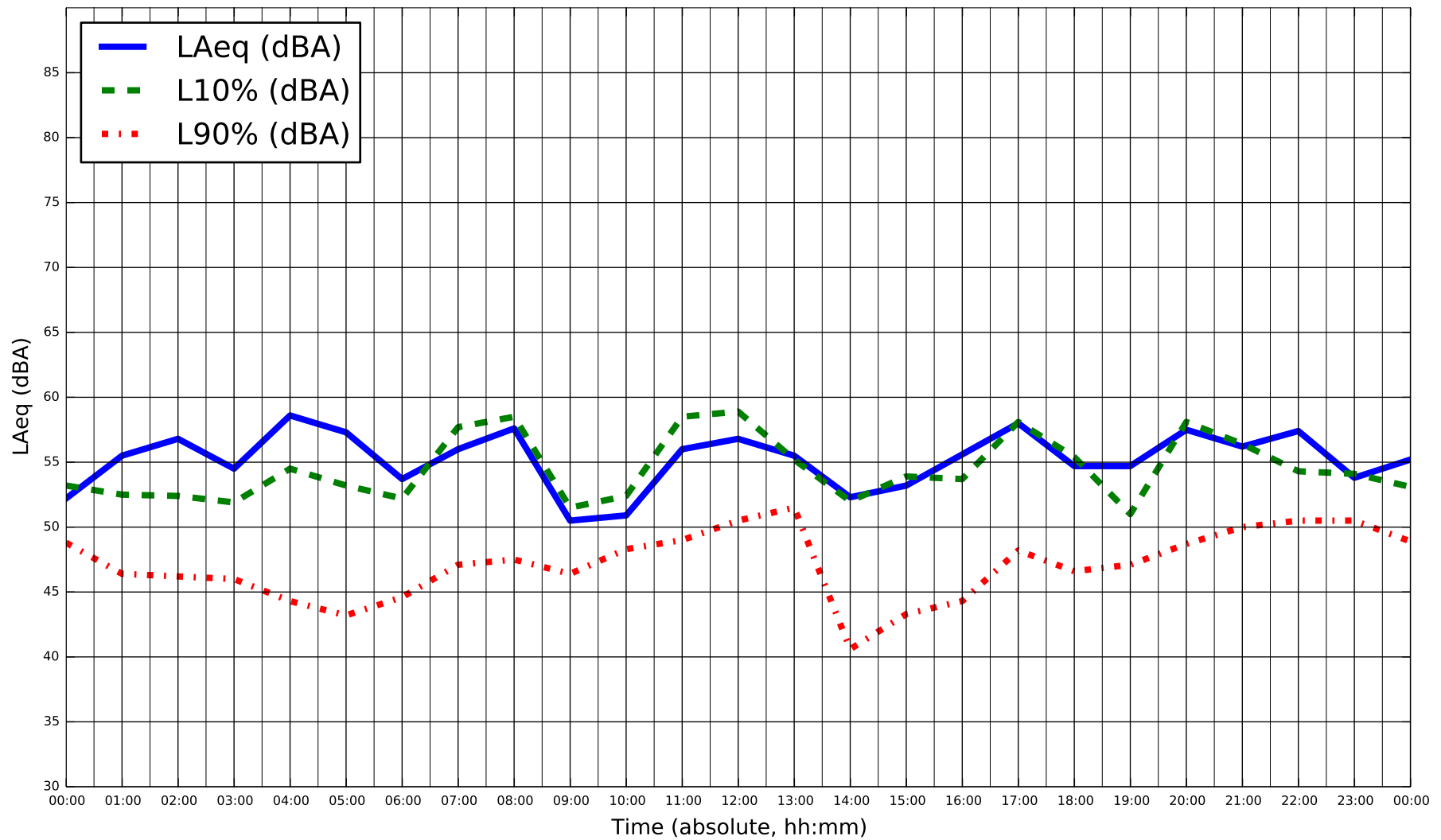
* Sustained winds over 20 km/hr during monitoring on Nov 22, 2014



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday Nov 22, 2014
 Project Num.
114-318

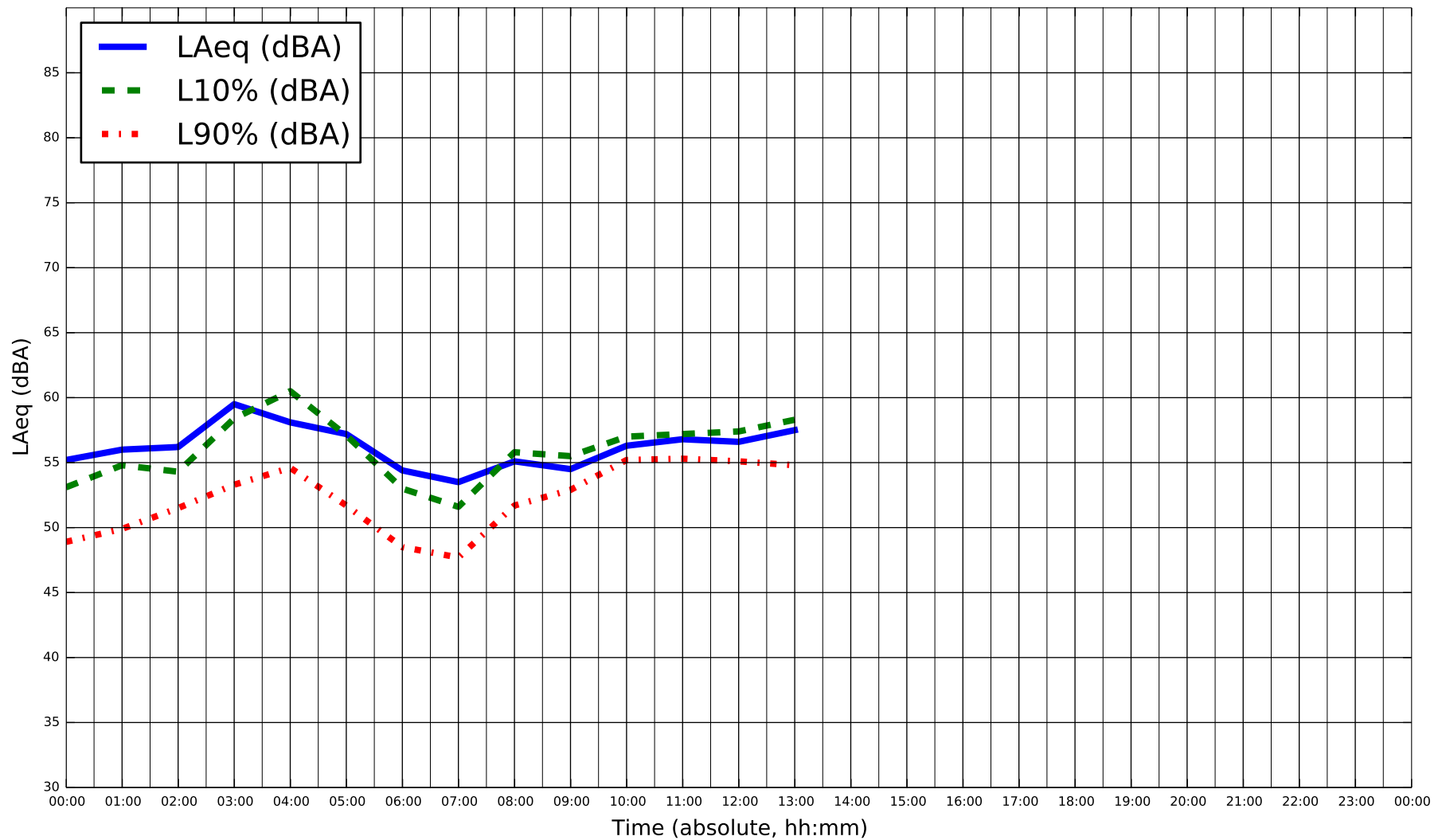
Figure
E-10



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday Nov 23, 2014
 Project Num.
114-318

Figure
E-11



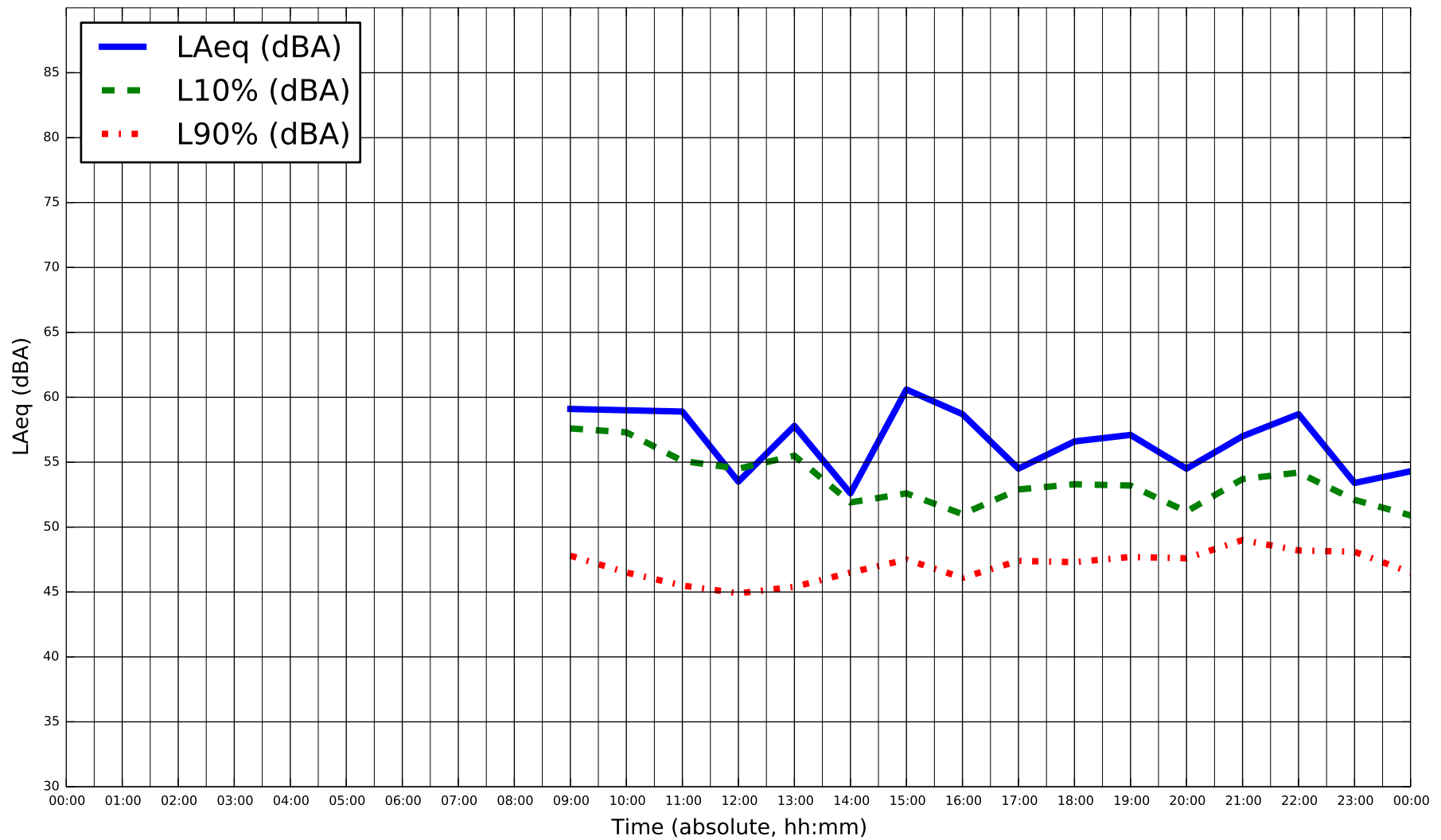
* Sustained winds over 20 km/hr during monitoring on Nov 24, 2014



Title
Ambient Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday Nov 24, 2014
 Project Num.
114-318

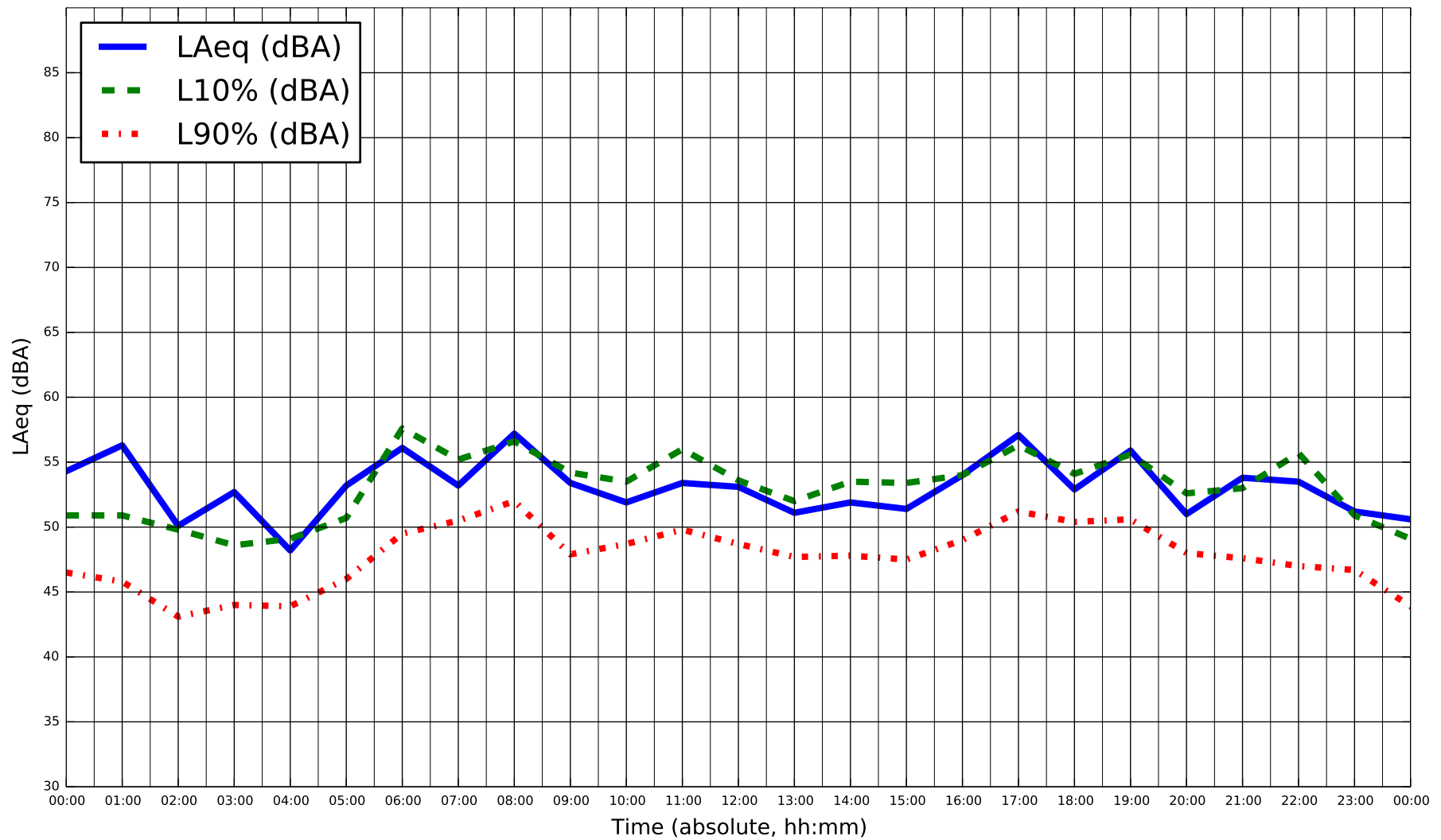
Figure
E-12



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday Nov 13, 2014
 Project Num.
114-318

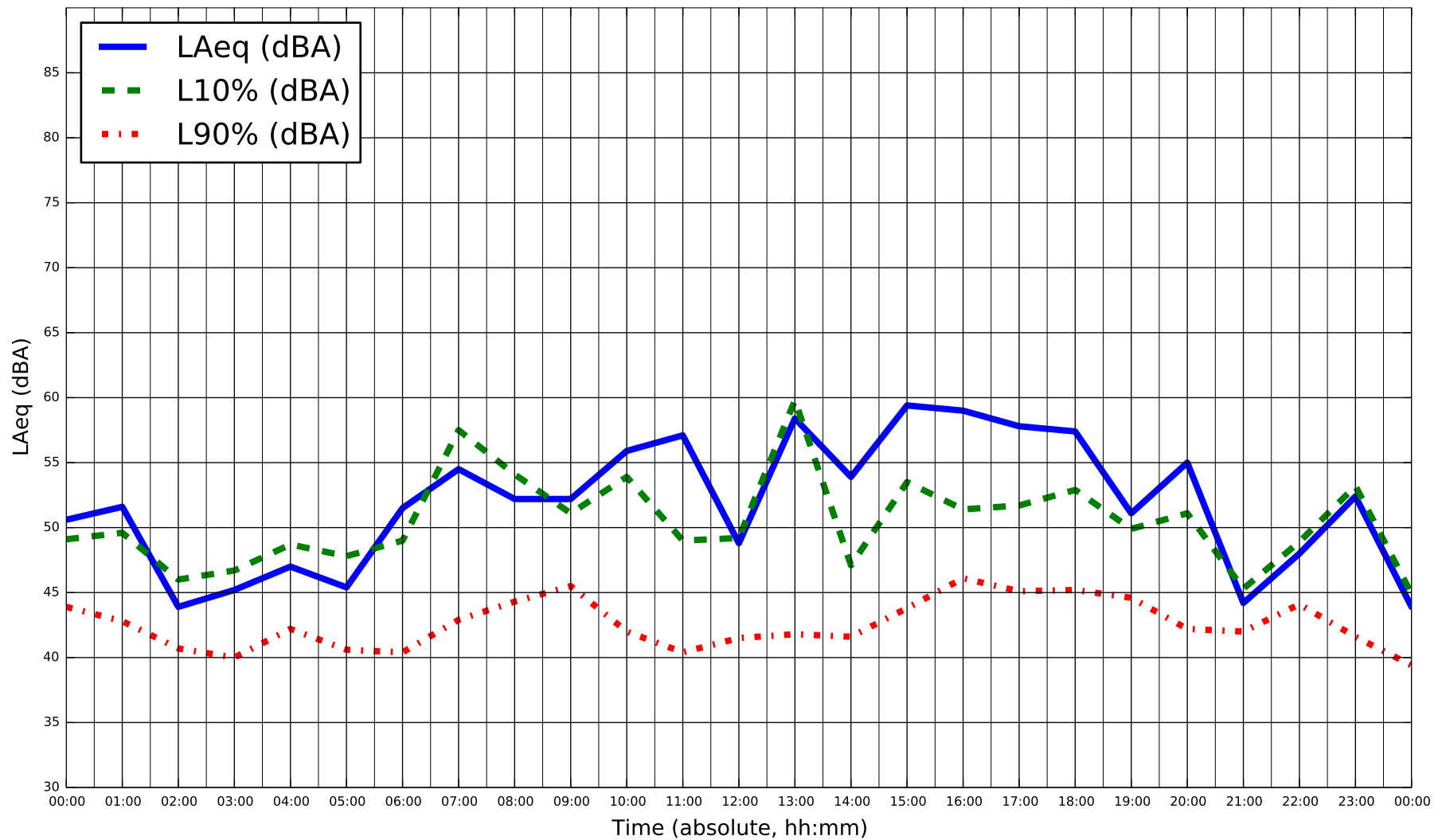
Figure
E-13



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Friday Nov 14, 2014
 Project Num.
114-318

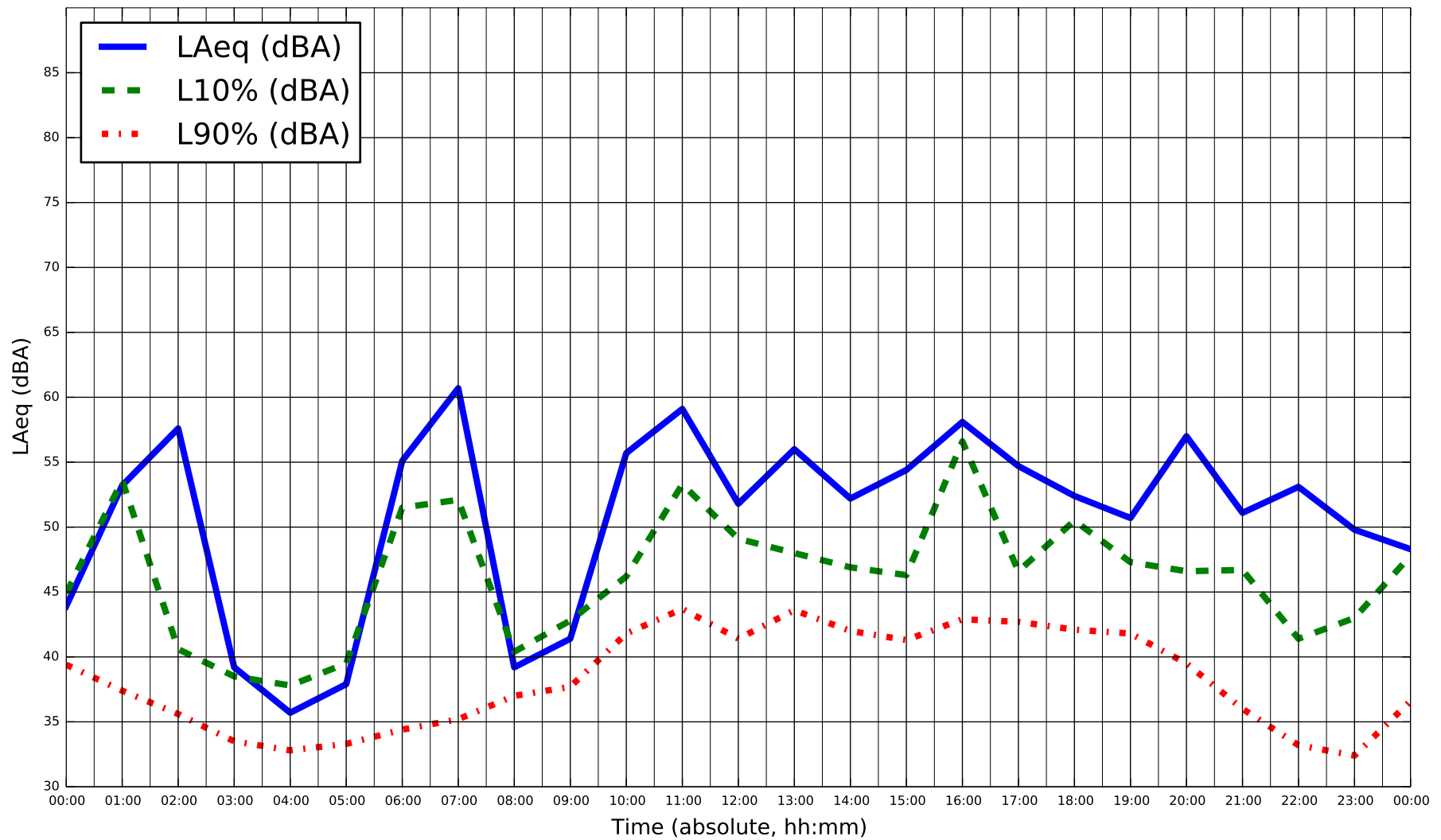
Figure
E-14



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday Nov 15, 2014
 Project Num.
114-318

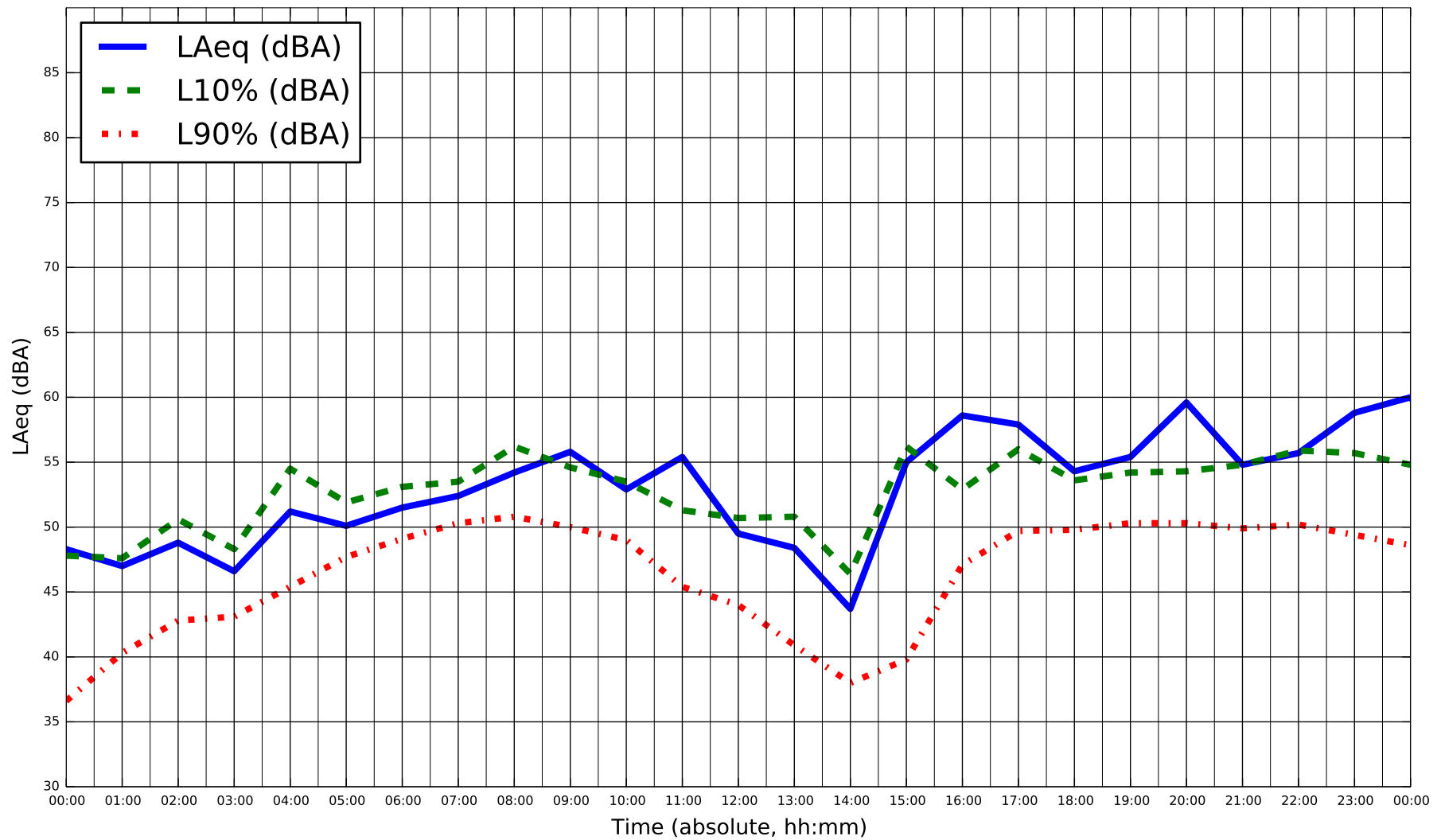
Figure
E-15



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday Nov 16, 2014
 Project Num.
114-318

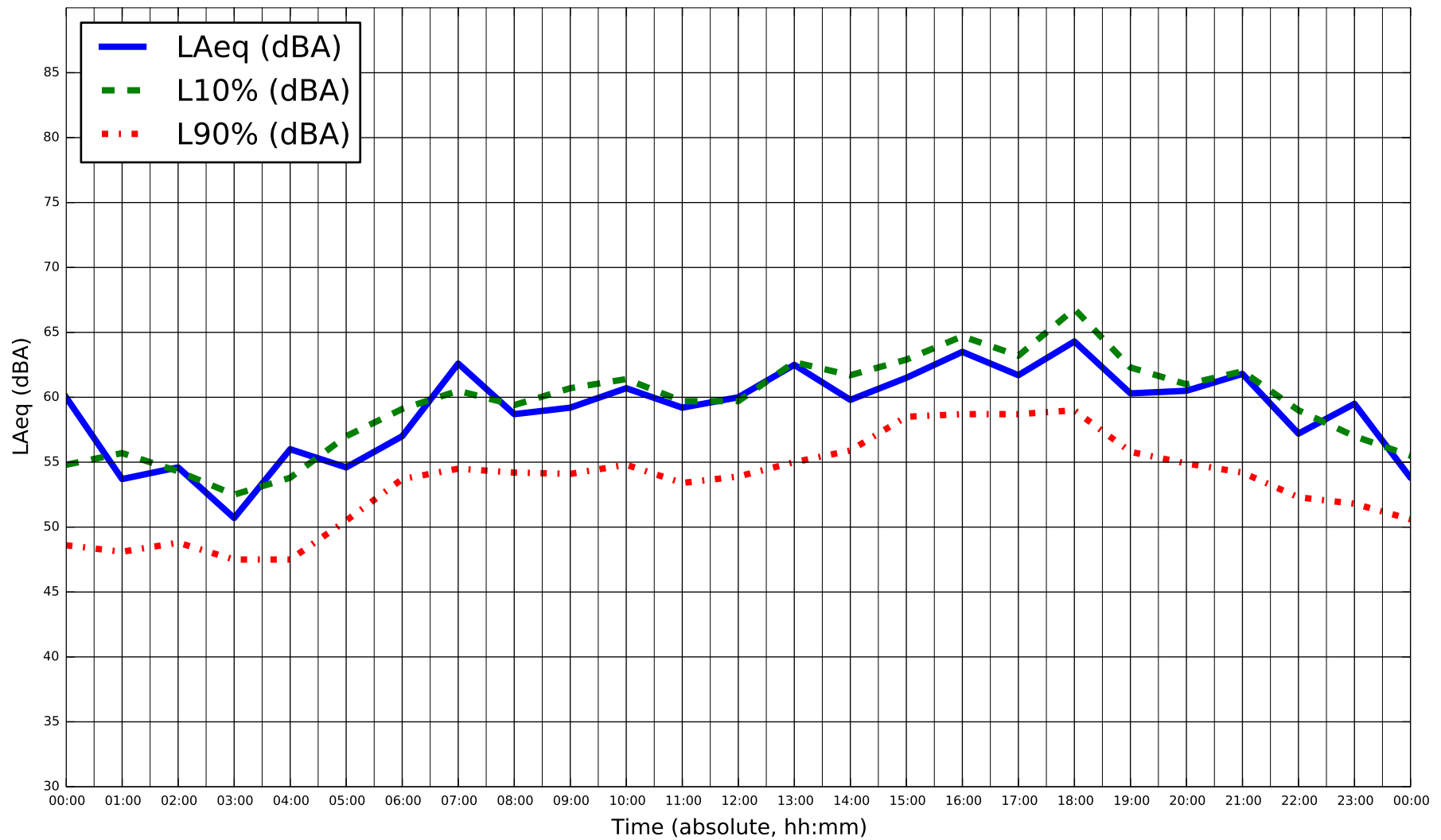
Figure
E-16



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday Nov 17, 2014
 Project Num.
114-318

Figure
E-17



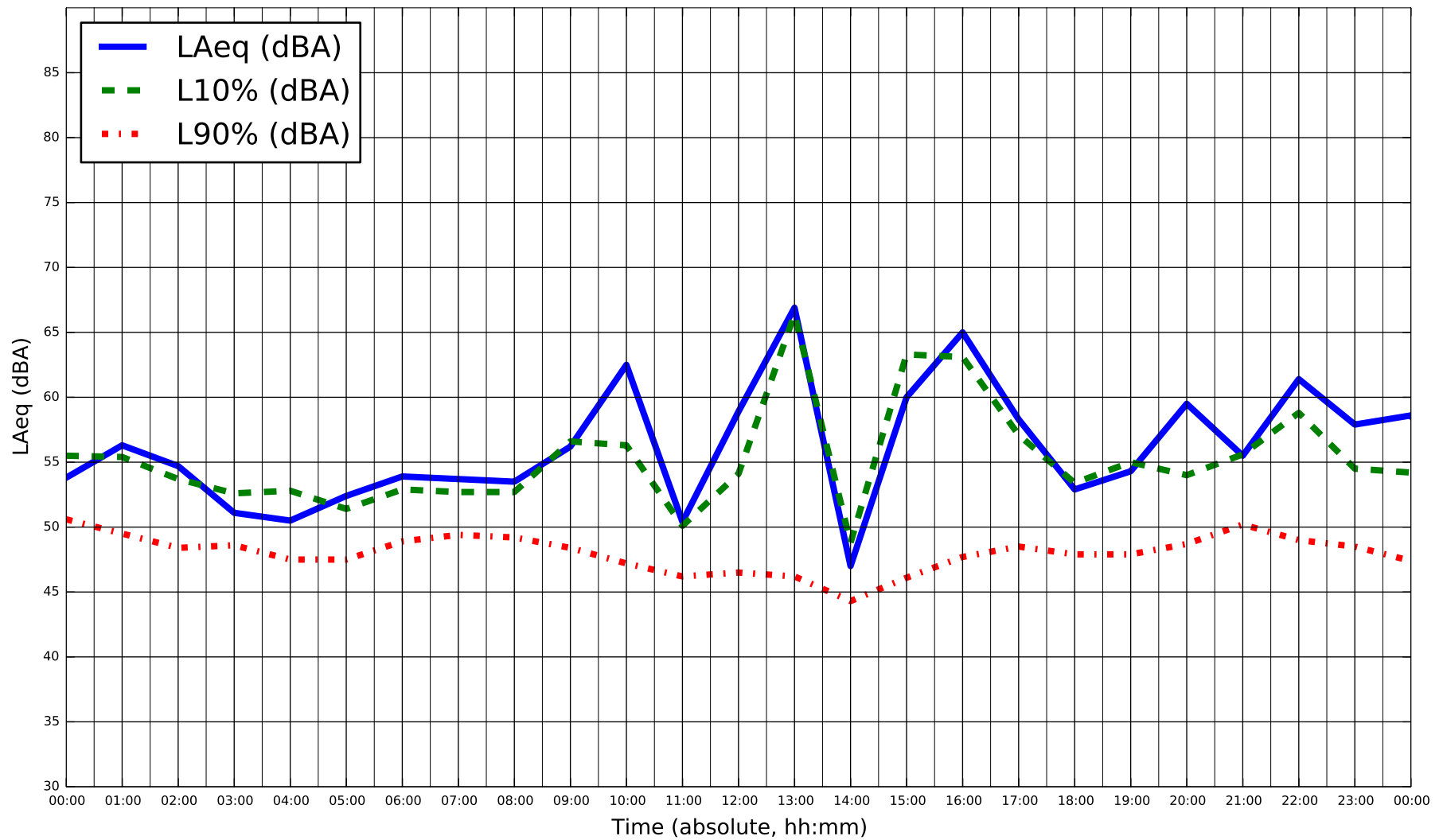
* Sustained winds over 20 km/hr during monitoring on Nov 18, 2014



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Tuesday Nov 18, 2014
 Project Num.
114-318

Figure
E-18



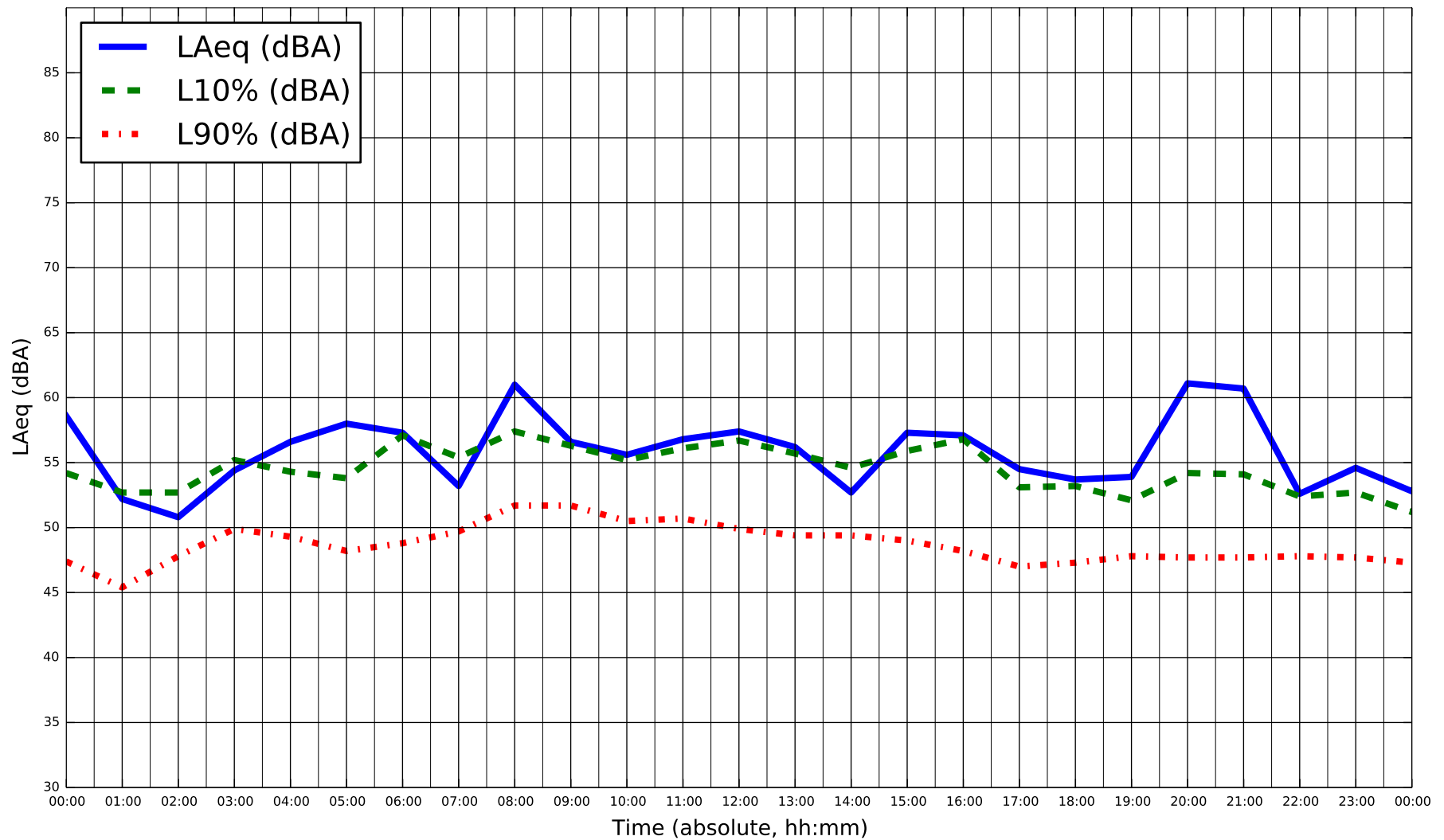
* Sustained winds over 20 km/hr during monitoring on Nov 19, 2014



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Wednesday Nov 19, 2014
 Project Num.
114-318

Figure
E-19



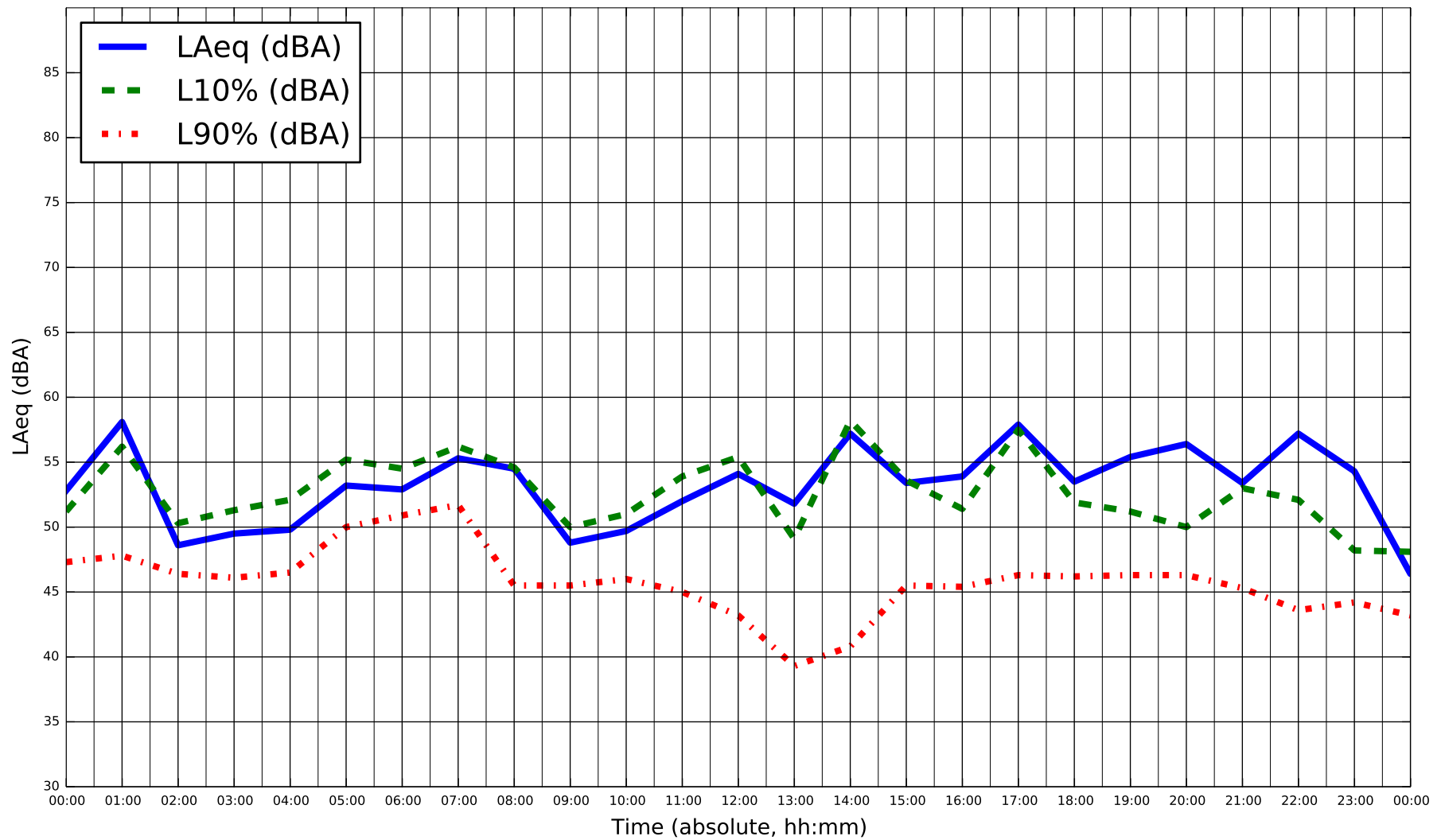
* Sustained winds over 20 km/hr during monitoring on Nov 20, 2014



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday Nov 20, 2014
 Project Num.
114-318

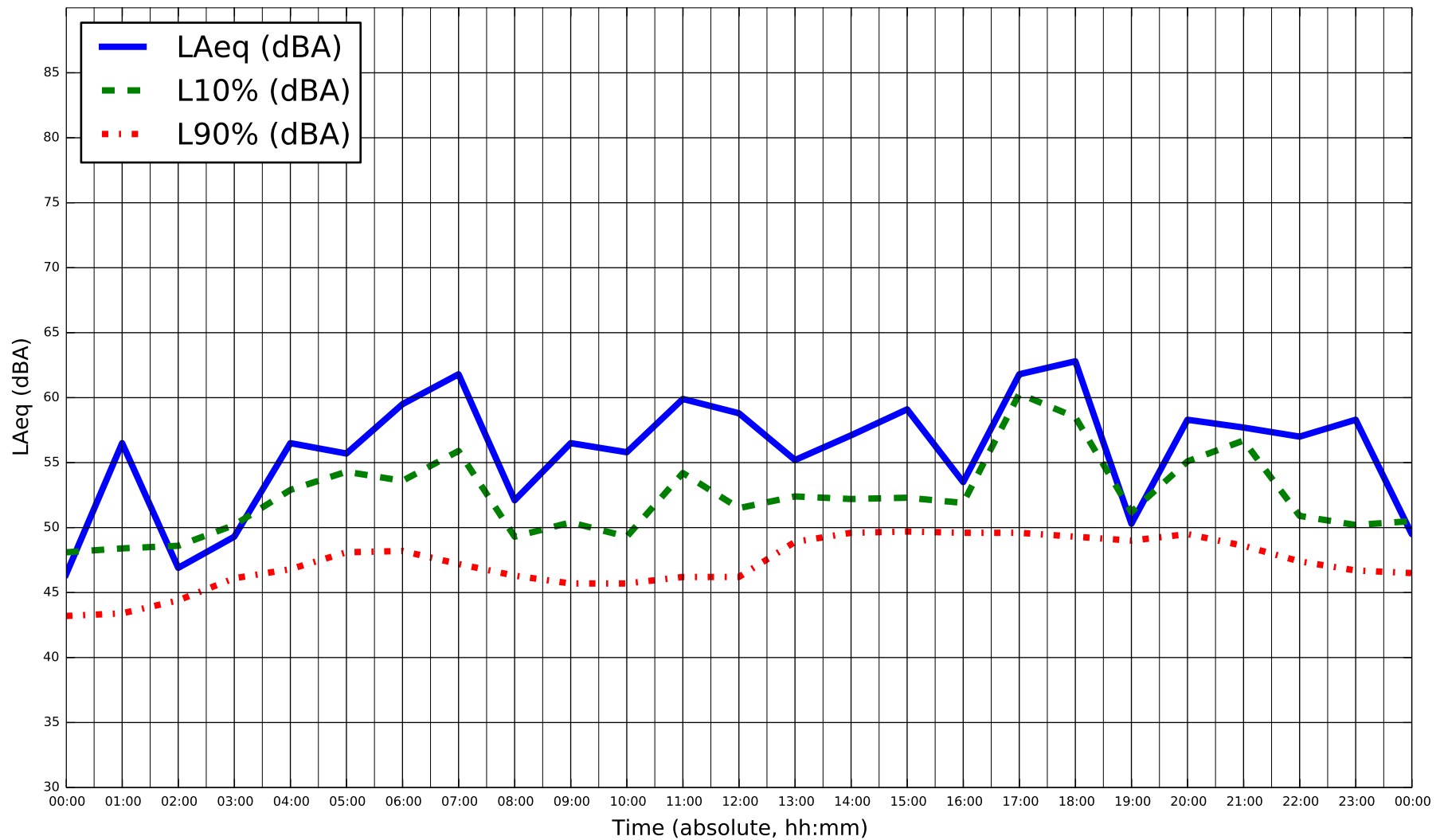
Figure
E-20



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Friday Nov 21, 2014
 Project Num.
114-318

Figure
E-21



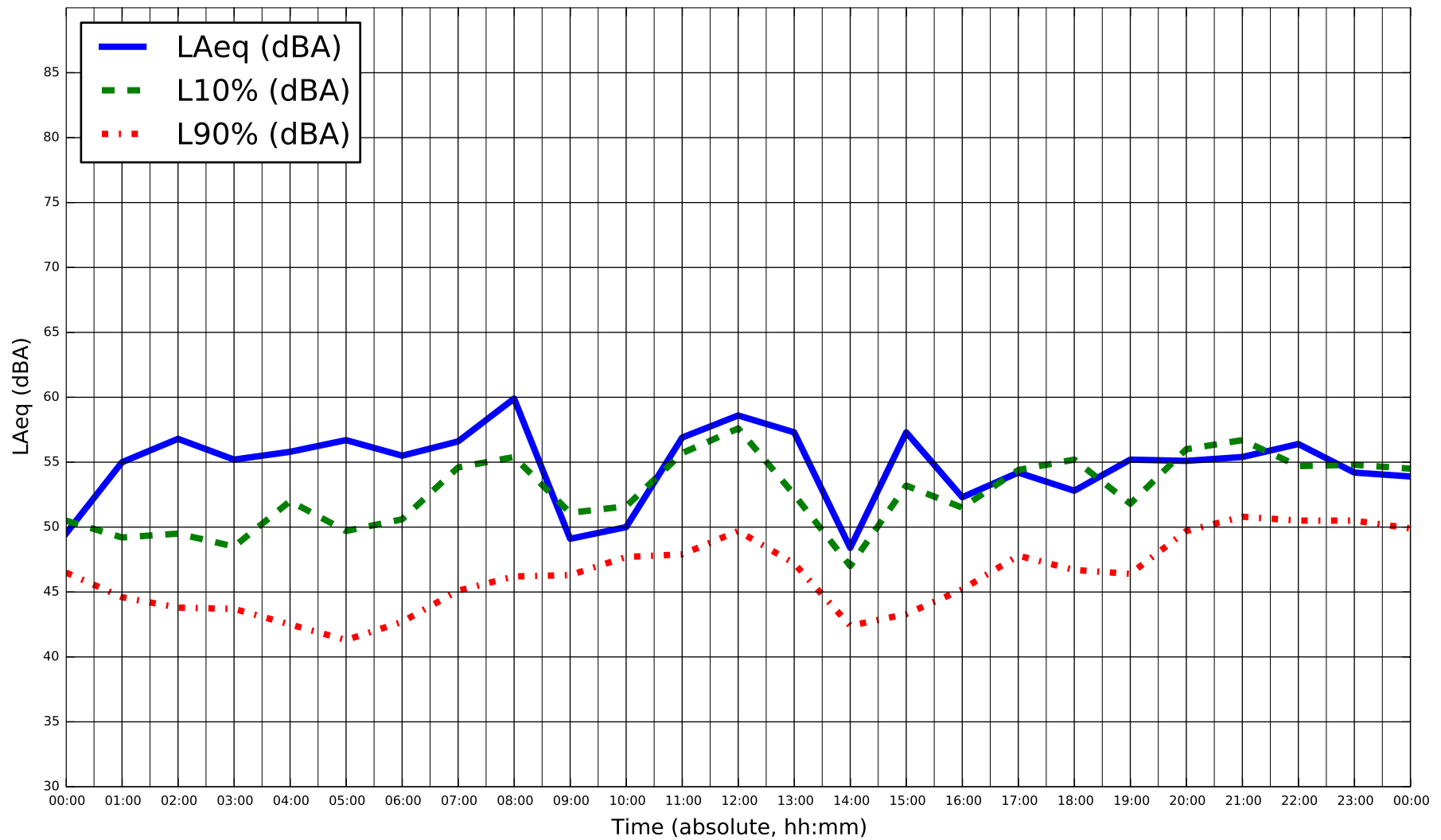
* Sustained winds over 20 km/hr during monitoring on Nov 22, 2014



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday Nov 22, 2014
 Project Num.
114-318

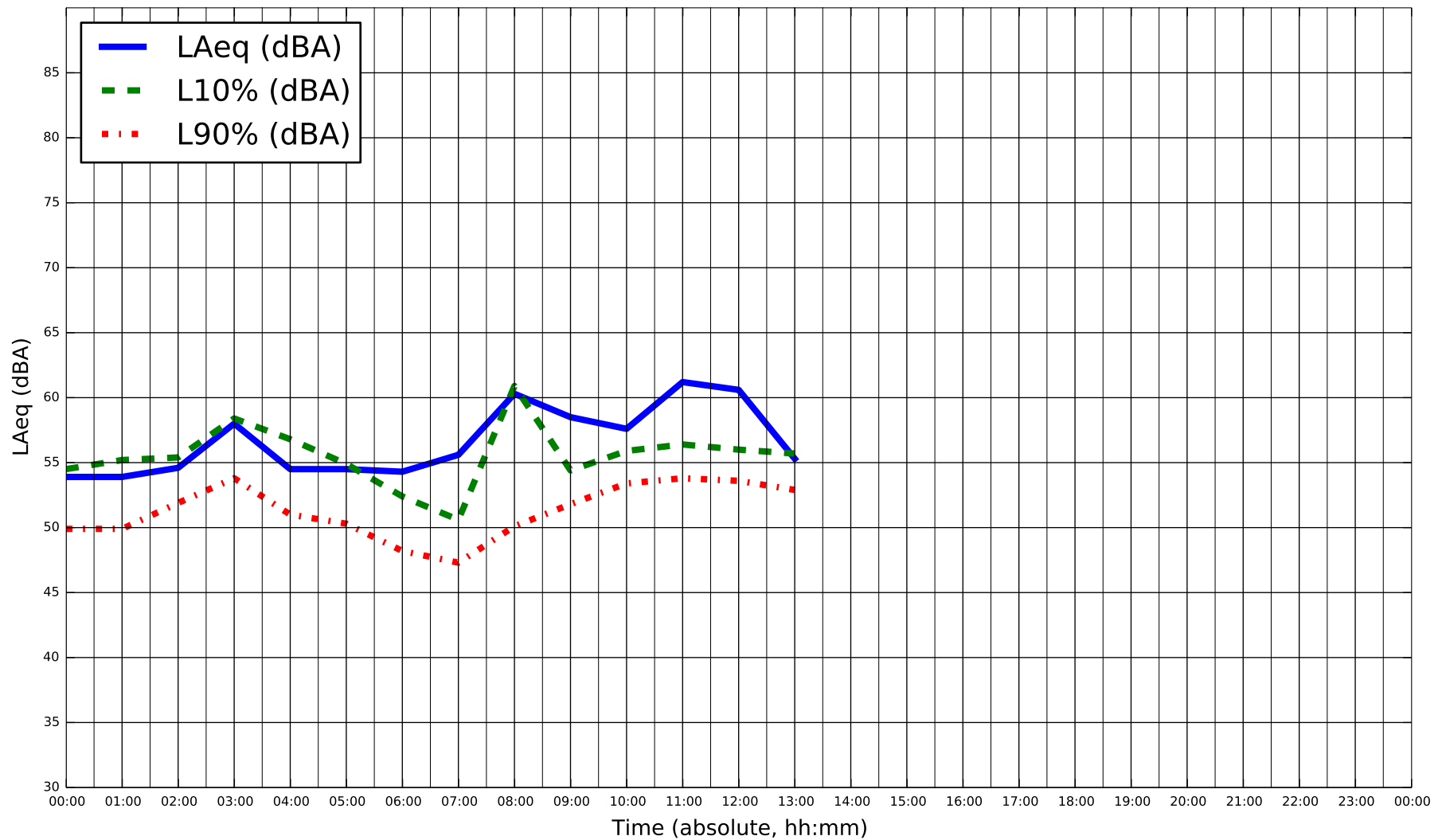
Figure
E-22



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday Nov 23, 2014
 Project Num.
114-318

Figure
E-23



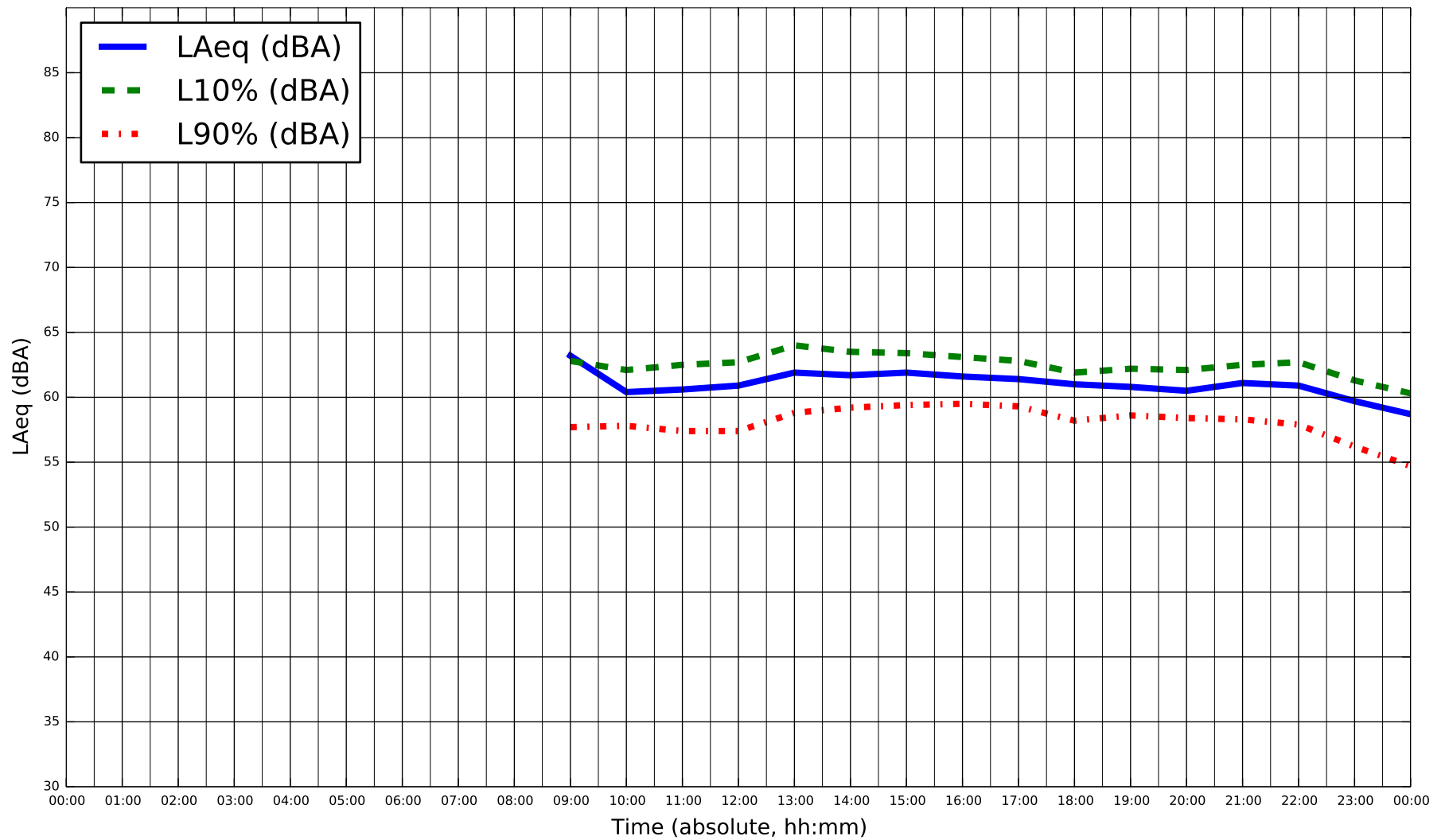
* Sustained winds over 20 km/hr during monitoring on Nov 24, 2014



Title
Ambient Sound Measurements - Location M002a
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday Nov 24, 2014
 Project Num.
114-318

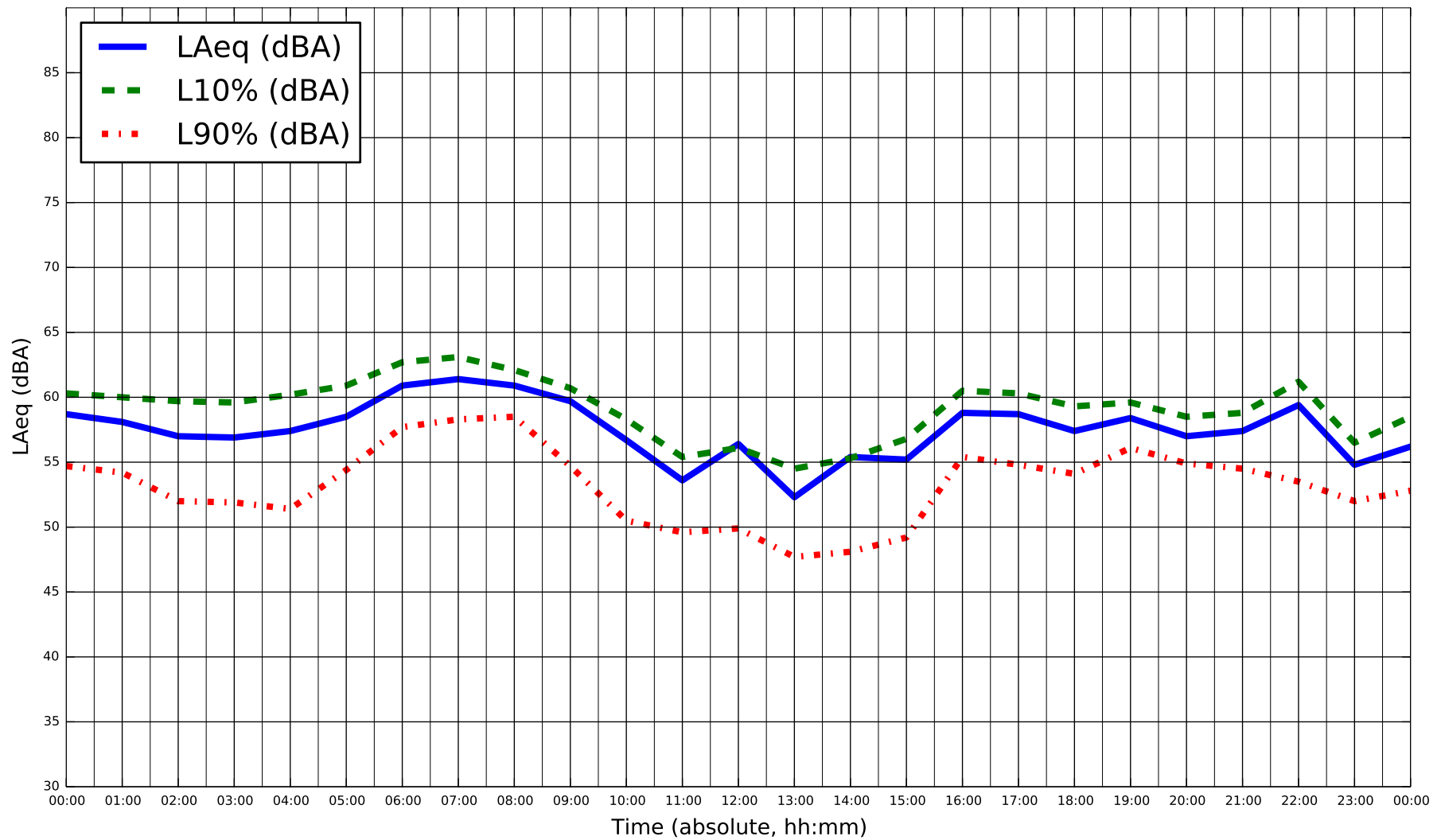
Figure
E-24



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday Nov 13, 2014
 Project Num.
114-318

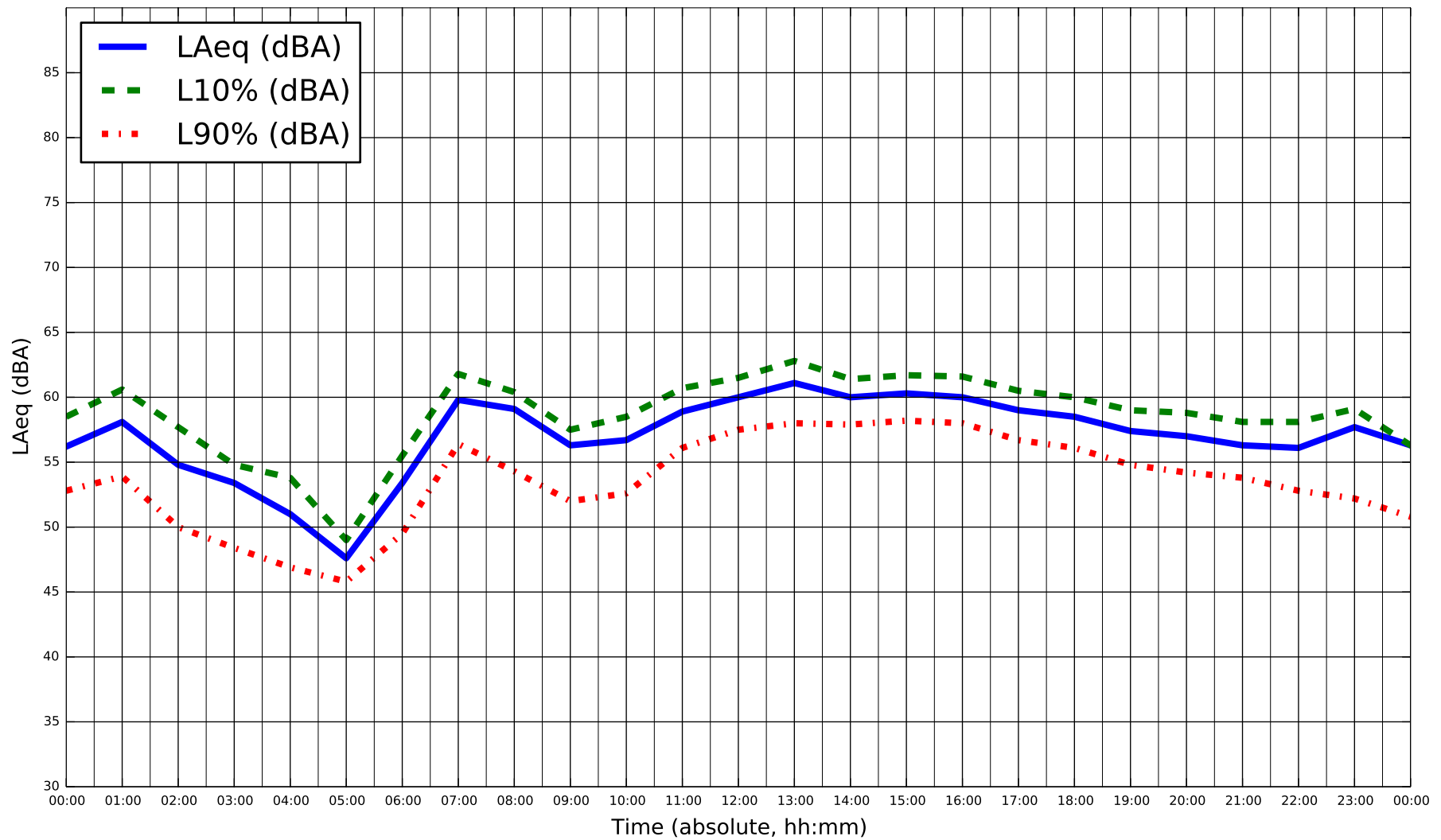
Figure
E-25



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Friday Nov 14, 2014
 Project Num.
114-318

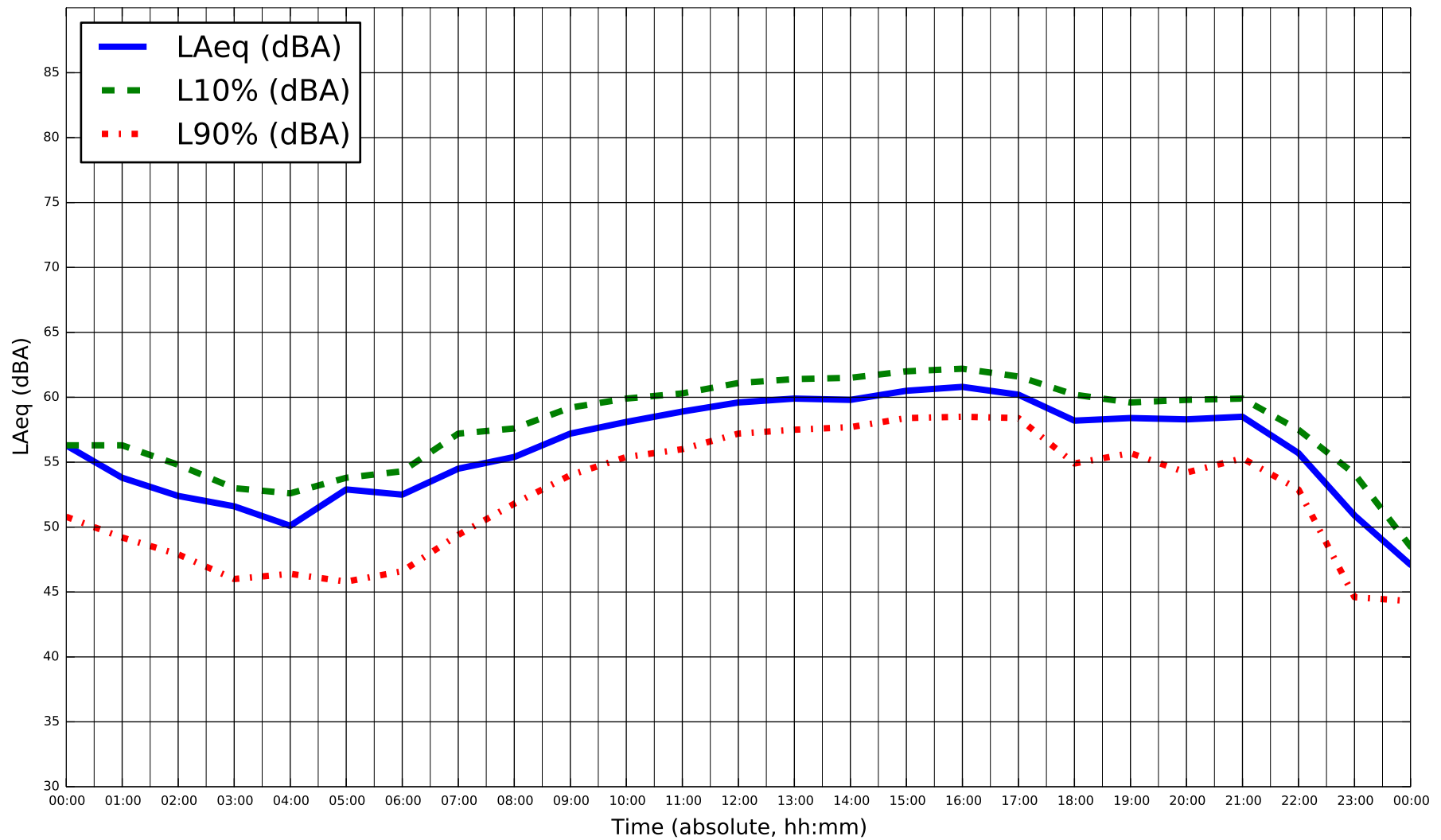
Figure
E-26



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday Nov 15, 2014
 Project Num.
114-318

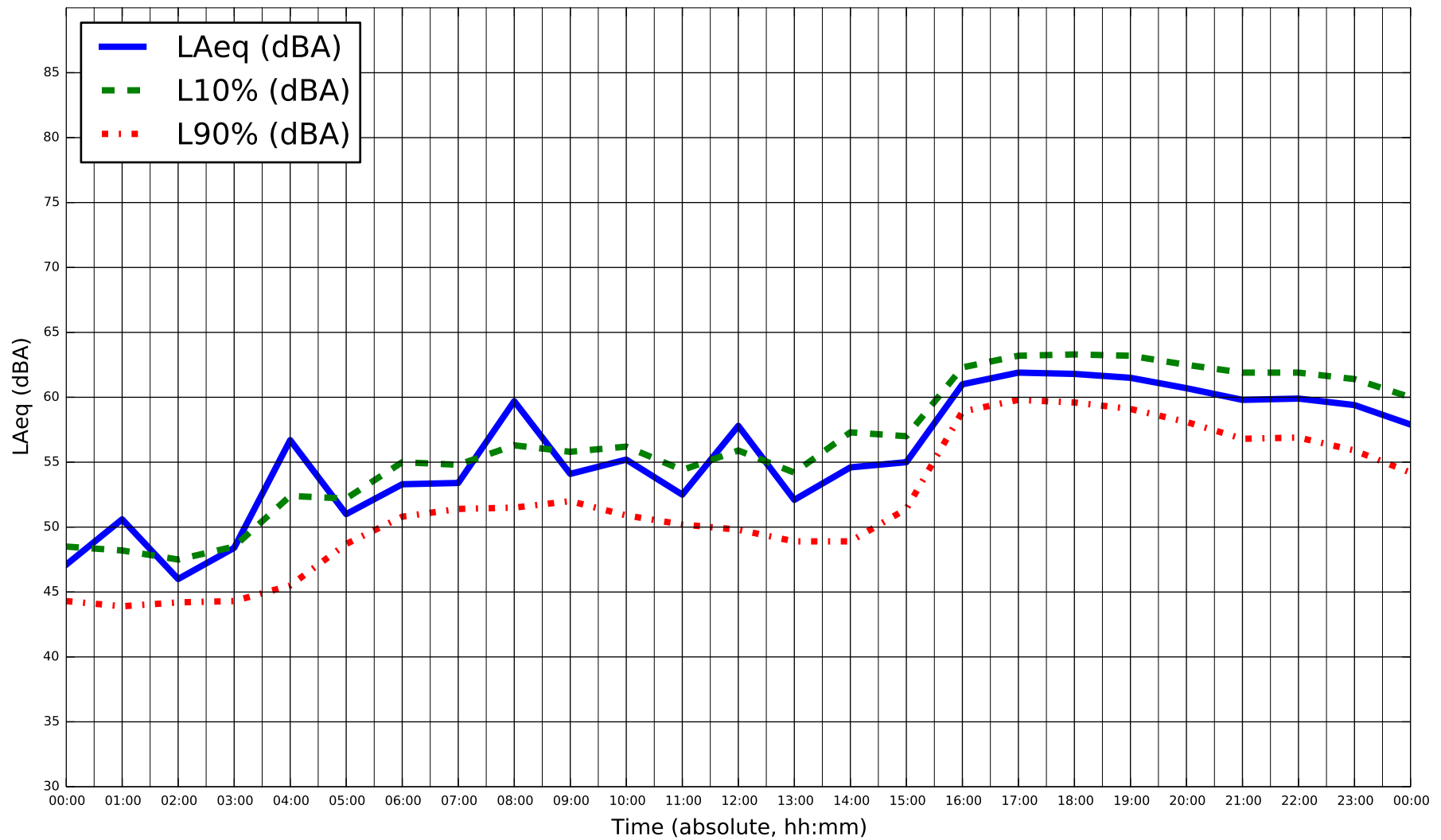
Figure
E-27



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday Nov 16, 2014
 Project Num.
114-318

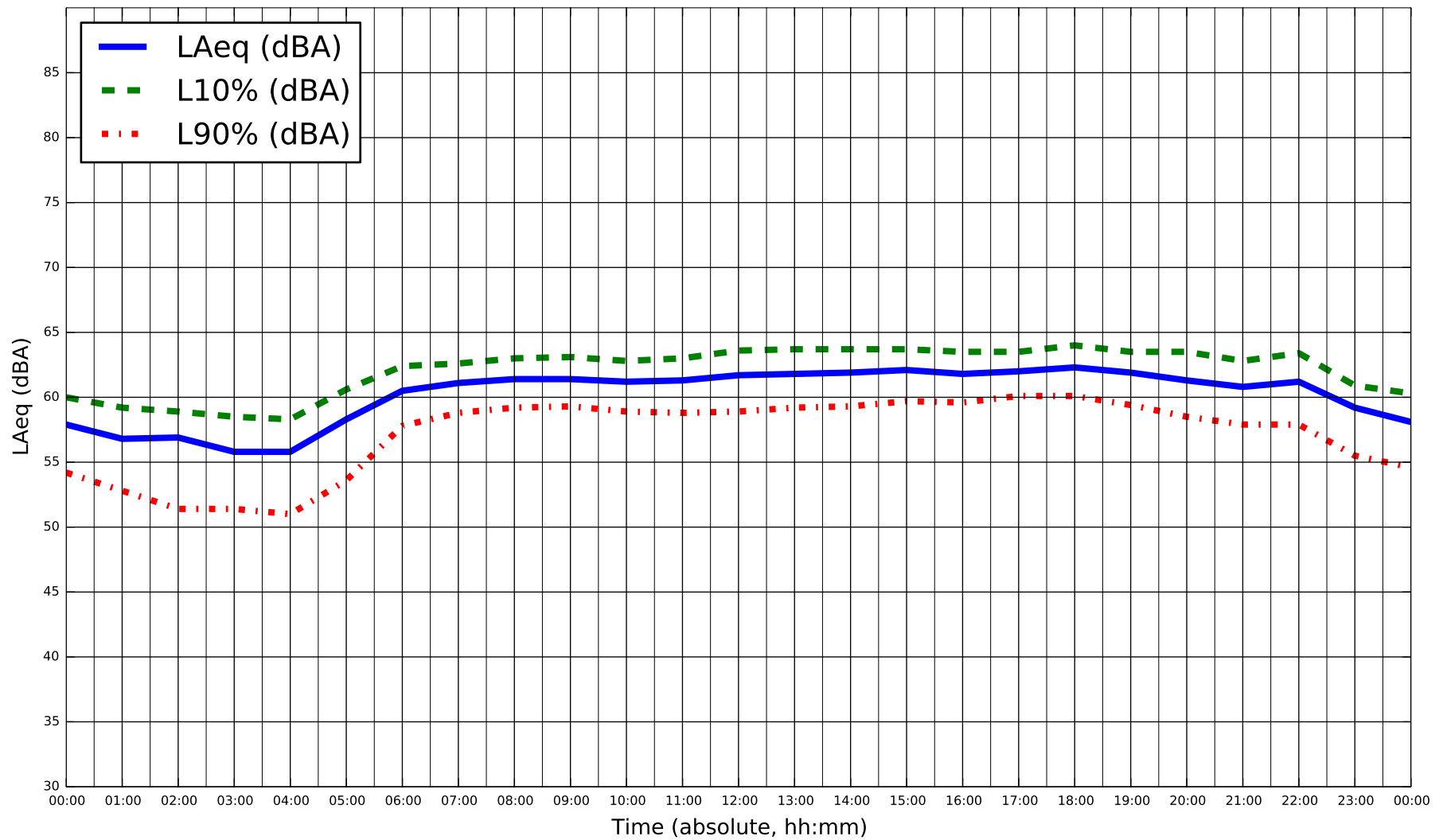
Figure
E-28



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday Nov 17, 2014
 Project Num.
114-318

Figure
E-29



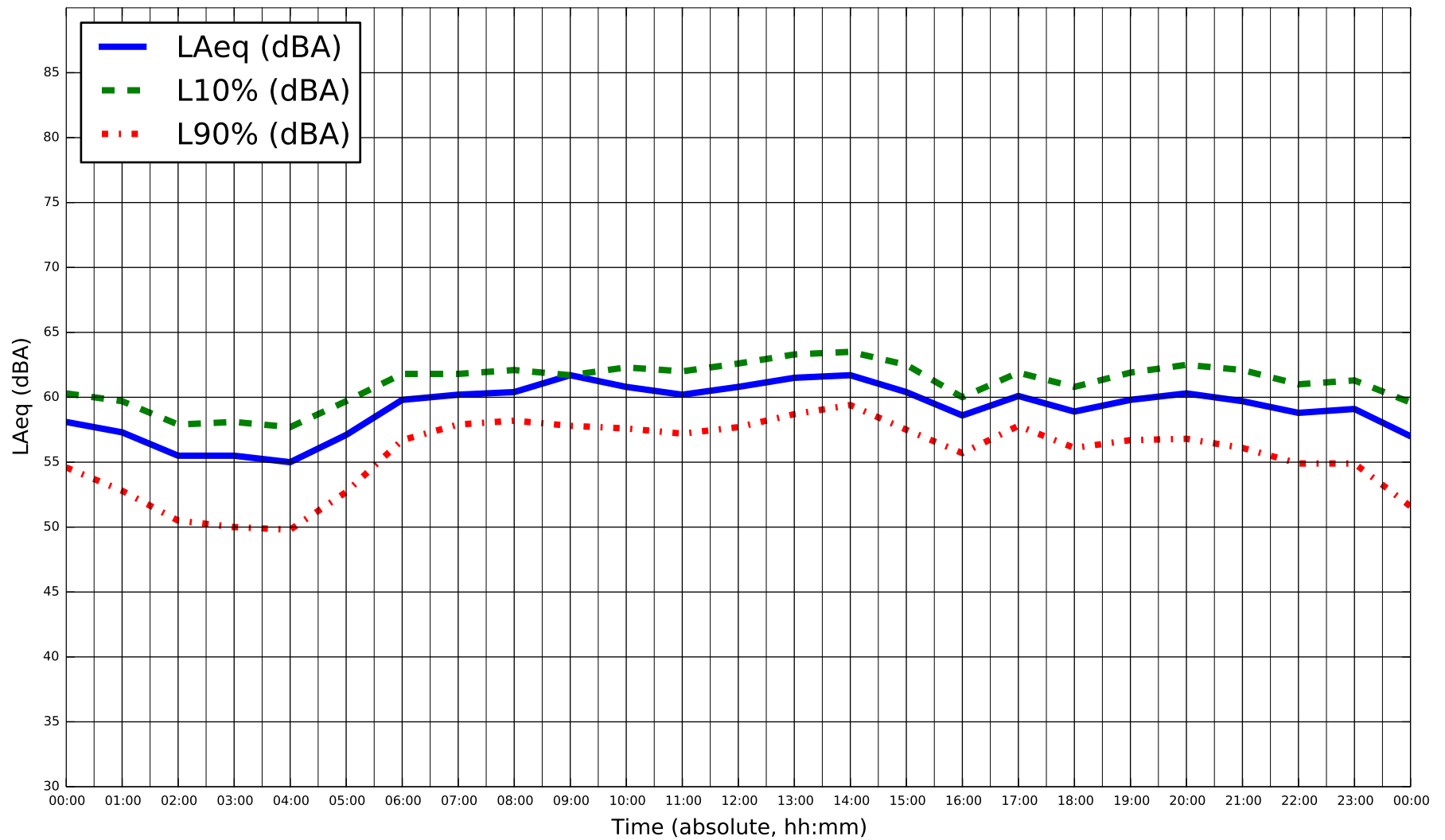
* Sustained winds over 20 km/hr during monitoring on Nov 18, 2014



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Tuesday Nov 18, 2014
 Project Num.
114-318

Figure
E-30



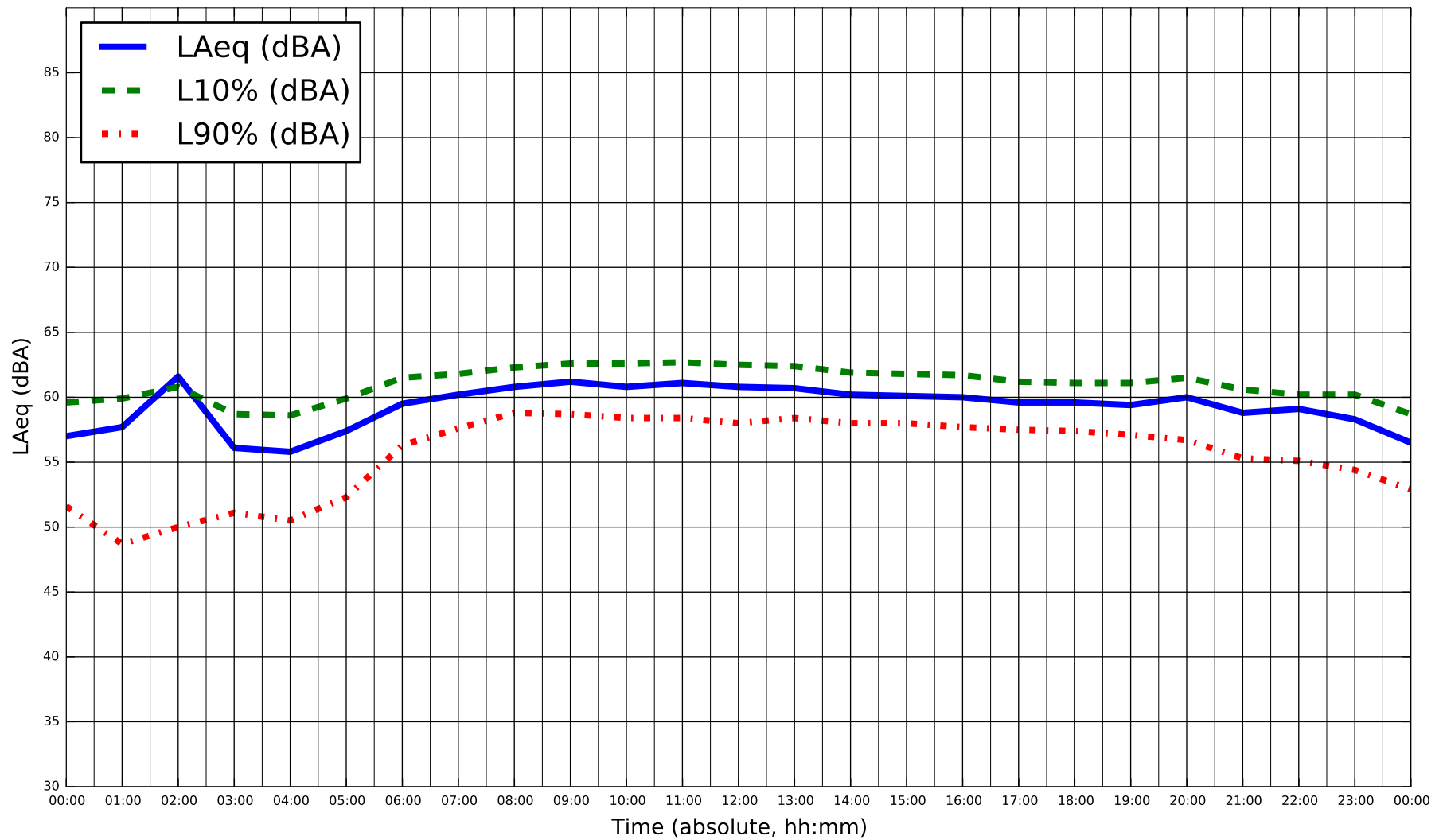
* Sustained winds over 20 km/hr during monitoring on Nov 19, 2014



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Wednesday Nov 19, 2014
 Project Num.
114-318

Figure
E-31



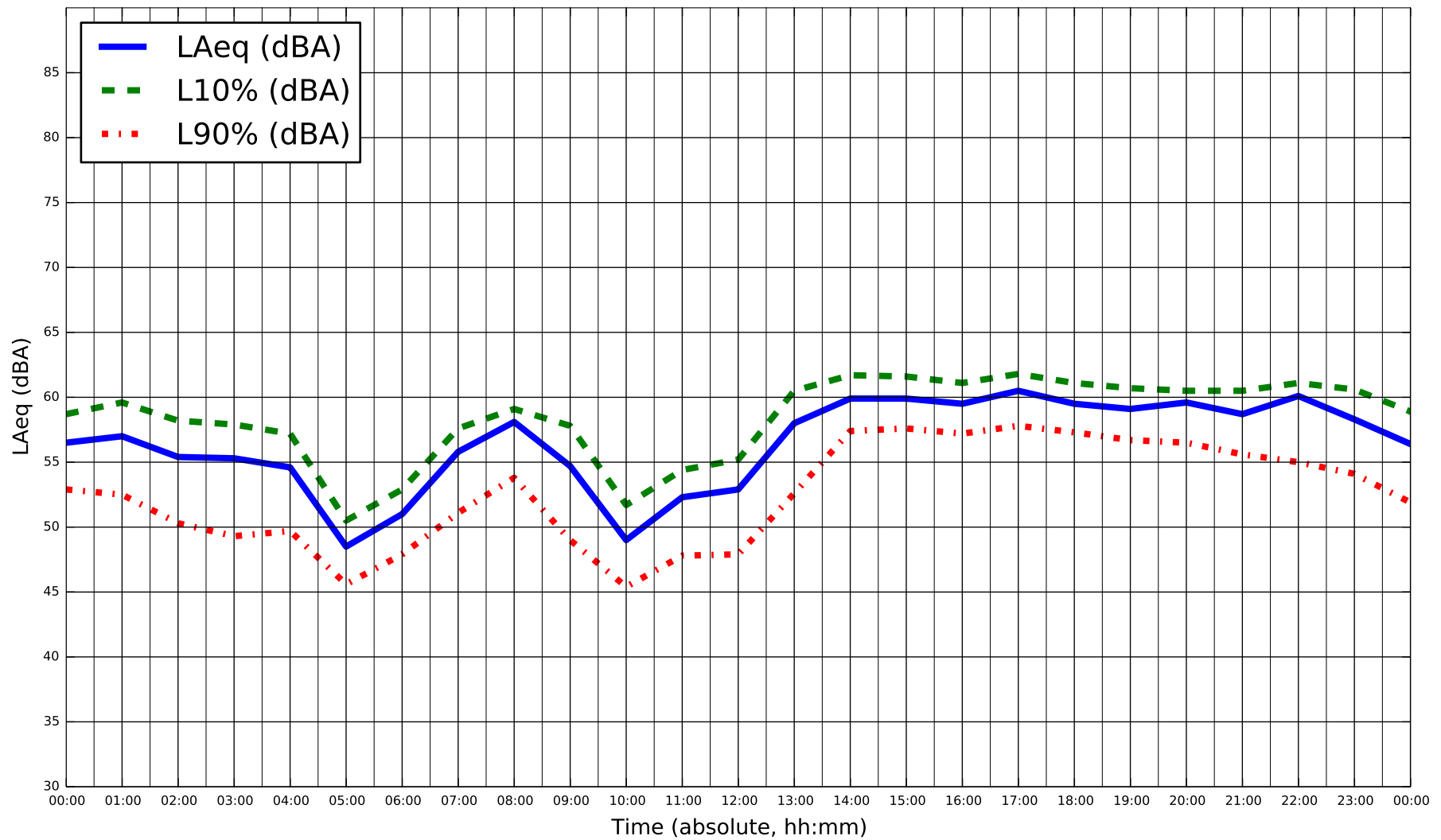
* Sustained winds over 20 km/hr during monitoring on Nov 20, 2014



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday Nov 20, 2014
 Project Num.
114-318

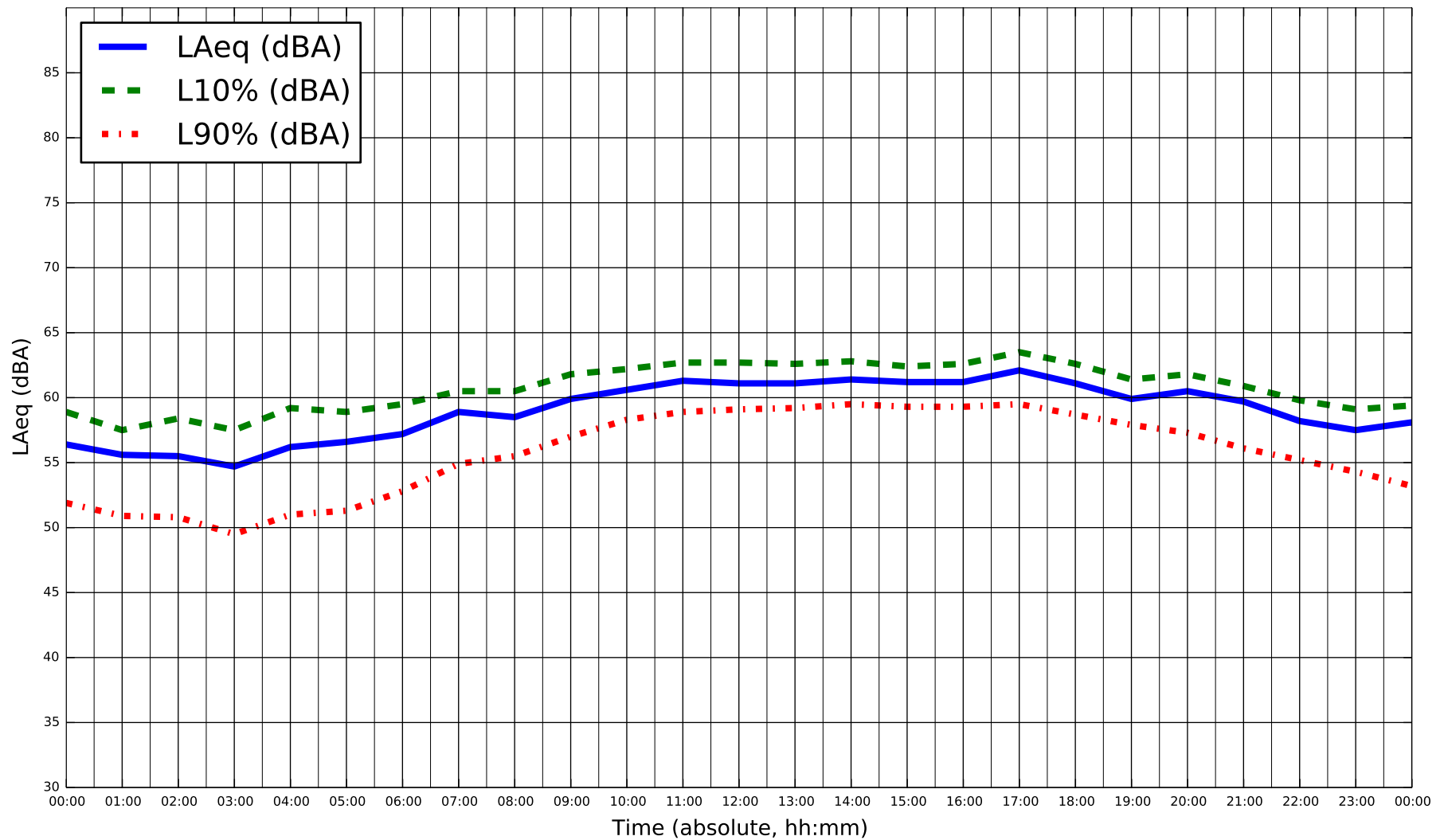
Figure
E-32



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Friday Nov 21, 2014
 Project Num.
114-318

Figure
E-33



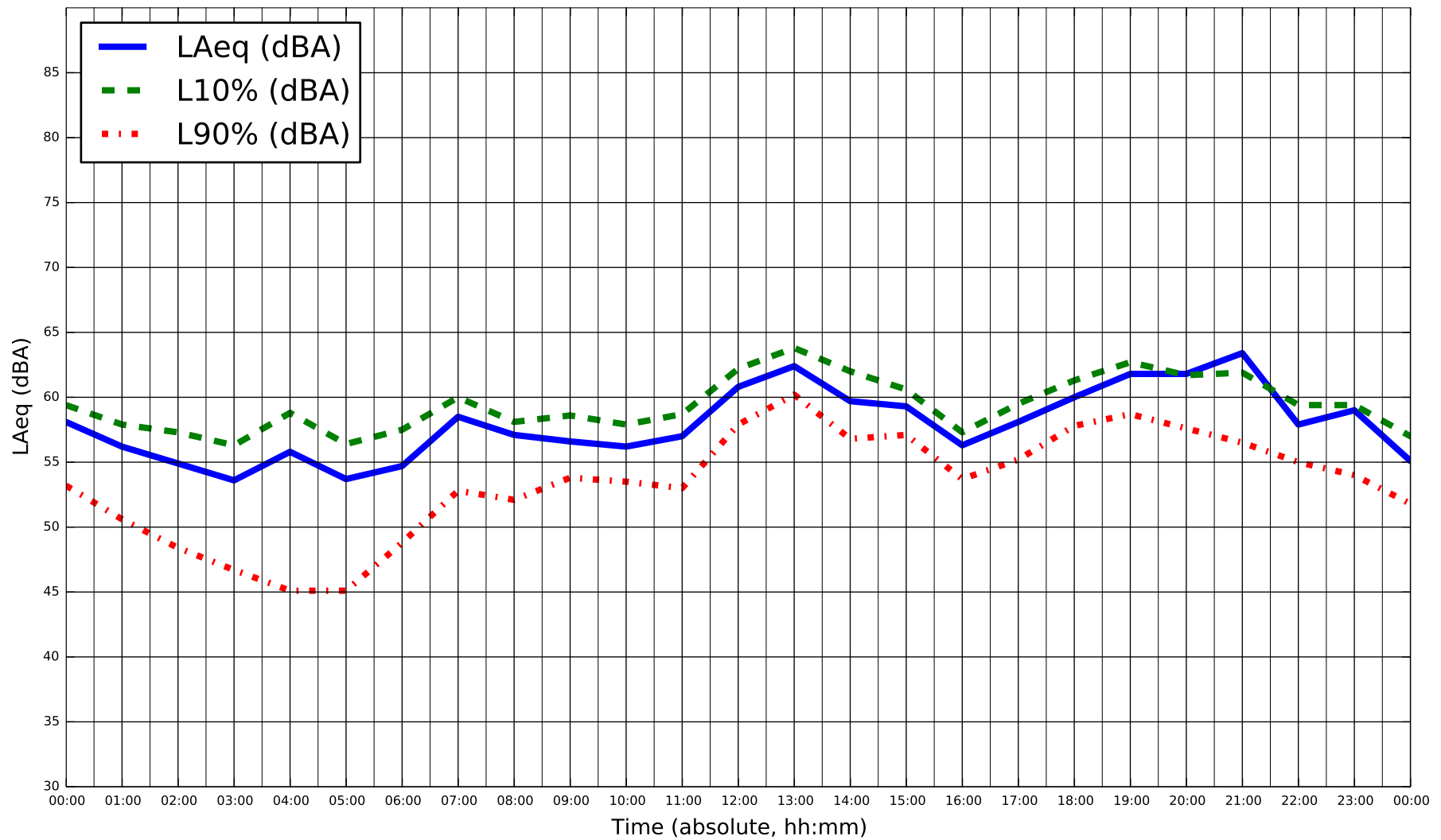
* Sustained winds over 20 km/hr during monitoring on Nov 22, 2014



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday Nov 22, 2014
 Project Num.
114-318

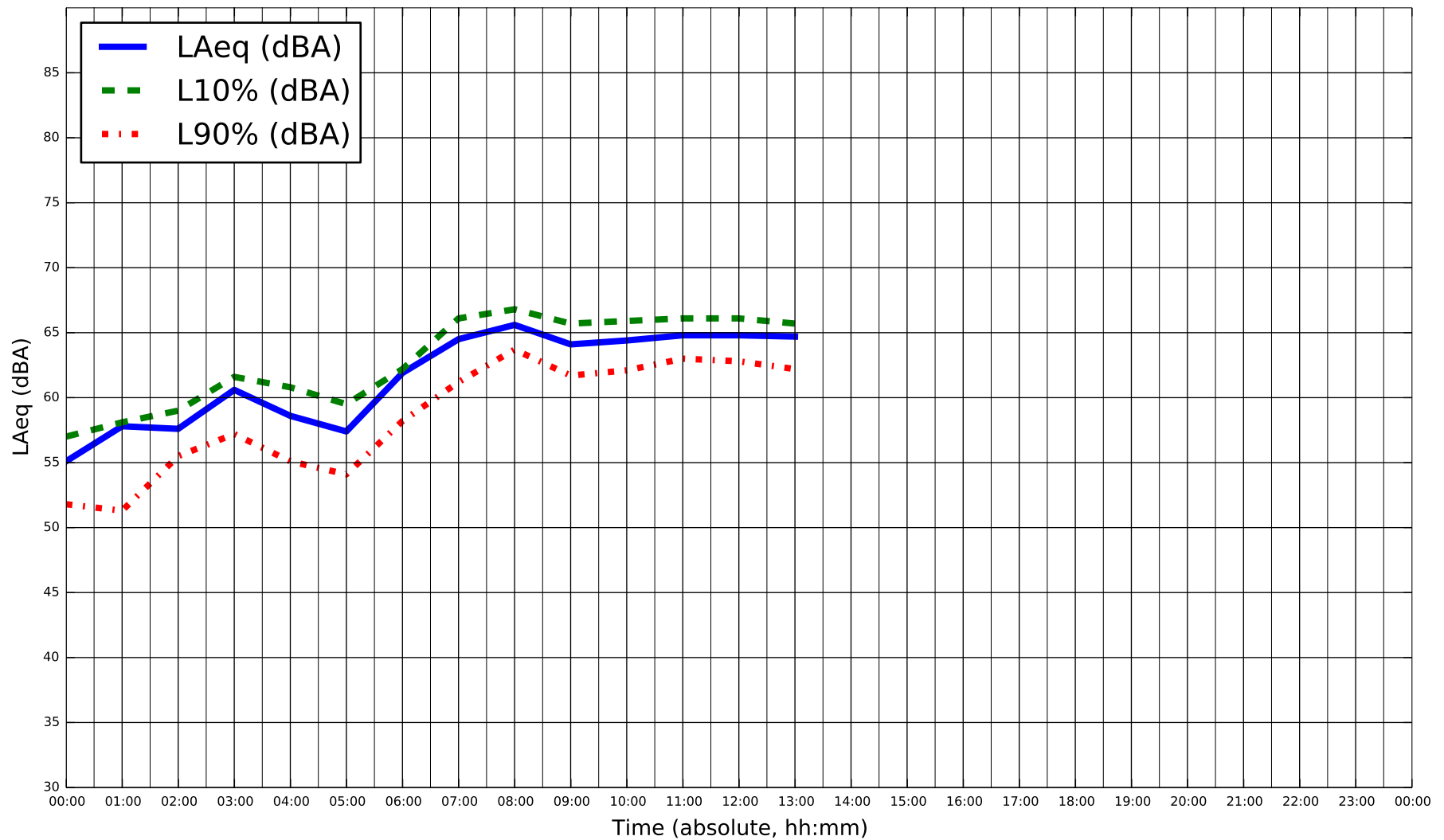
Figure
E-34



Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday Nov 23, 2014
 Project Num.
114-318

Figure
E-35



* Sustained winds over 20 km/hr during monitoring on Nov 24, 2014



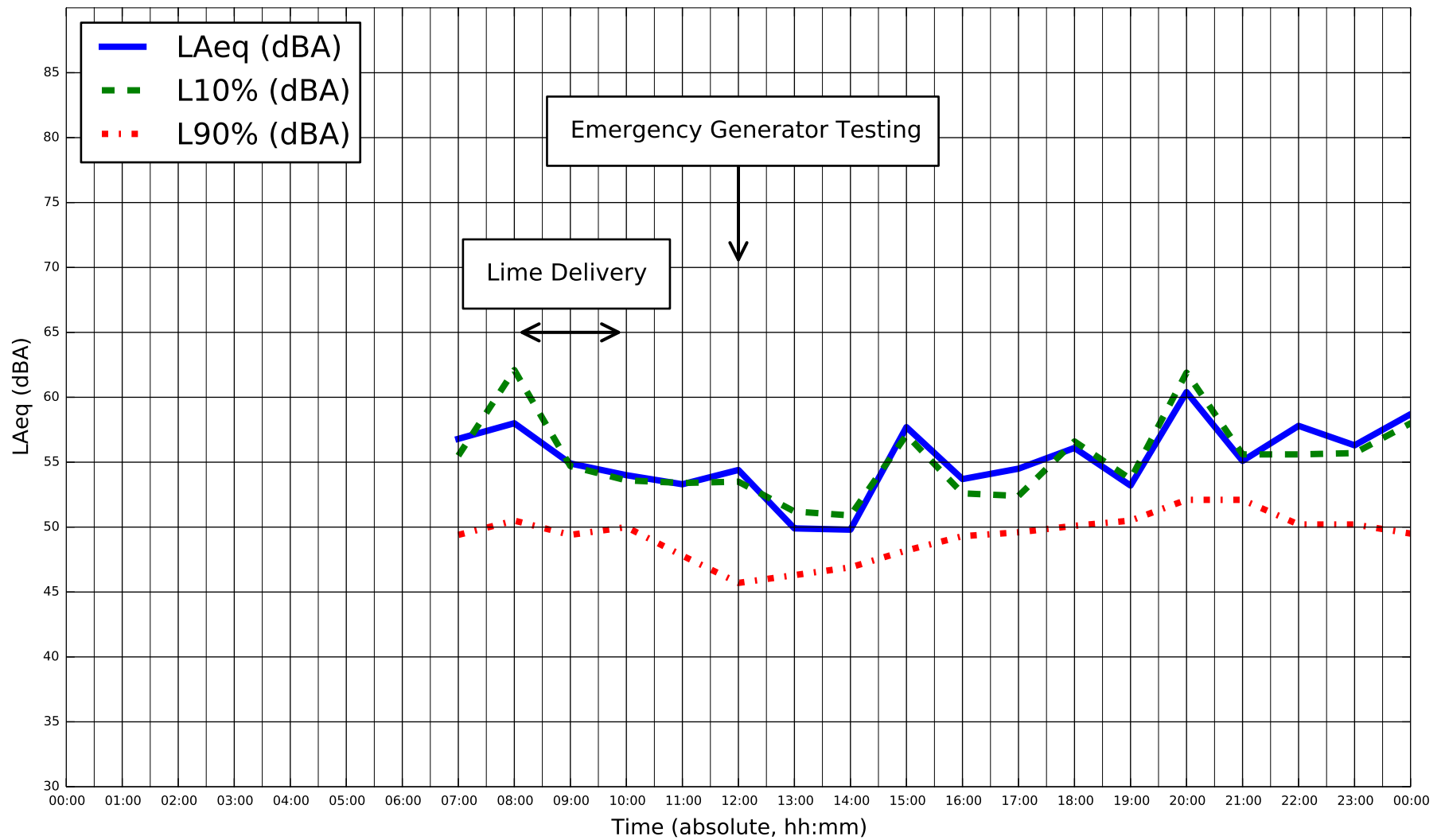
Title
Ambient Sound Measurements - Location M003
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday Nov 24, 2014
 Project Num.
114-318

Figure
E-36

APPENDIX F

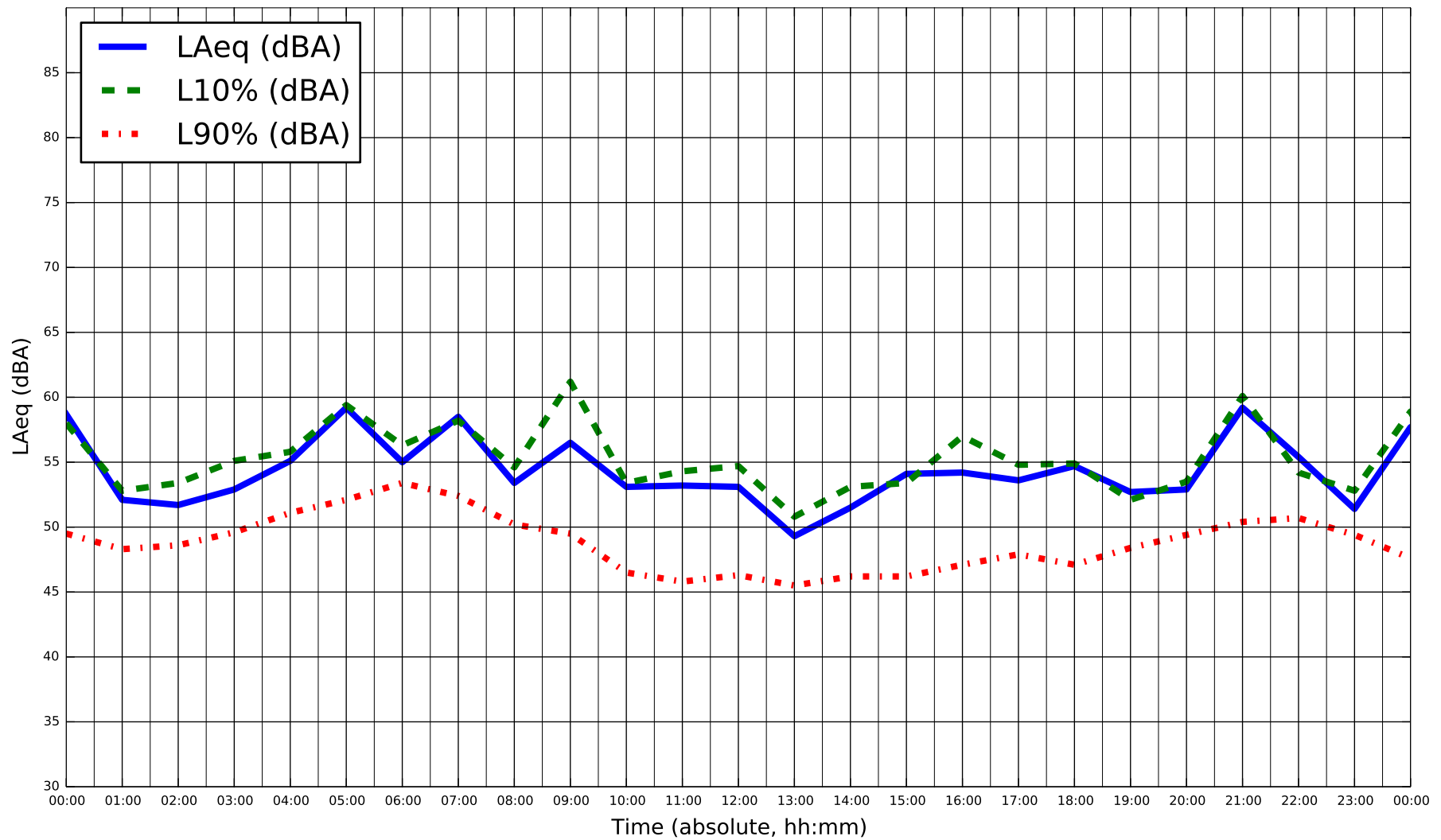
APRIL 2015 POST-OPERATIONAL SOUND MEASUREMENT RESULTS



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday April 6, 2015
 Project Num.
114-318

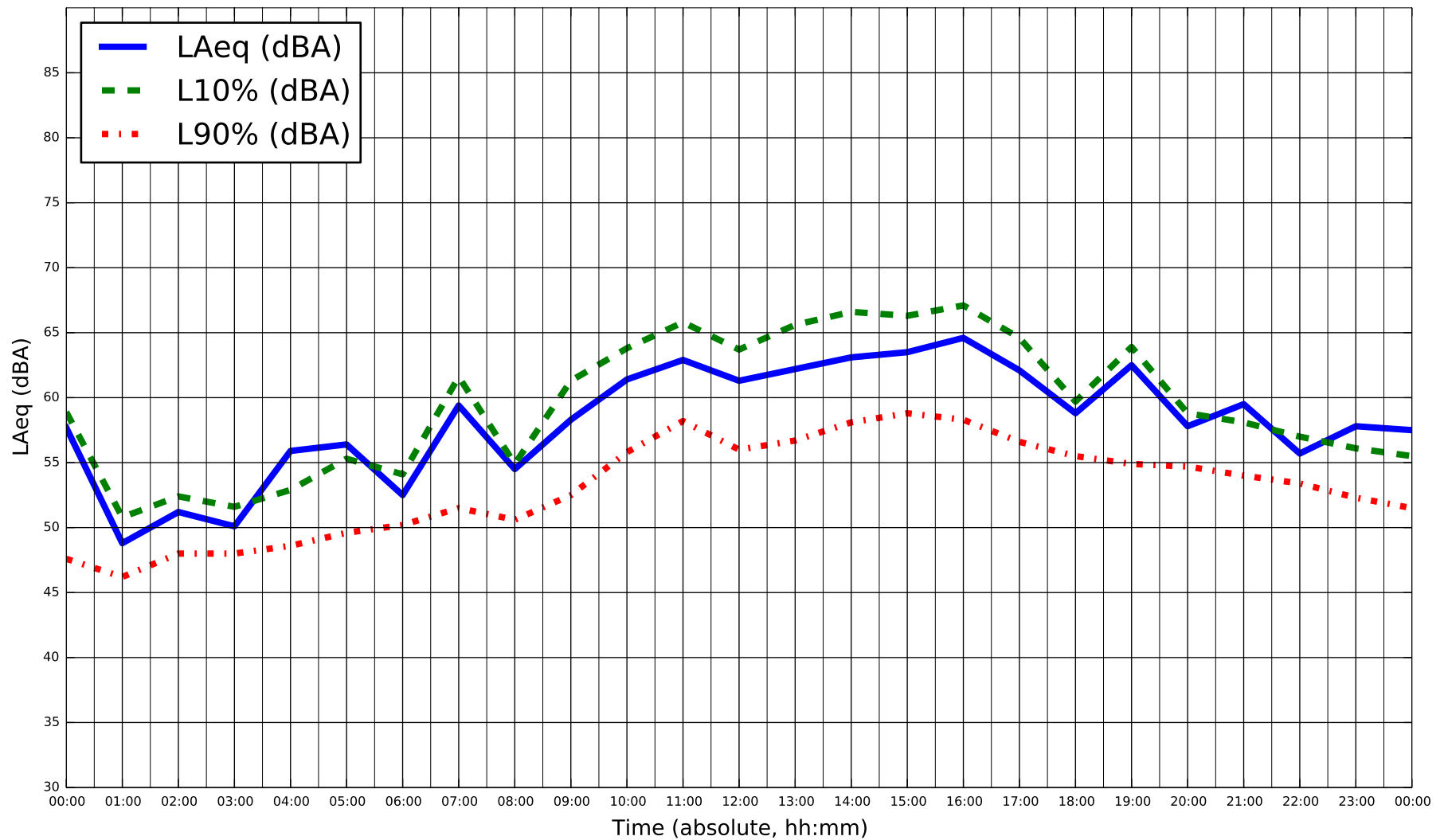
Figure
F-1



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Tuesday April 7, 2015
 Project Num.
114-318

Figure
F-2



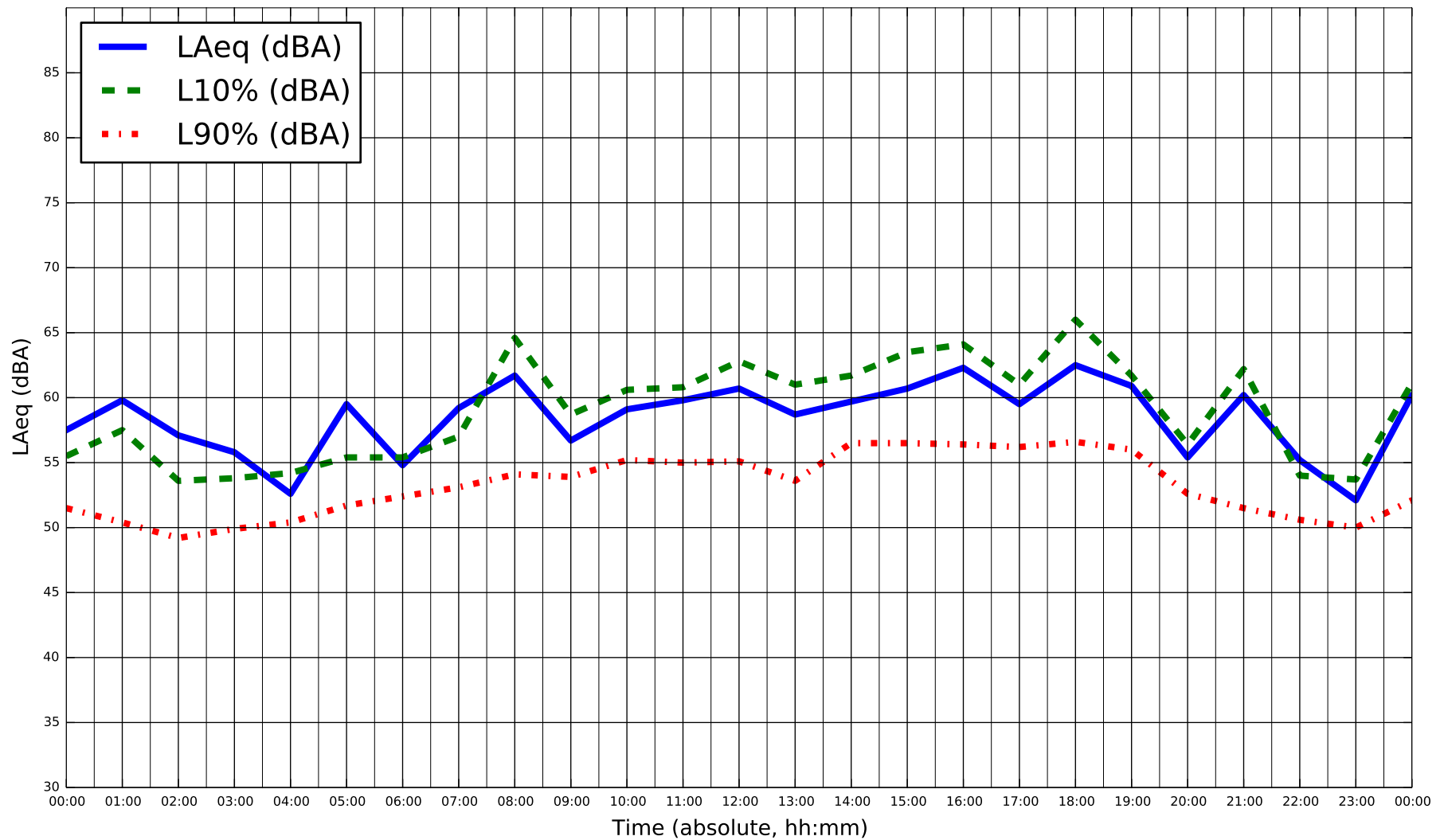
* Sustained winds over 20 km/hr during monitoring, on April 8, 2015



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Wednesday April 8, 2015
 Project Num.
114-318

Figure
F-3



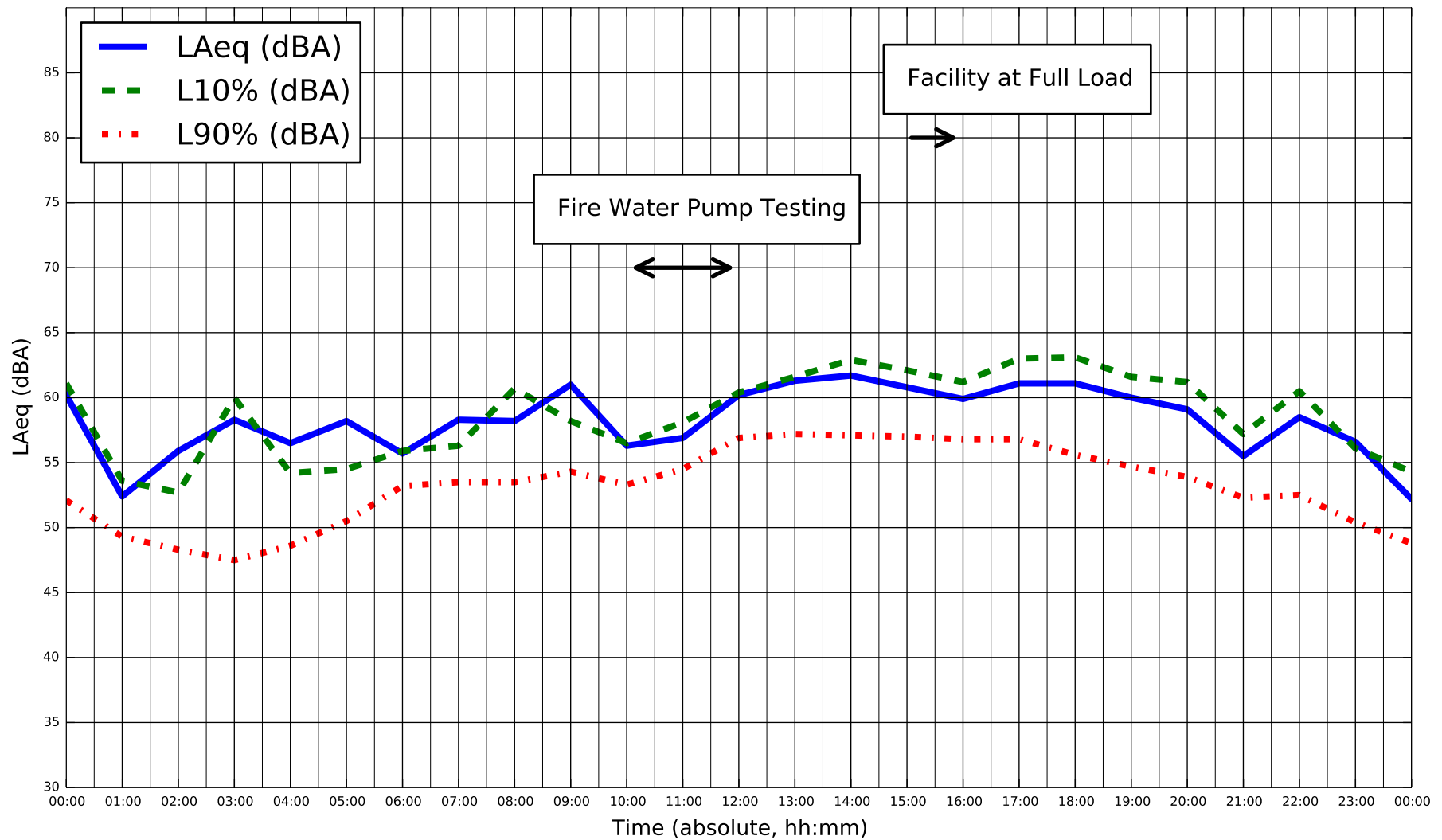
* Sustained winds over 20 km/hr during monitoring, on April 9, 2015




Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

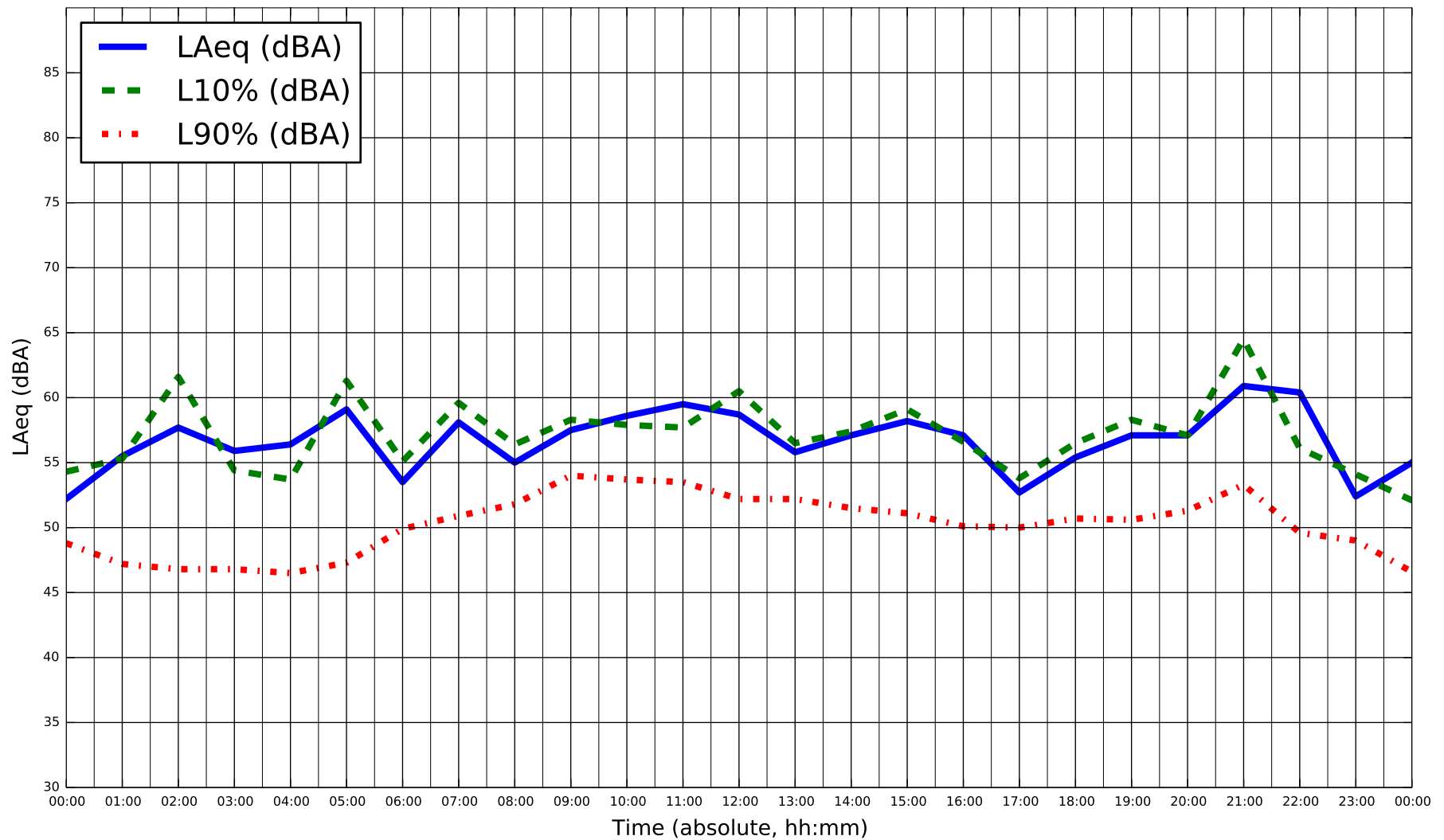
Measurement Date
Thursday April 9, 2015
 Project Num.
114-318

Figure
F-4



* Sustained winds over 20 km/hr during monitoring, on April 10, 2015

	Title Sound Measurements - Location M001	Measurement Date Friday April 10, 2015	Figure F-5
	Project Name DYEC - Acoustic Audit	Project Num. 114-318	



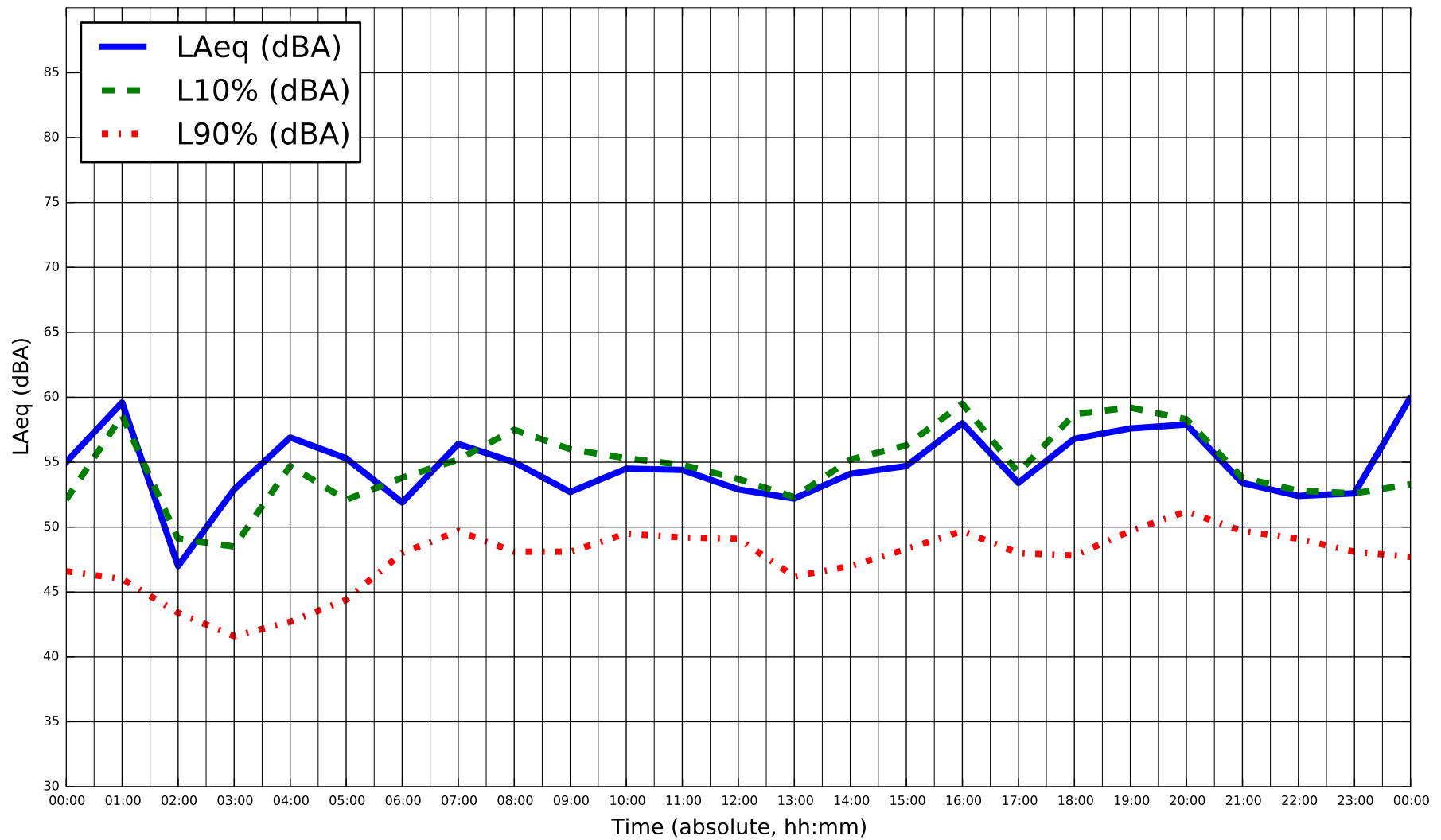
* Sustained winds over 20 km/hr during monitoring on April 11, 2015 (00:00 to 07:00 hrs only)



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Saturday April 11, 2015
 Project Num.
114-318

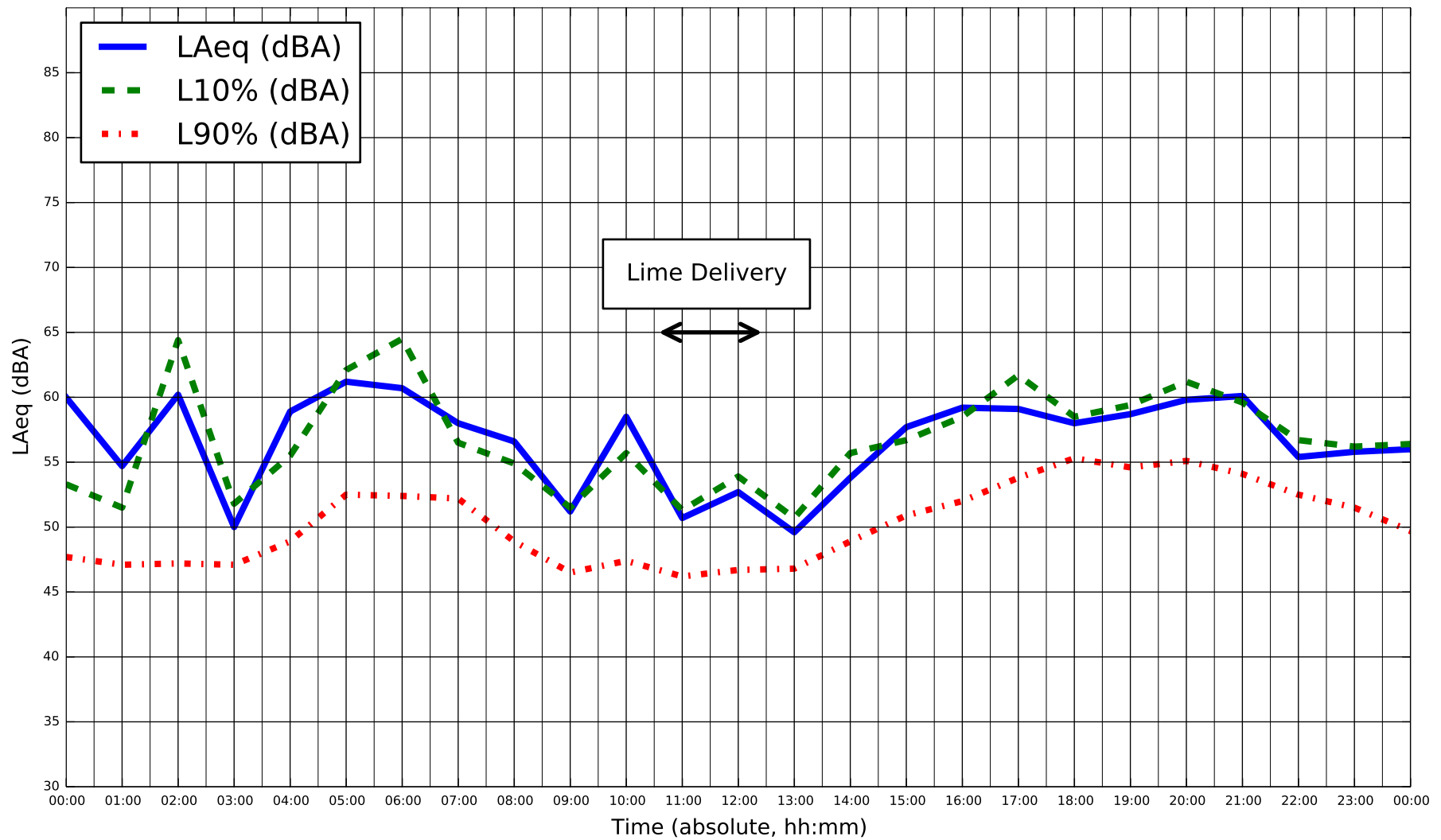
Figure
F-6



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Sunday April 12, 2015
 Project Num.
114-318

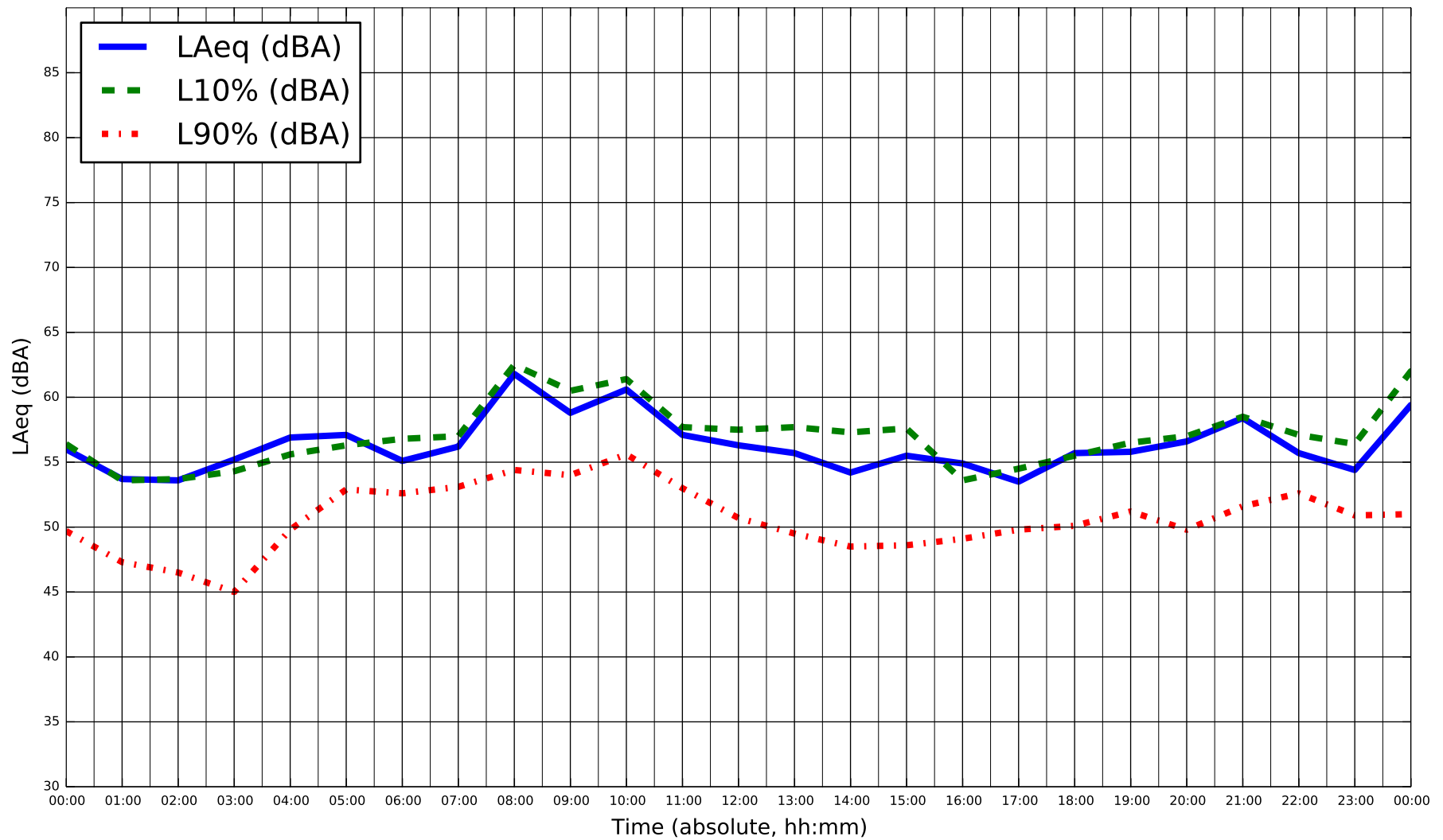
Figure
F-7



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday April 13, 2015
 Project Num.
114-318

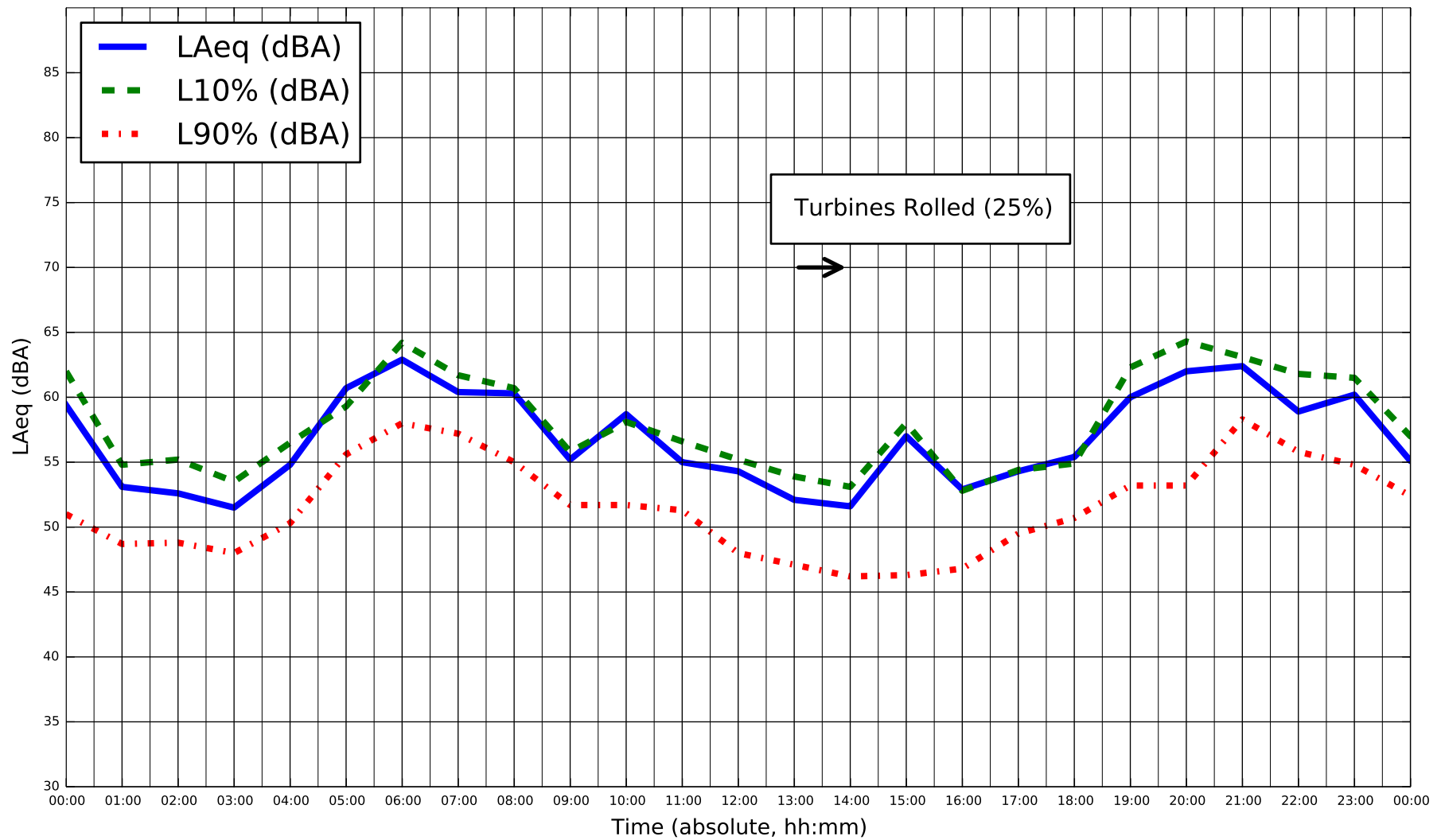
Figure
F-8



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Tuesday April 14, 2015
 Project Num.
114-318

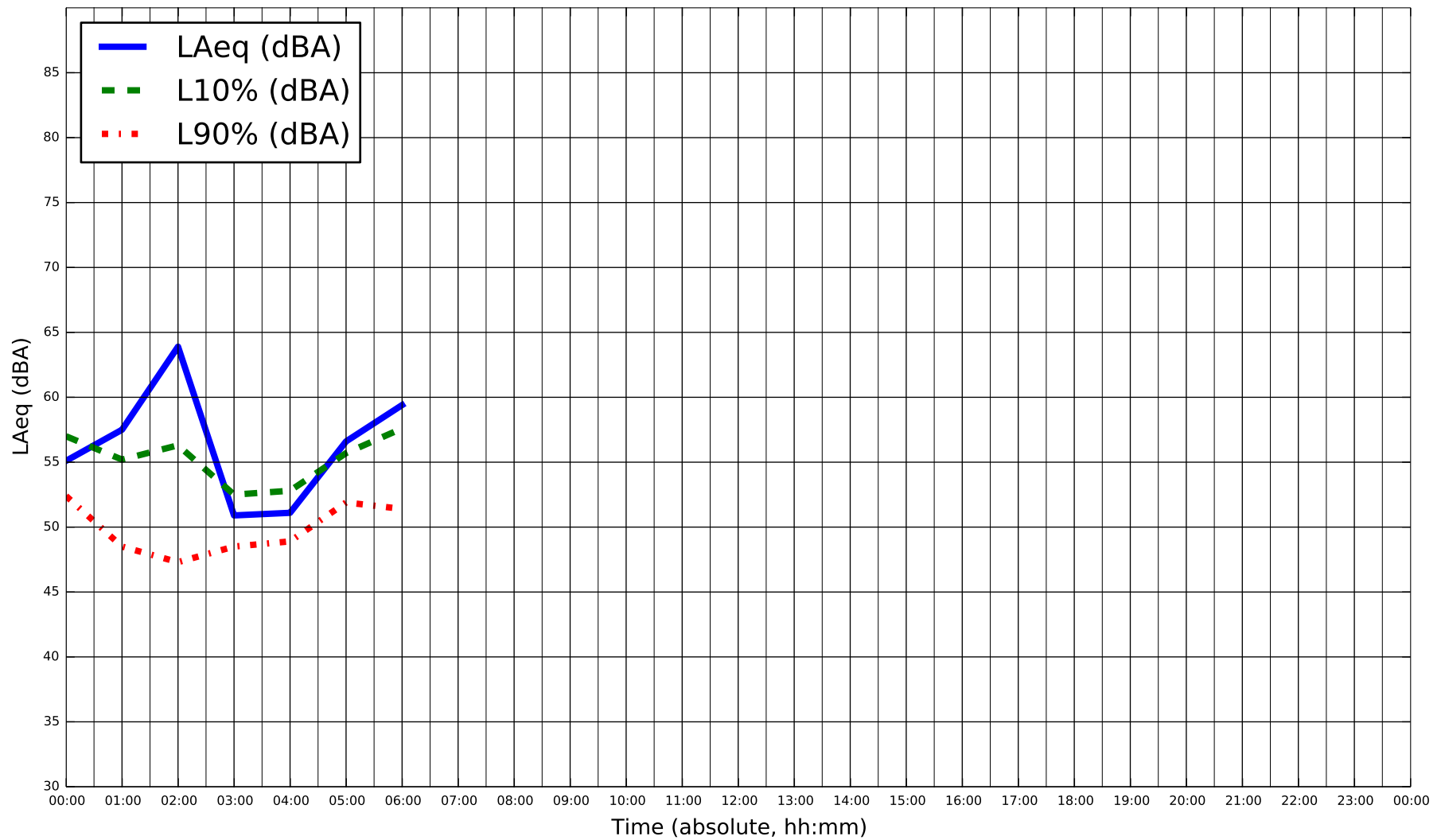
Figure
F-9



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Wednesday April 15, 2015
 Project Num.
114-318

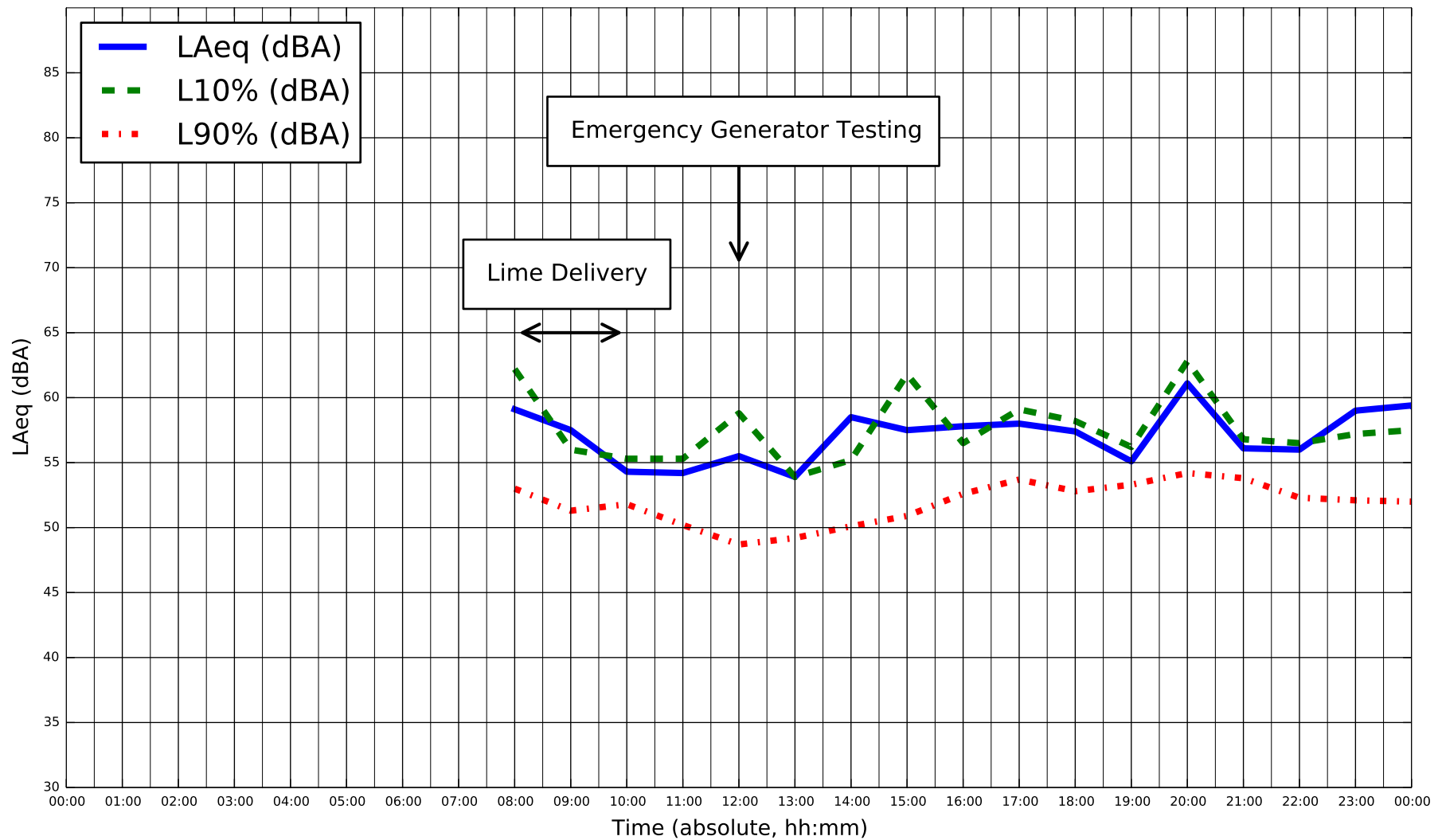
Figure
F-10



Title
Sound Measurements - Location M001
 Project Name
DYEC - Acoustic Audit

Measurement Date
Thursday April 16, 2015
 Project Num.
114-318

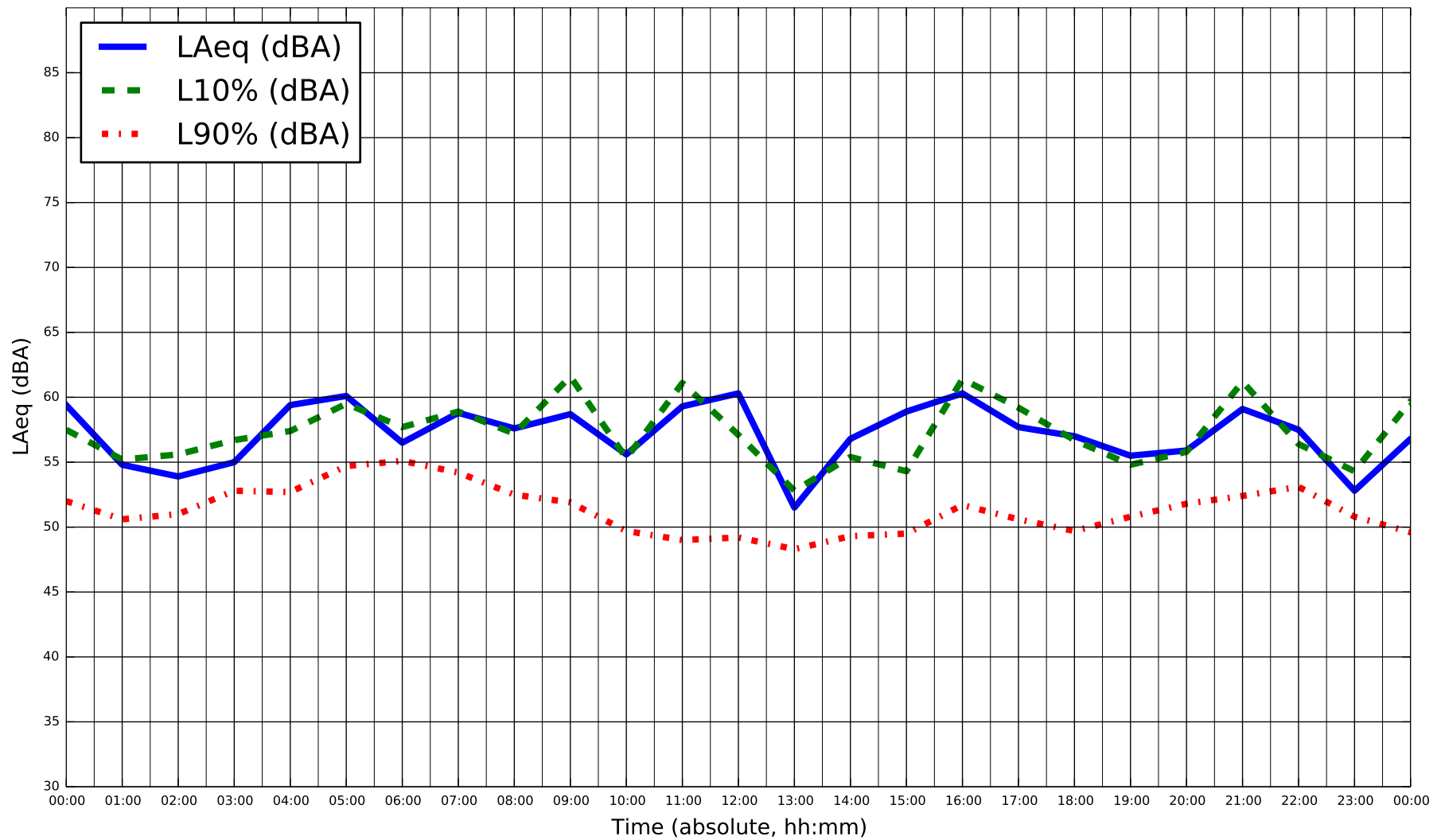
Figure
F-11



Title
Sound Measurements - Location M002b
 Project Name
DYEC - Acoustic Audit

Measurement Date
Monday April 6, 2015
 Project Num.
114-318

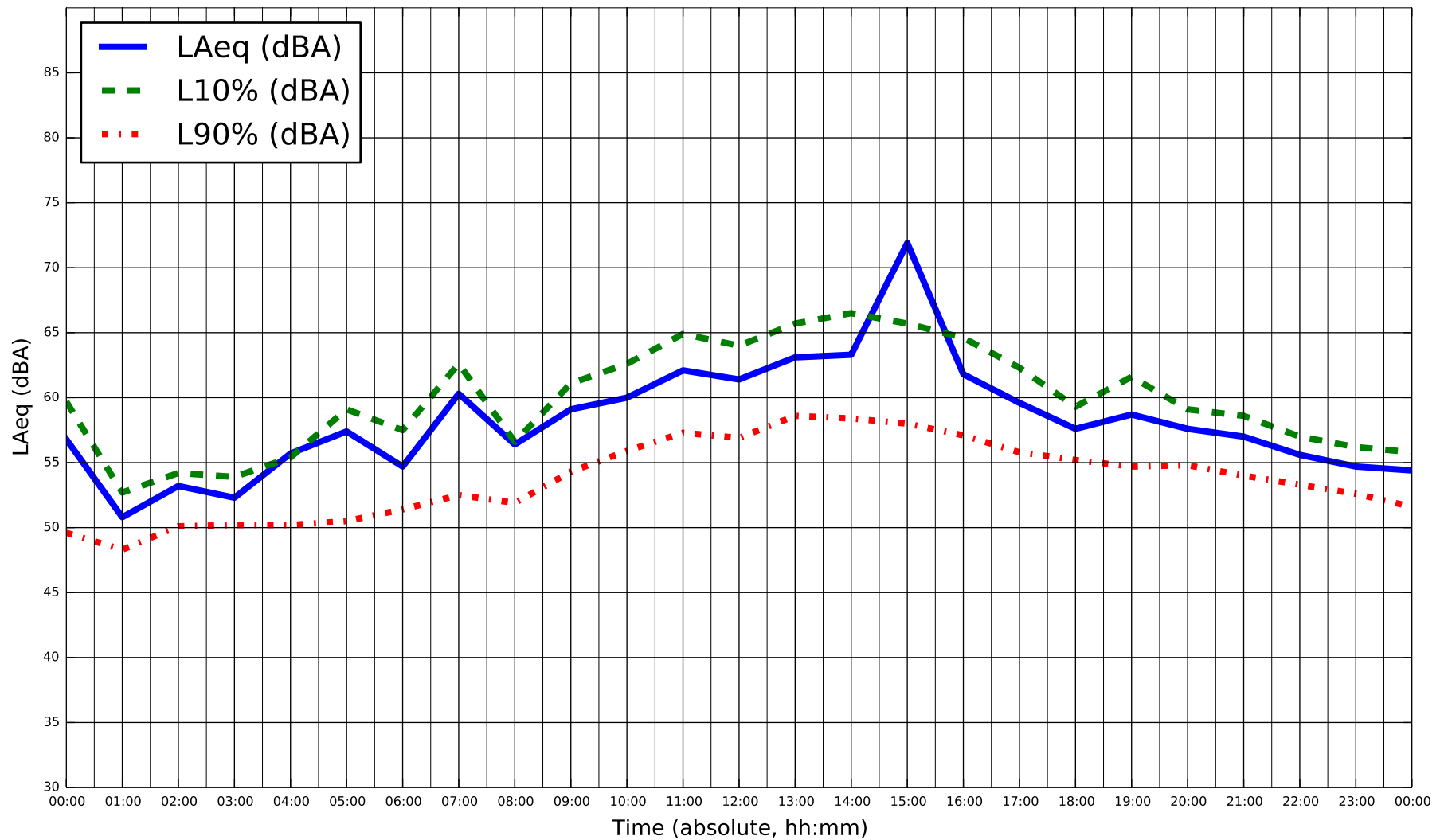
Figure
F-12



Title
Sound Measurements - Location M002b
 Project Name
DYEC - Acoustic Audit

Measurement Date
Tuesday April 7, 2015
 Project Num.
114-318

Figure
F-13



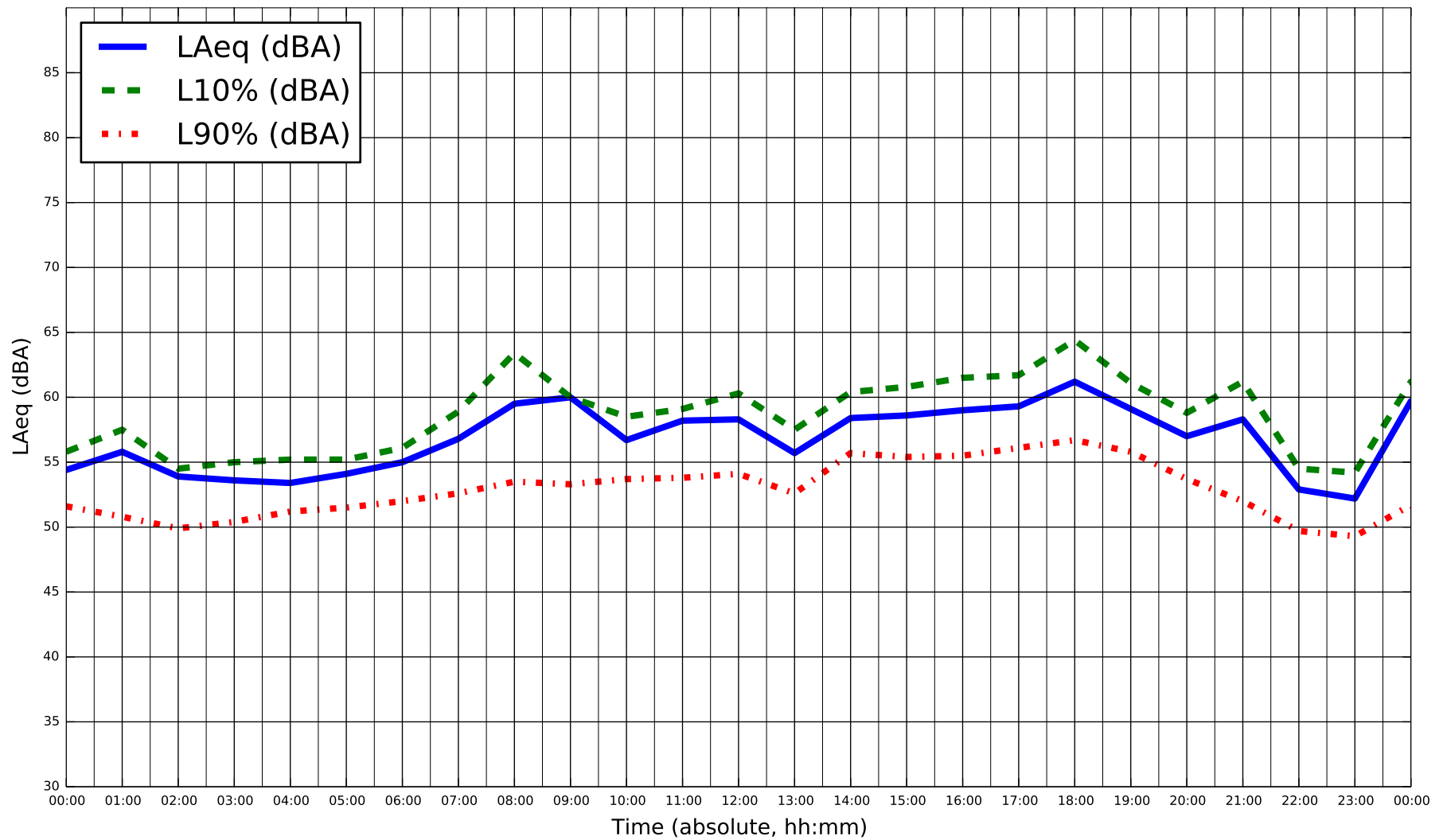
* Sustained winds over 20 km/hr during monitoring, on April 8, 2015



Title
Sound Measurements - Location M002b
 Project Name
DYEC - Acoustic Audit

Measurement Date
Wednesday April 8, 2015
 Project Num.
114-318

Figure
F-14



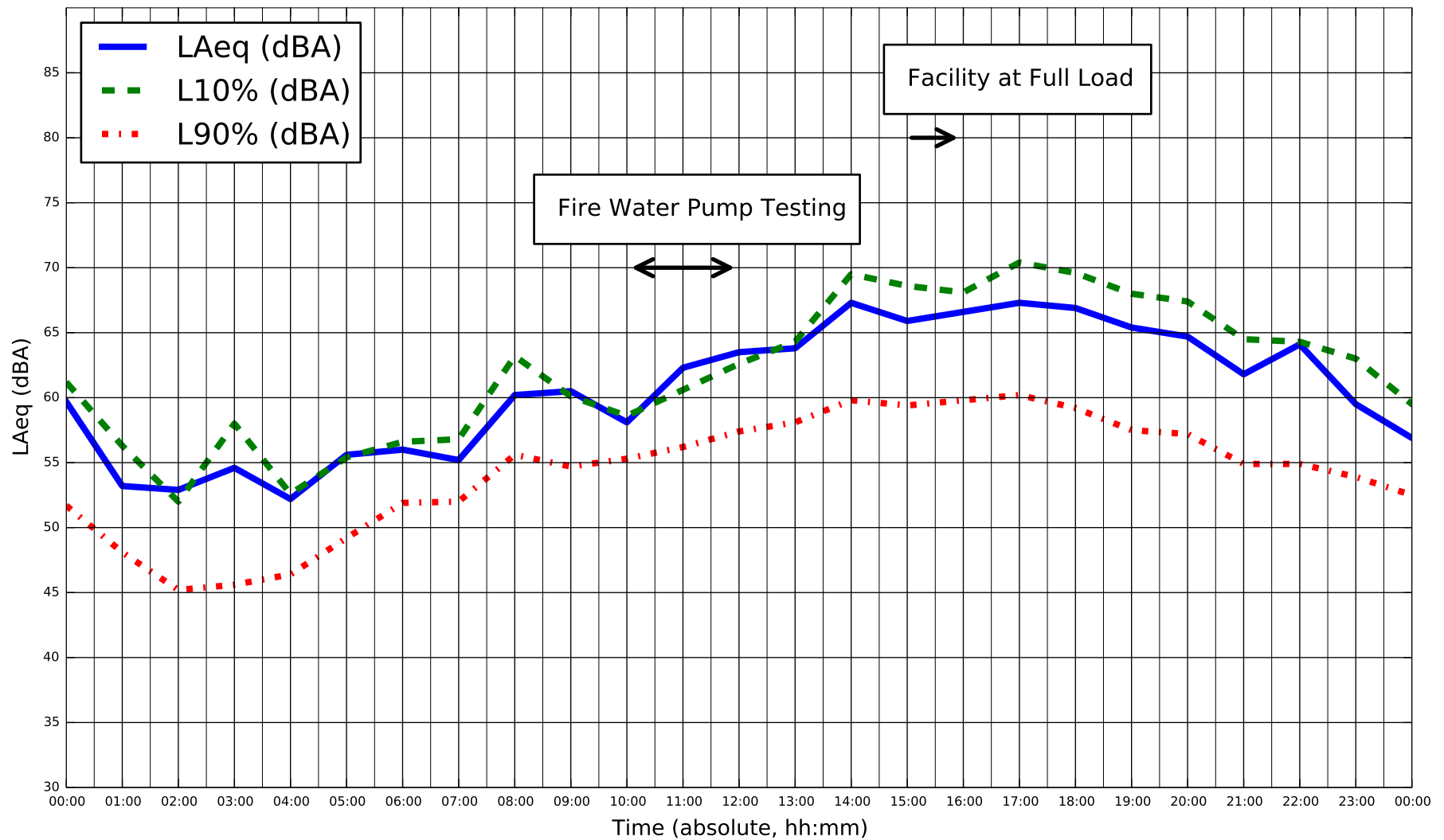
* Sustained winds over 20 km/hr during monitoring, on April 9, 2015




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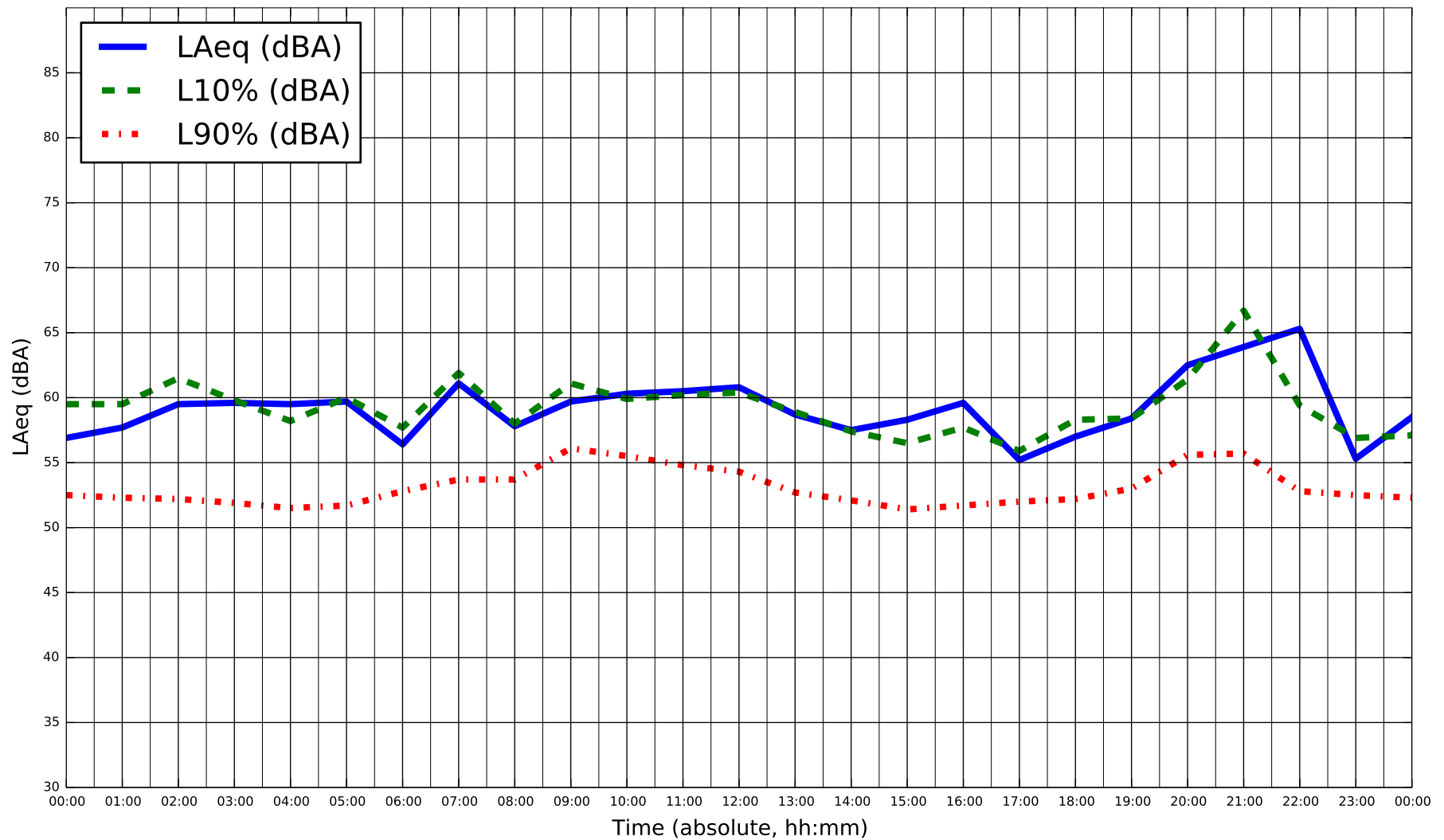
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Figure
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* Sustained winds over 20 km/hr during monitoring, on April 10, 2015

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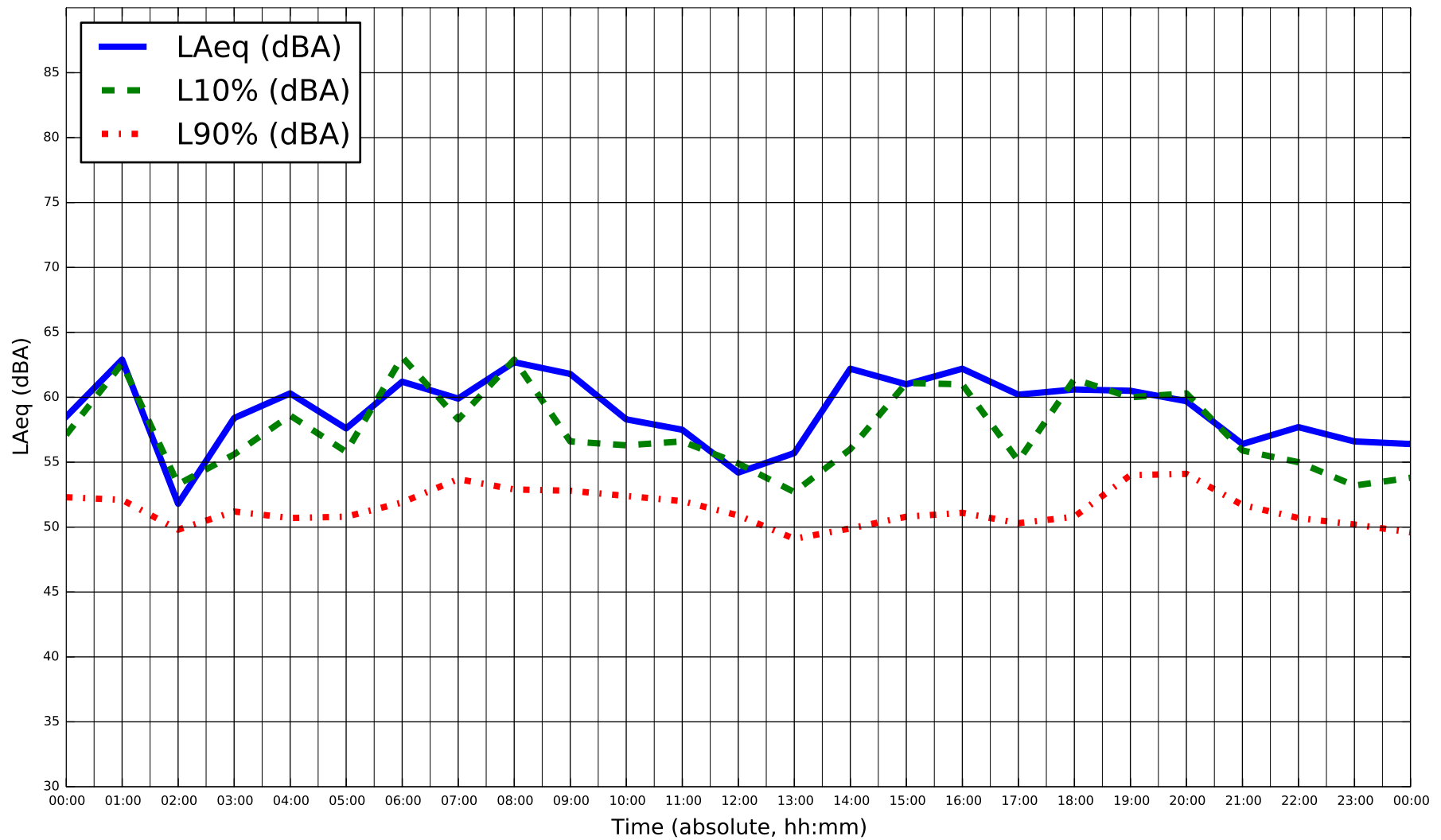
* Sustained winds over 20 km/hr during monitoring on April 11, 2015 (00:00 to 07:00 hrs only)



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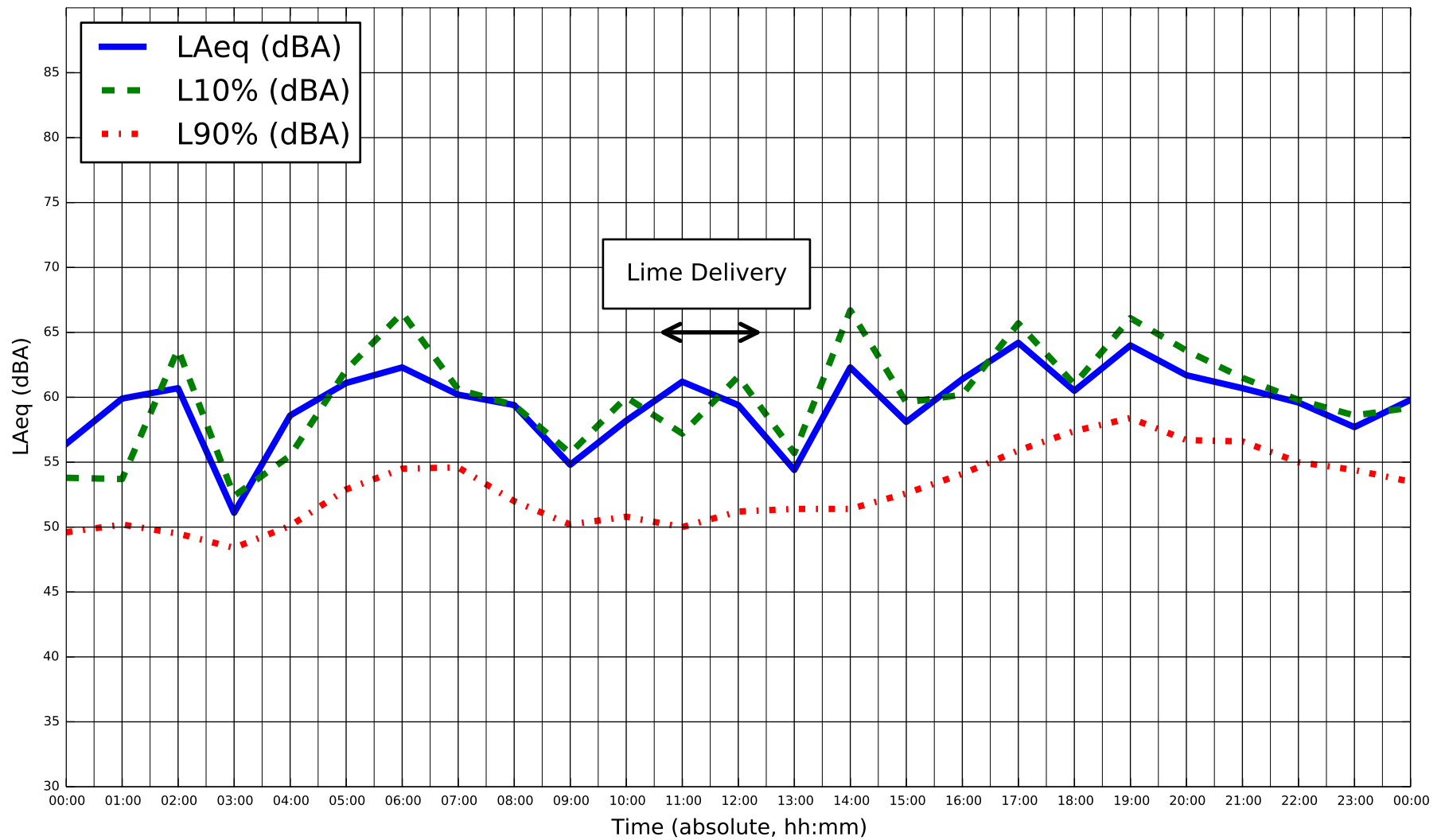
Figure
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Sound Measurements - Location M002b
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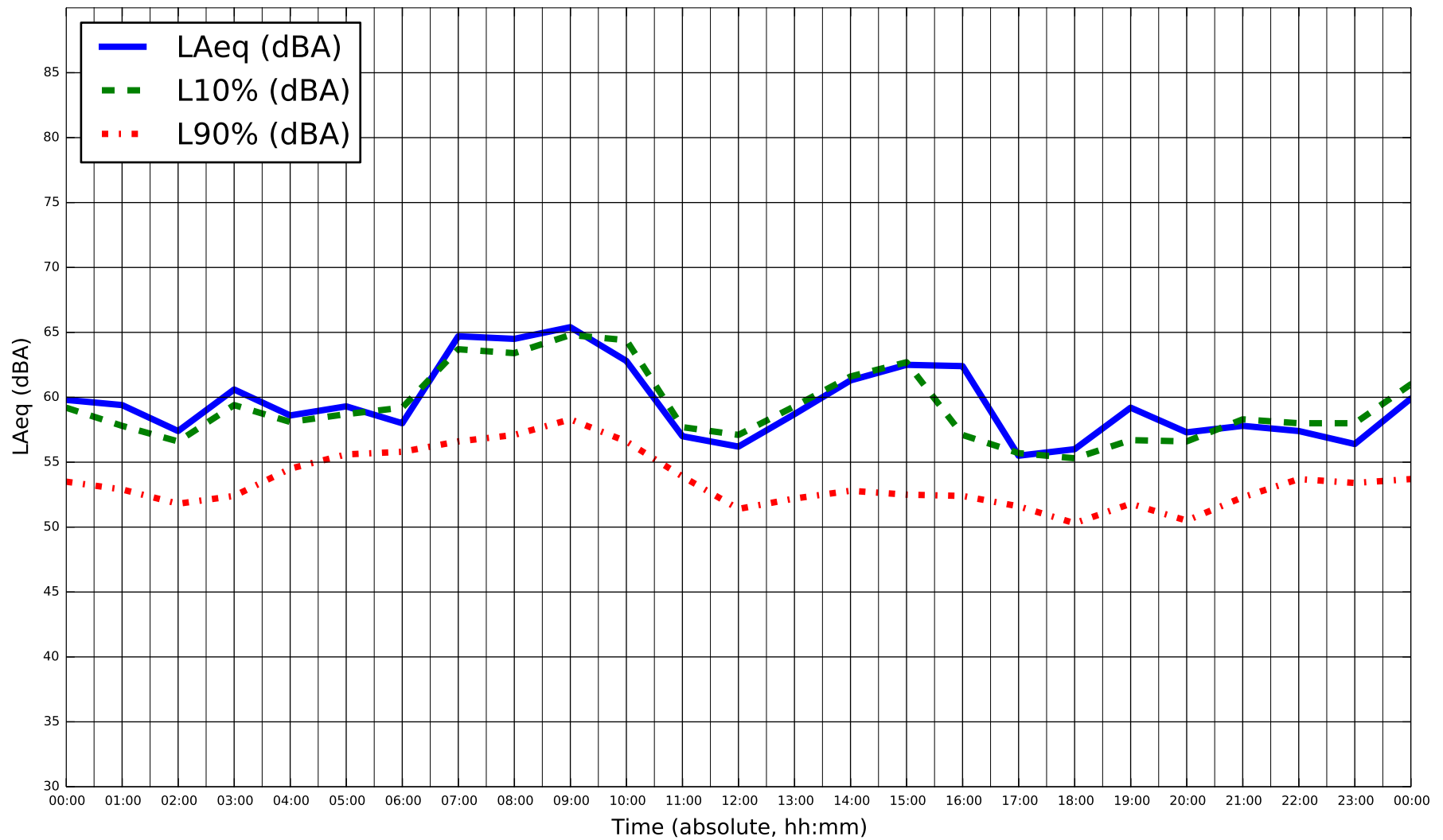
Figure
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Sound Measurements - Location M002b
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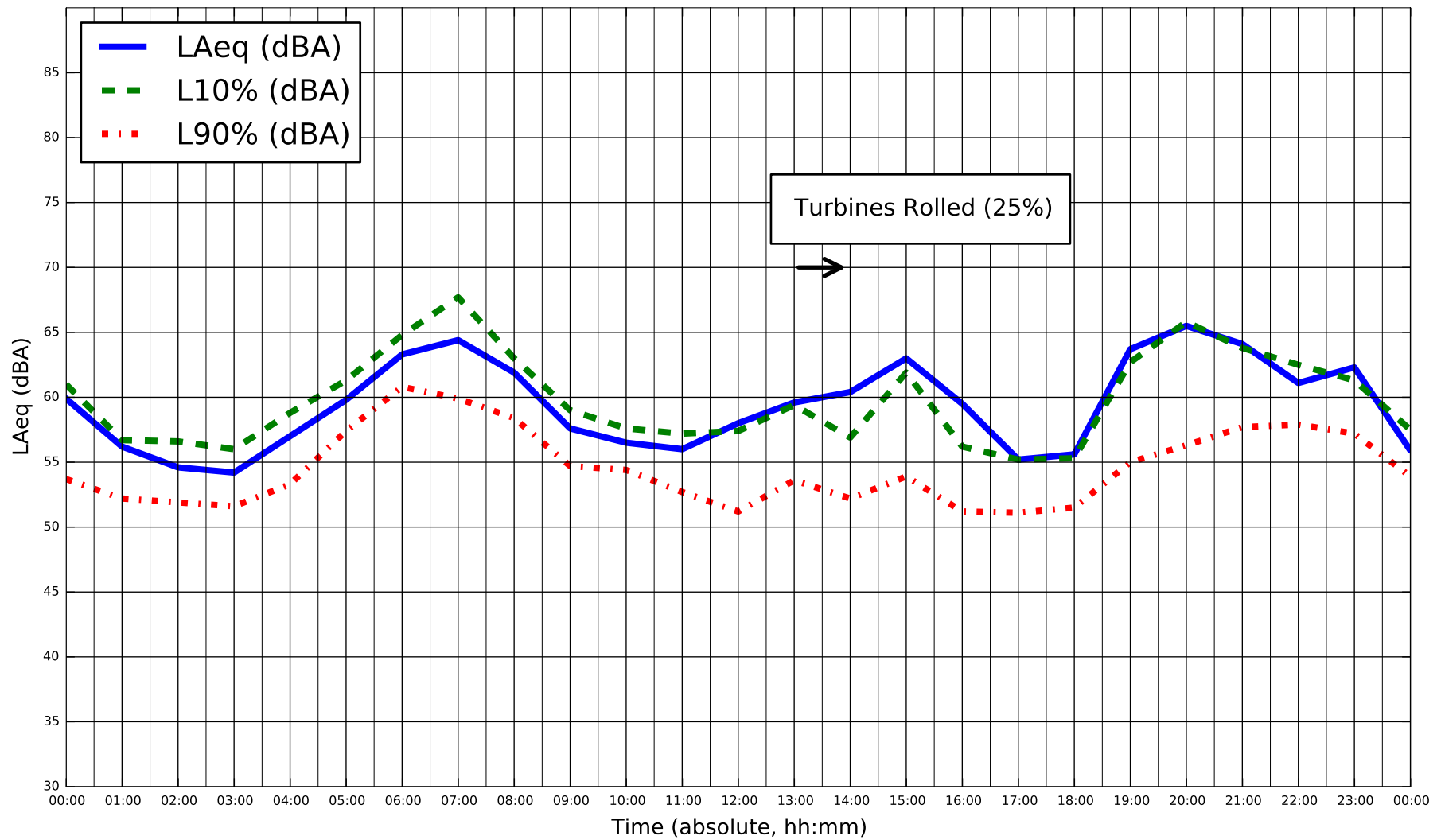
Figure
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Title
Sound Measurements - Location M002b
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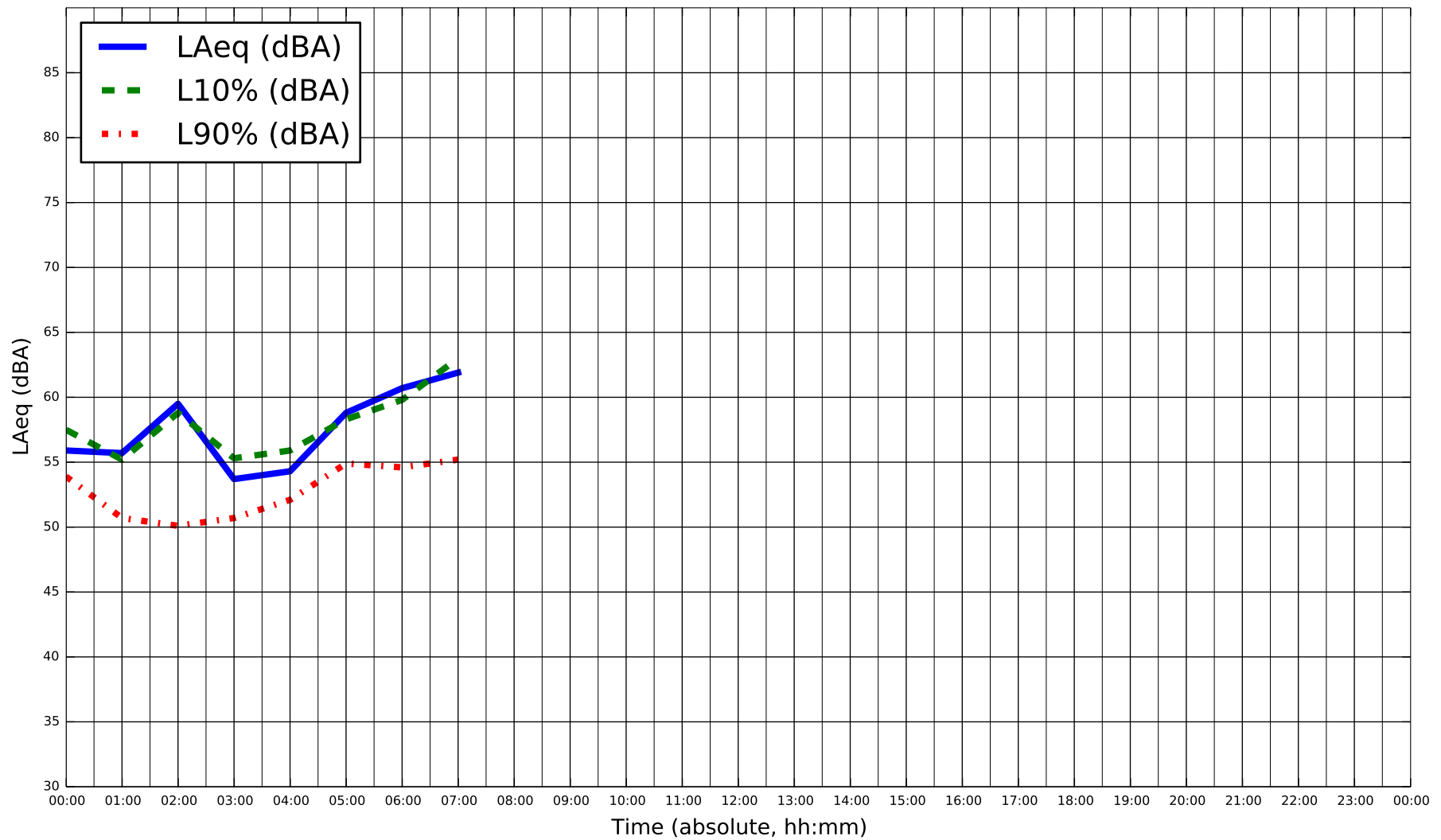
Figure
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Title
Sound Measurements - Location M002b
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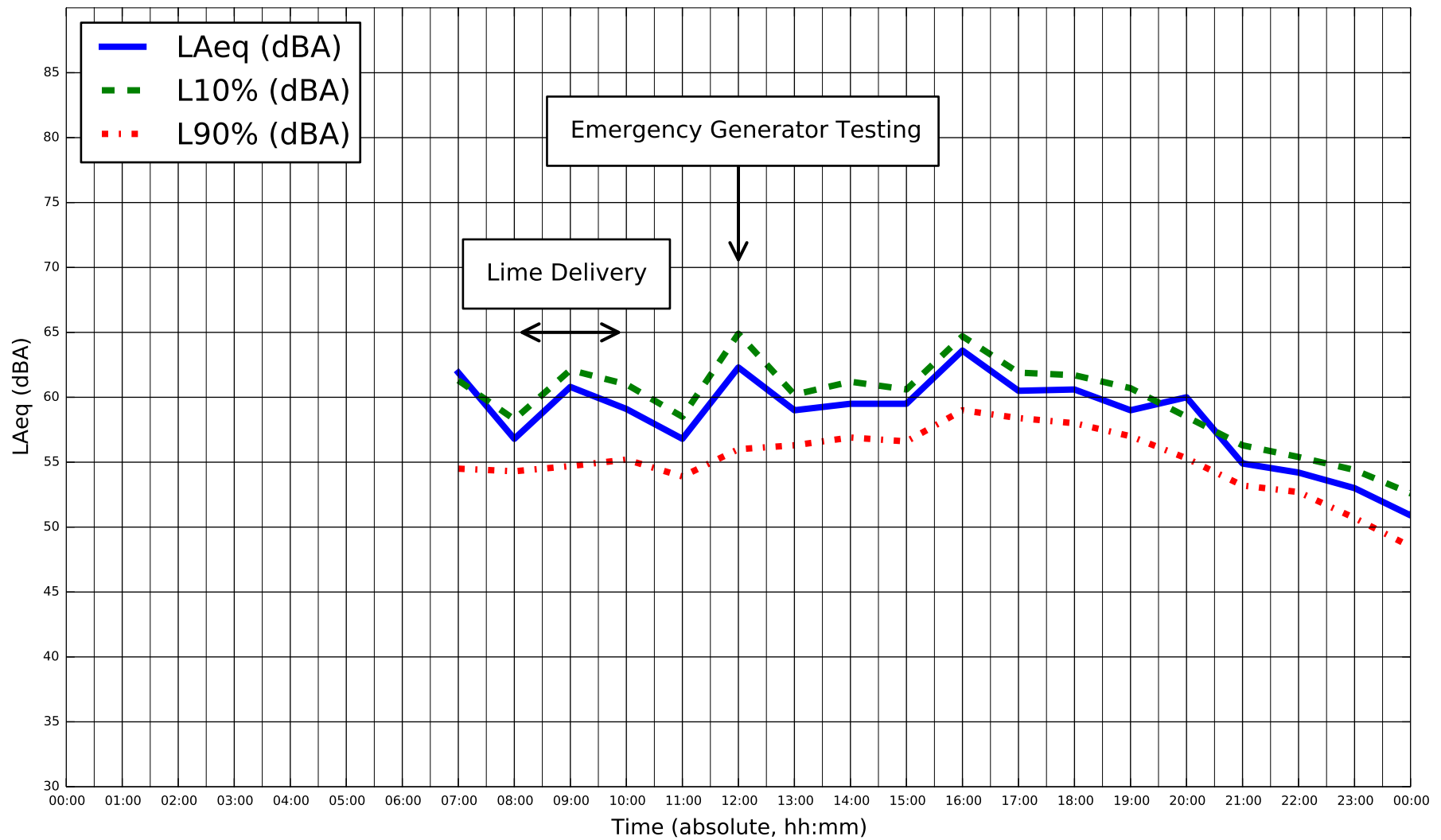
Figure
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Title
Sound Measurements - Location M002b
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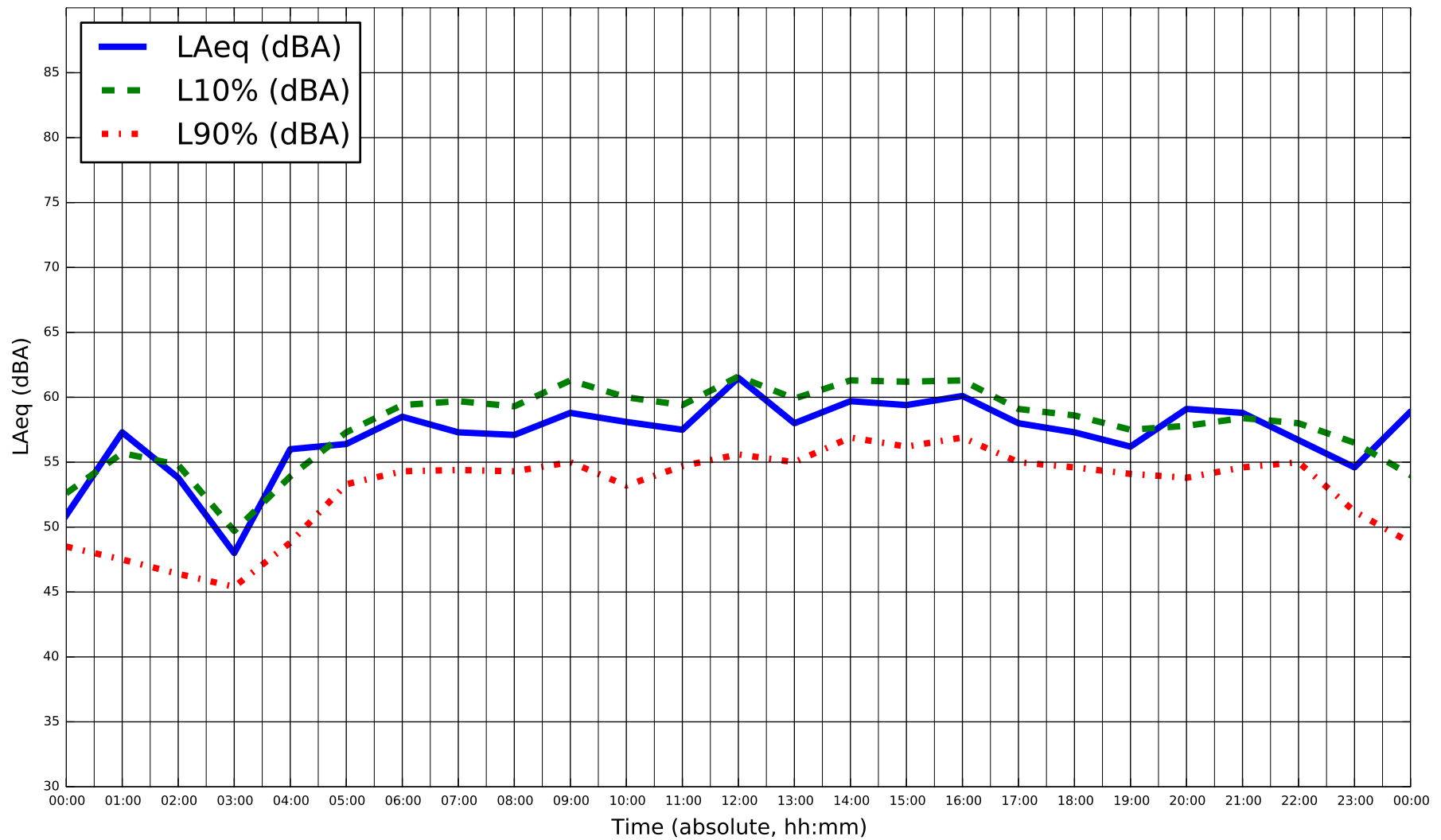
Figure
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Sound Measurements - Location M003
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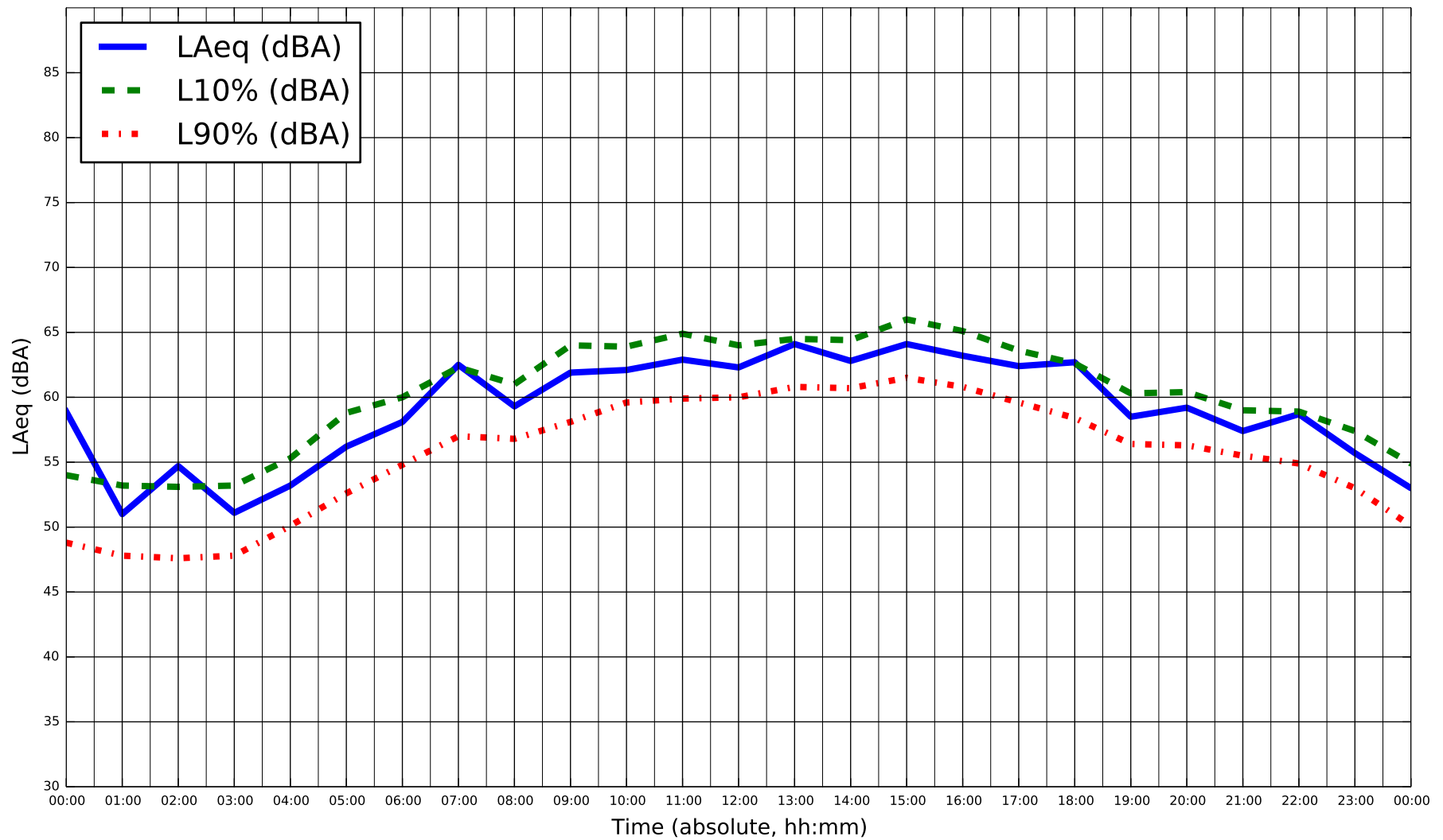
Figure
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Sound Measurements - Location M003
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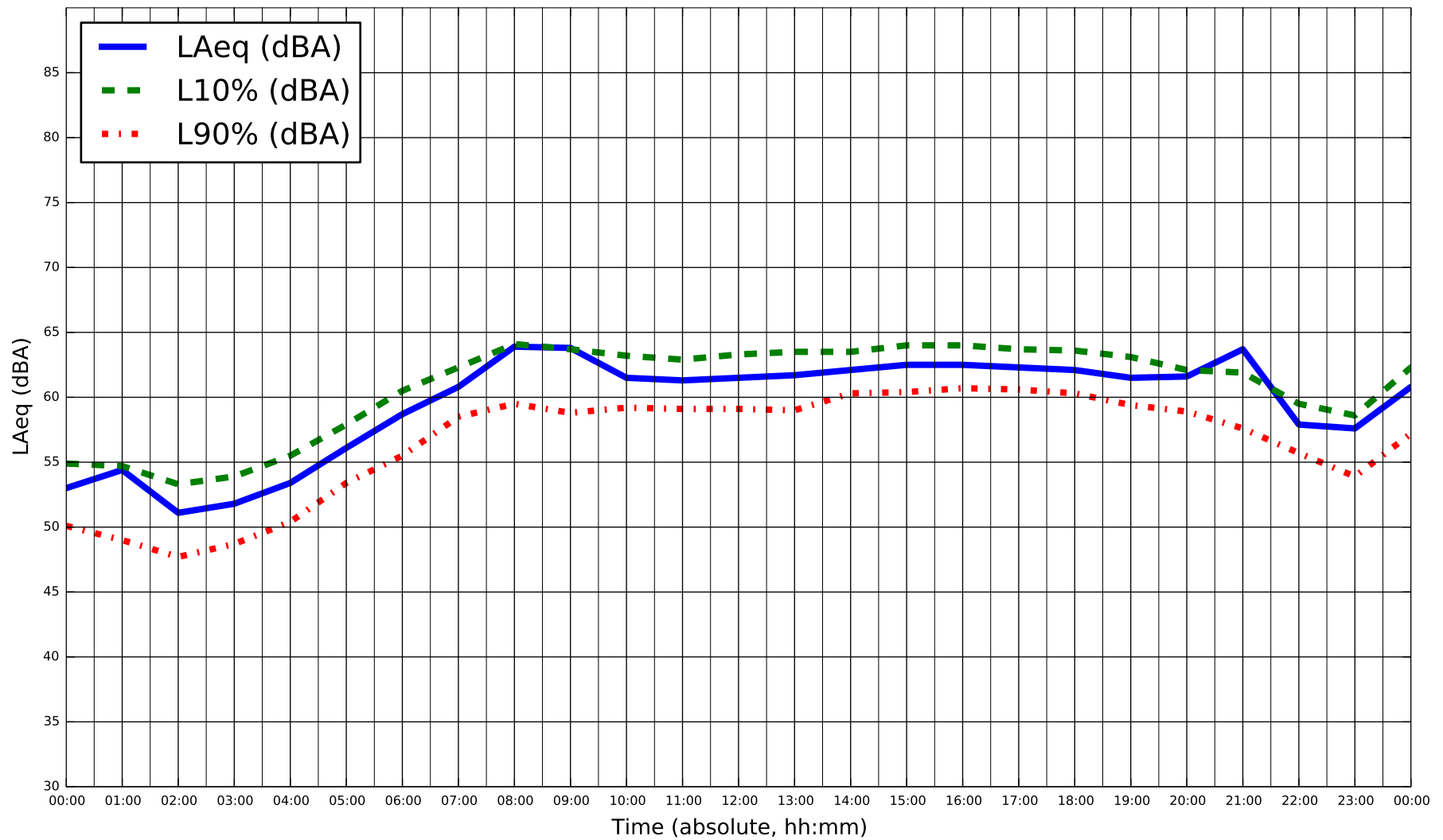
Measurement Date
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Figure
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* Sustained winds over 20 km/hr during monitoring, on April 8, 2015

	Title Sound Measurements - Location M003	Measurement Date Wednesday April 8, 2015	Figure F-25
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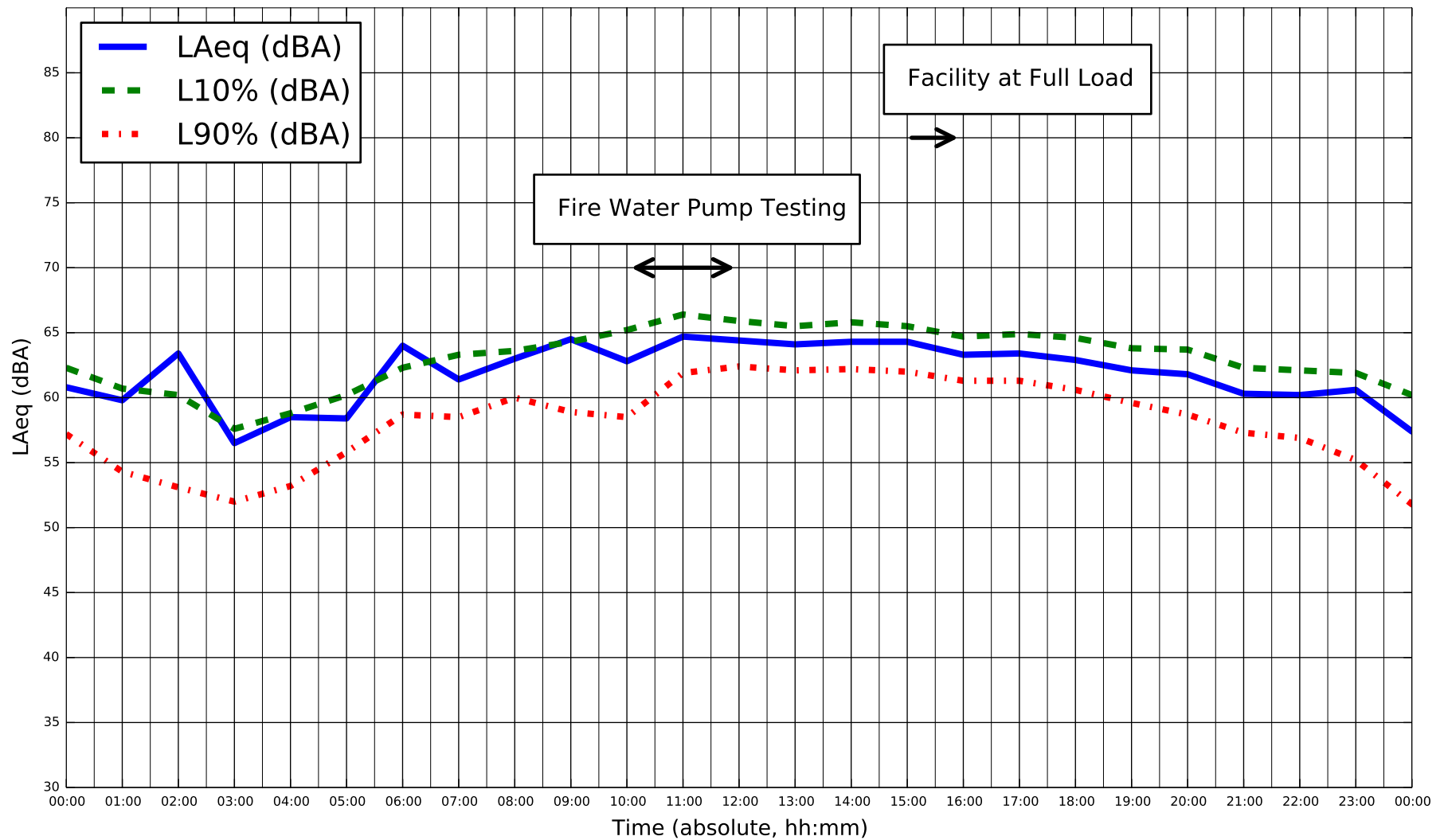
* Sustained winds over 20 km/hr during monitoring, on April 9, 2015



Title
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Figure
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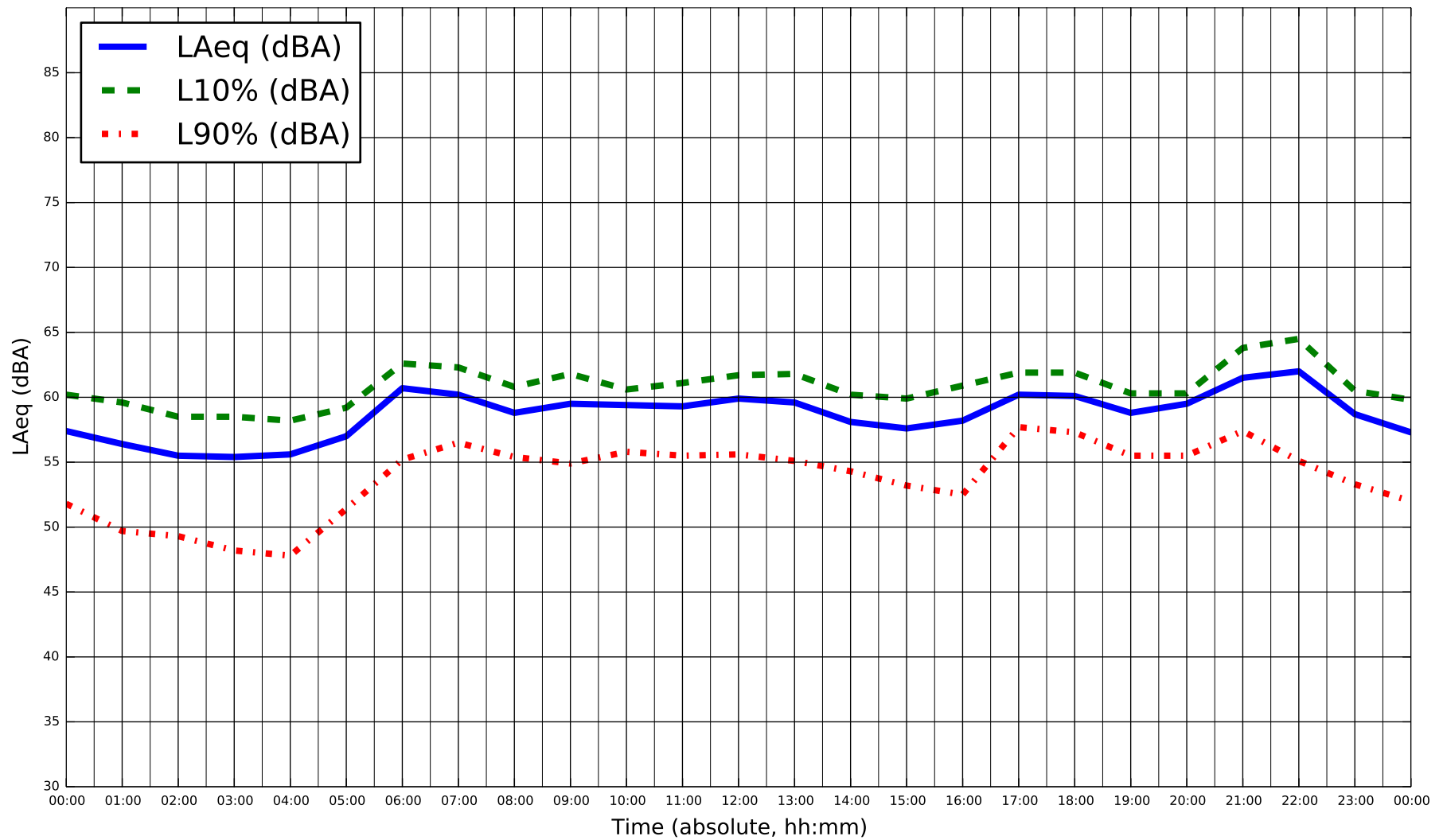
* Sustained winds over 20 km/hr during monitoring, on April 10, 2015



Title
Sound Measurements - Location M003
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Figure
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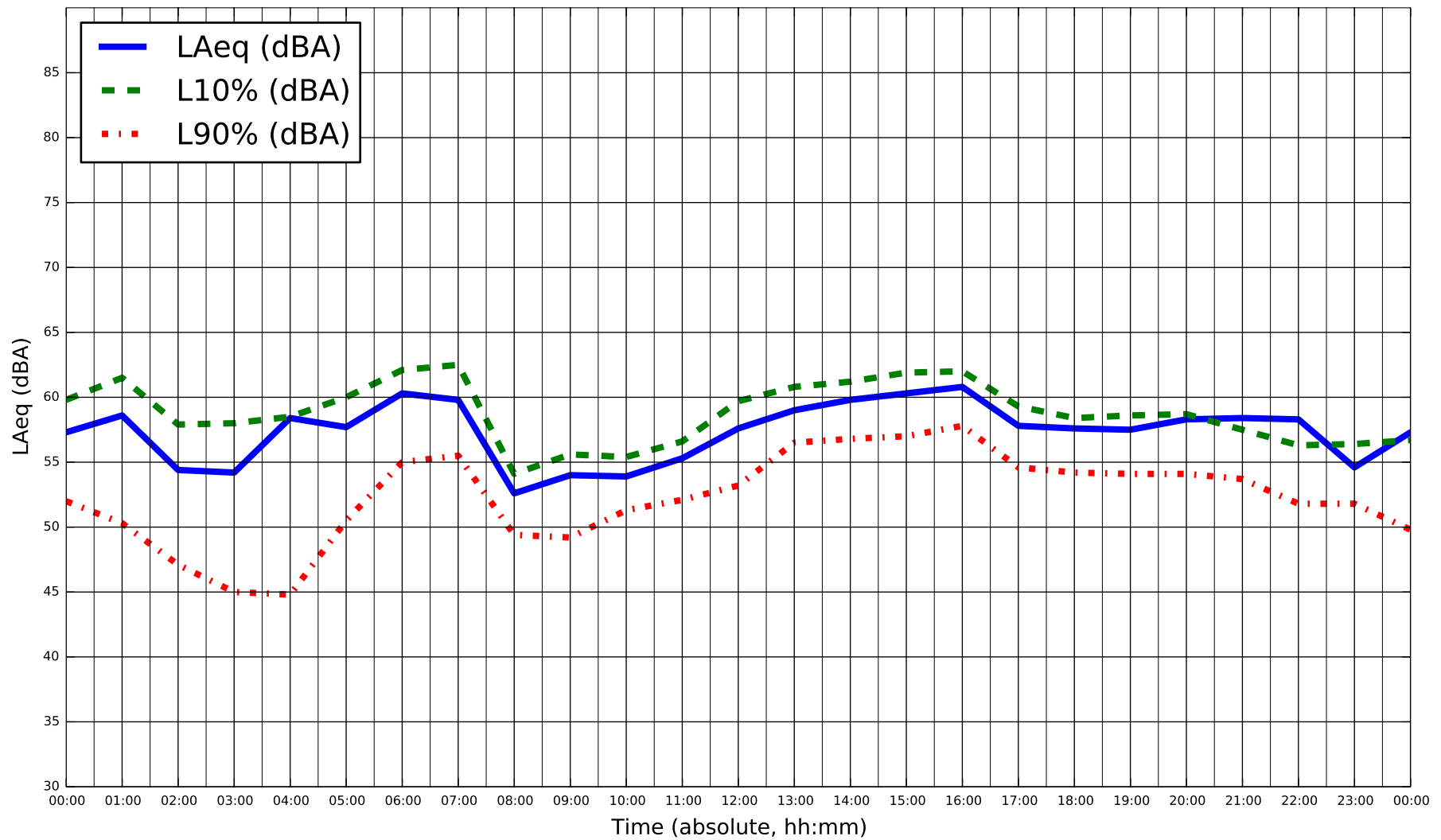
* Sustained winds over 20 km/hr during monitoring on April 11, 2015 (00:00 to 07:00 hrs only)



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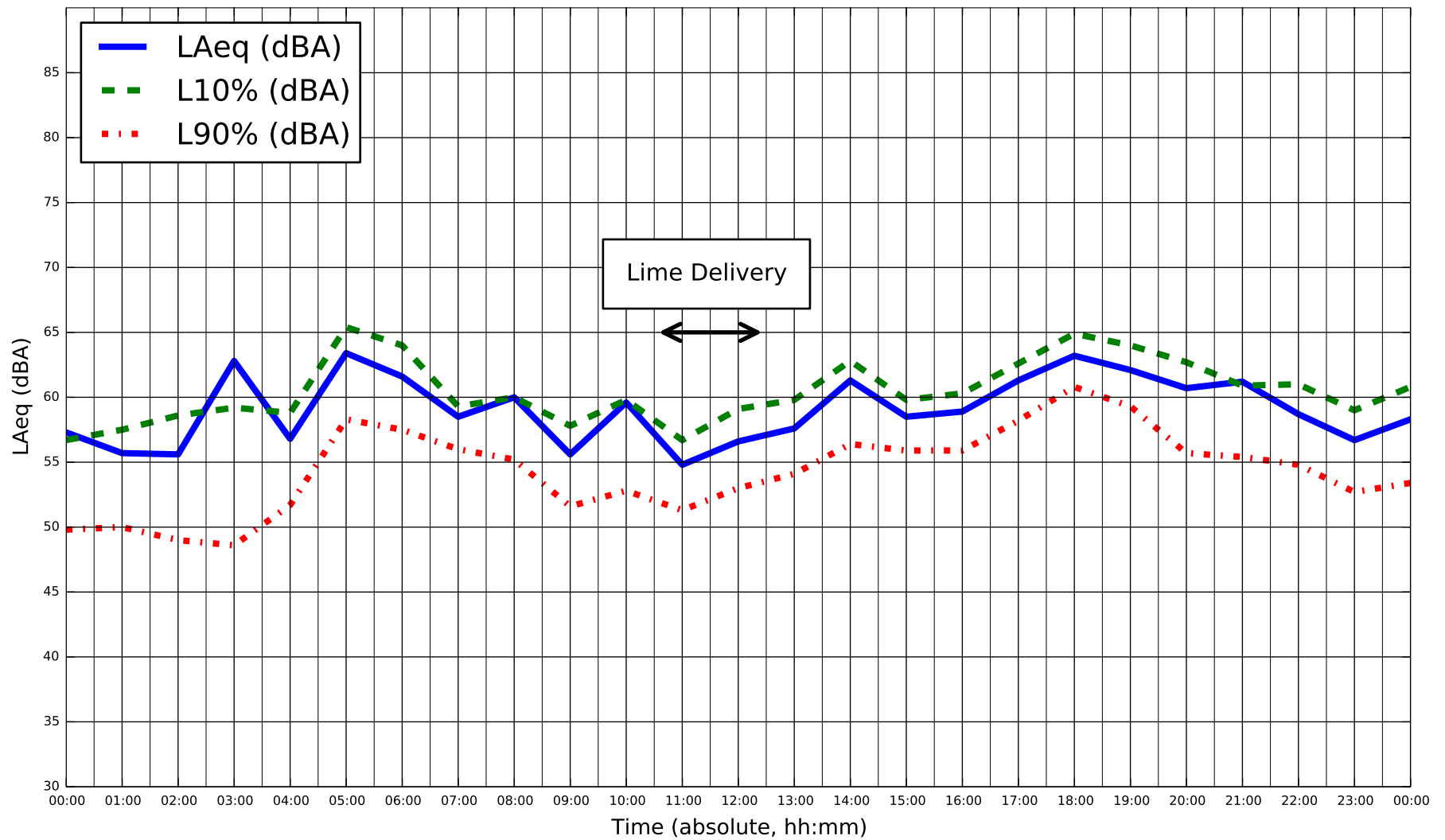
Figure
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Sound Measurements - Location M003
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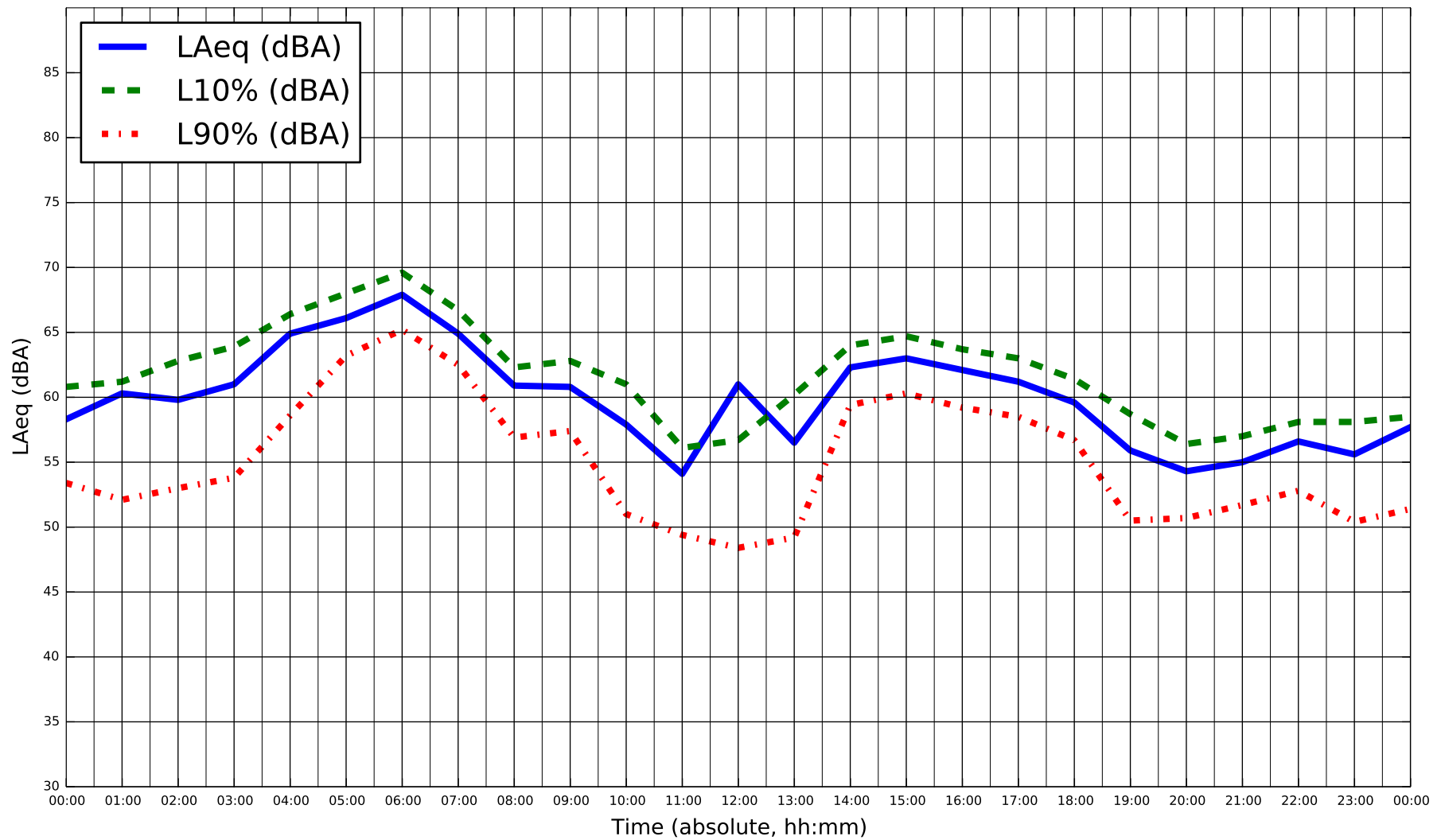
Figure
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Title
Sound Measurements - Location M003
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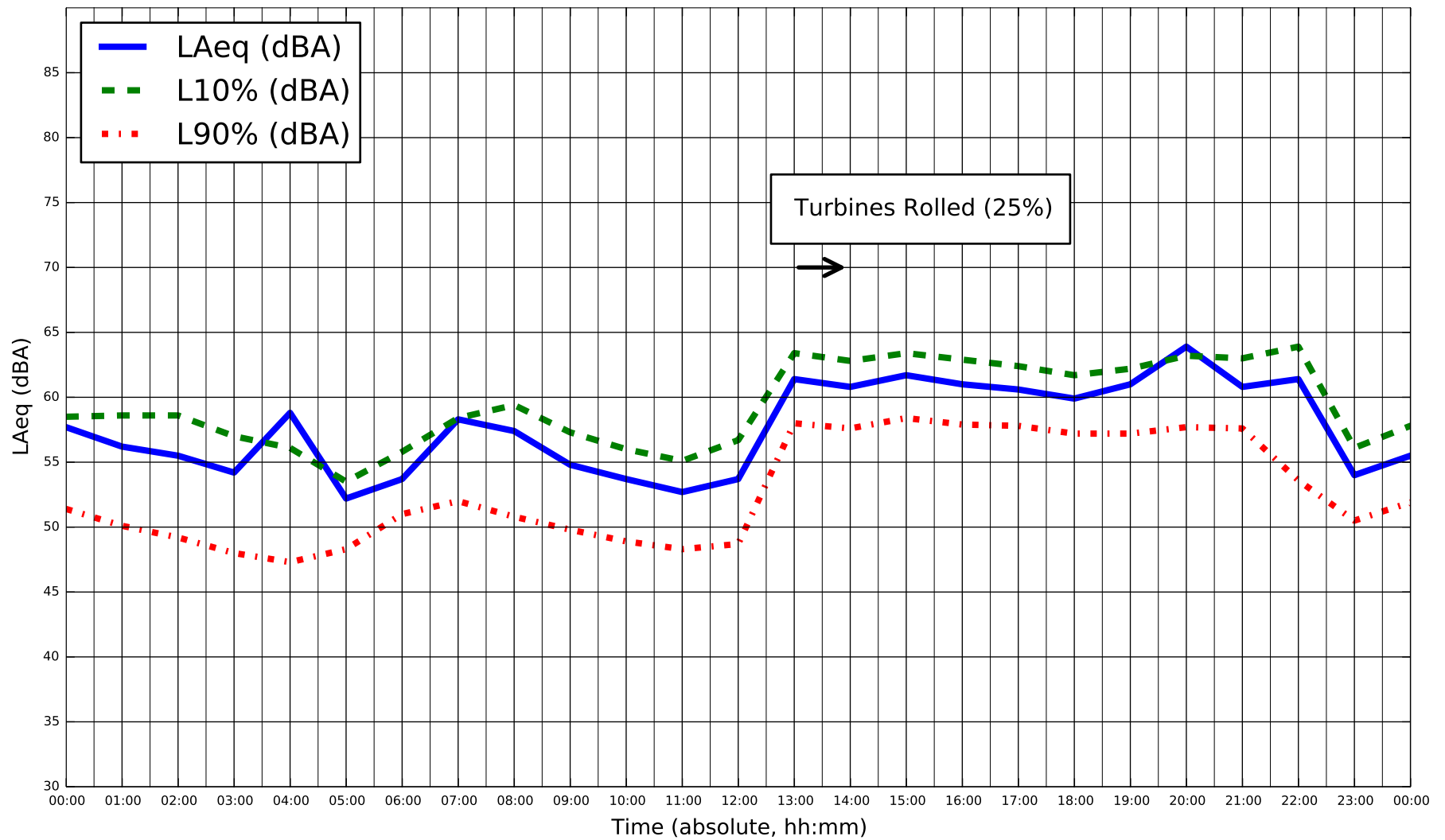
Figure
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Sound Measurements - Location M003
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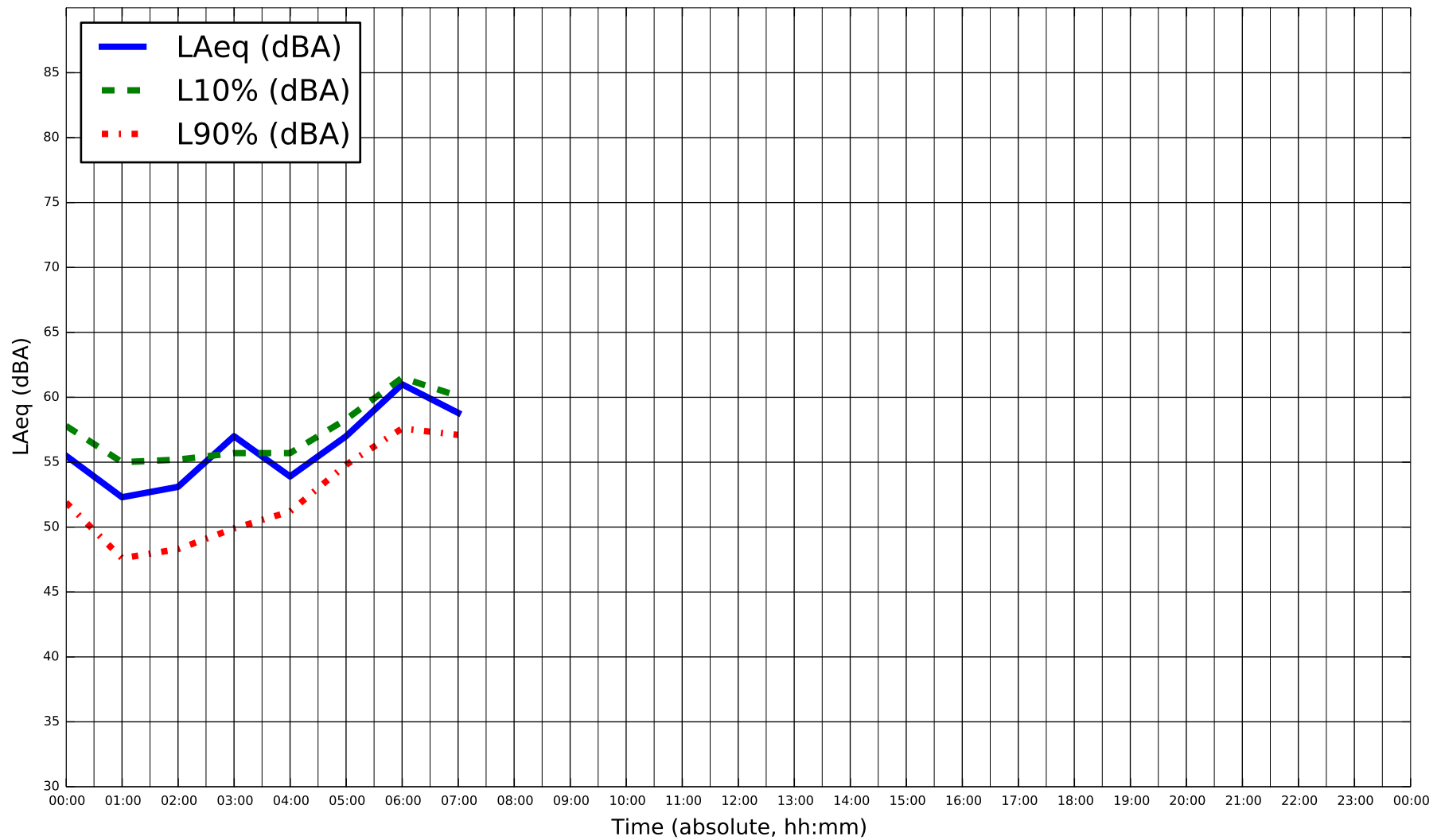
Figure
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Sound Measurements - Location M003
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Figure
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Figure
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