COFFMAN ENGINEERS

ENVIRONMENTAL SOUND ANALYSIS

CENTERIS DATA CENTER

9675 Southeast 36th Street, Suite 115
Mercer Island, Washington 98040

January 2024

CEI PROJECT NO. 232344

ENVIRONMENTAL SOUND ANALYSIS

PREPARED FOR:

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CEI Project No. 232344

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1. INTRODUCTION

Coffman Engineers, Inc. (Coffman) has prepared the following sound analysis report for the proposed mechanical and electrical equipment upgrades at the Centeris Data Center located at 1019 39th Avenue Southeast in Puyallup, Washington. The report evaluates environmental sound levels from existing and proposed added air-cooled chillers, fluid coolers, cooling towers, and standby generators serving the existing Data Center.

2. PROJECT SITE AND NEARBY LAND USES

Figure 2-1 shows a vicinity aerial photograph of the project site, surrounding properties, and sound analysis locations. The site lies within an industrial park and adjoins public or commercial land uses. The nearest properties zoned Residential are approximately 880 feet to the north.

The project site and properties to the south are zoned MP (Business Park) by the City of Puyallup. Properties to the north, west, and east are zoned PF (Public Facilities). Properties to the north and east beyond are zoned RS-10 (Single-Family Residential). Wesley Homes, a senior living facility approximately 1,000 feet to the southwest, is zoned UCX, a mixed-use zone.

			232344
			Figure 2-1
	Date	Name	
Drafted	01-02-2024	IP	**Centeris Sound Analysis**
Checked			Site Plan with Sound Analysis Locations

3. SOUND LEVEL DESCRIPTORS AND CRITERIA

3.1 Sound Level Descriptors:

Sound is measured as sound level in units of decibels, dB. Environmental sound is often measured as A-weighted sound level in dBA. The A-weighting is a specific weighting filter in a sound level meter that corresponds to human hearing sensitivity at the various sound frequencies. People normally experience sound levels between about 30 and 90 dBA, depending on their activity. For example, a loud nearby vehicle, radio or power tool may produce 80 to 90 dBA, normal conversation is about 50 to 60 dBA, and a bedroom or quiet office is about 30 to 40 dBA.

Each 10-dB increase in sound level corresponds to a tenfold increase of sound energy but is judged by a listener as only a doubling of loudness. The smallest changes in sound level considered clearly noticeable are about 3 to 5 dB.

Sound levels from two or more sources are combined using logarithms, not by adding the levels. When two levels are combined, the louder level predominates, and the combined level is the louder level plus 0 to 3 dBA. Some examples: 50 dBA combined with 50 dBA is 53 dBA, and 50 dBA combined with 40 dBA results in 50.4 dBA.

Because sound levels fluctuate over time, several A-weighted sound level descriptors are used to characterize the sound. The primary descriptor used in this report is the **equivalent sound level, Leq**, which is the most commonly used descriptor for measuring fluctuating sound. The Leq is the level of a constant sound that, over a given time period, contains the same amount of sound energy as the measured fluctuating sound.

3.2 City of Puyallup Noise Limits:

City of Puyallup noise limits are contained in Chapter 6.16 titled *Noise Control* of the Puyallup Municipal Code (PMC). Allowable sound levels are based on the Environmental Designation for Noise Abatement (EDNA) of source and receiving properties. PMC 6.16 assigns EDNA classifications to properties according to zoning, defining properties zoned RS as Class A EDNA, PF and UCX as Class B EDNA, and MP as Class C EDNA.

The Puyallup Municipal Code has adopted by reference the noise limits contained in Chapter 173-60, *Maximum Environmental Noise Levels,* of the Washington Administrative Code (WAC). The noise limits applicable to EDNA C noise sources are contained in Table 3-1.

TABLE 3-1
CITY OF PUYALLUP PERMITTED SOUND LEVELS (dBA)
FOR EDNA CLASS C SOURCES

Time of Day	EDNA of Receiver		
	A	B	C
Daytime (7 a.m. to 10 p.m.)	60	65	70
Nighttime (10 p.m. to 7 a.m.)	50	65	70

For sound sources of short duration, the noise limits are increased as follows:

- By 5 dBA for a total of 15 minutes in any one-hour period; or,

- By 10 dBA for a total of five minutes in any one-hour period; or,
- By 15 dBA for a total of 1.5 minutes in any one-hour period.

For steady-state sound sources such as mechanical equipment and standby generators, the limits shown in Table 3-1 are primarily relevant. The permitted exceedances for short-duration noises ensure that momentary noise from equipment start-up will not exceed City of Puyallup noise limits. The 5-dBA increase permitted for 15 minutes of less in any hour is used in the analysis to evaluate sound levels during transition between operation of the proposed chillers and fluid coolers. Most of the time, either the chillers or the fluid coolers would be active. The transition between the types of equipment entails both operating simultaneously for a period of 15 minutes or less in any hour. The permitted 5-dBA increase in the noise limits is applicable to this circumstance.

According to PMC 6.16.060.1.c, noise from emergency equipment, including emergency standby equipment, is exempt from the noise limits at all times. Therefore, sound levels from the standby generators at Centeris are exempt from the noise limits during operation in an actual emergency. Periodic exercising of the generators, however, is subject to the noise limits.

3.3 Sound Increase Criteria:

The Puyallup Municipal Code (PMC 6.16) and Washington Administrative Code (WAC 173-60) do not quantify noise increases that would constitute a significant noise impact for SEPA analysis. Criteria for identifying potential noise impacts associated with noise increases affecting noise-sensitive receivers may be found in Title 23 of the Code of Federal Regulations Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, (23 CFR 772) and its interpretation by WSDOT.

The FHWA document defines impacts as substantial increases over existing sound levels. The application of the FHWA document by the Washington State Department of Transportation is outlined in *Traffic Noise Policy and Procedures* (2020). The WSDOT policy defines a substantial increase as an increase of 10 dBA or more over existing sound levels.

While the FHWA and WSDOT criteria do not have statutory authority over noise sources other than traffic, they provide a relevant quantitative guideline for identifying noise impacts associated with increases in sound levels experienced at noise-sensitive receivers.

4. EXISTING SOUND LEVELS

4.1 Sound Measurement Locations:

Five locations were selected for measurements of baseline sound levels and are shown in Figure 2-1 as Locations MA, MB, MC, MD, and ME. The measurement locations were selected to be representative of existing conditions at Analysis Locations (AL) 1 to 6, which are also shown in Figure 2-1 and are discussed in Section 6.2.

Descriptions of the measurement locations are shown in Table 4-1.

TABLE 4-1 DESCRIPTION OF SOUND MEASUREMENT LOCATIONS	
Loc.	Description
MA	Northernmost accessible point on Centeris property.
MB	On Pierce College property, just south of the terminus of Parkwood Boulevard South
MC	On Pierce College property, just south of the terminus of 13th Street East
MD	Wildwood Park, approximately 40' west of the centerline of Wildwood Park Drive
ME	On Benaroya Co. property, facing Wesley Homes at 707 39th Avenue Southeast

4.2 Sound Measurements:

Existing sound levels were monitored continuously for 24 hours beginning at 12:15 p.m. on Tuesday, December 19, 2023, at Location MA, as shown in Figure 2-1. The continuous noise monitoring was conducted using a Larson Davis LxT Sound Level Meter.

Attended sound measurements were taken for 15 minutes each at Locations MB to ME starting at 12:45 p.m. Tuesday, December 19, 2023, using a Bruel & Kjaer 2250 Sound Level Meter.

All measurement instruments conform to the specifications of ANSI S1.4 for Type I instruments.

The measurements were conducted at the first-story elevation of five feet above ground elevation.

Weather conditions were generally calm and overcast with occasional light drizzle and sun breaks. Daytime temperatures were in the mid-40s to mid-50s and nighttime temperatures in the mid-30s to mid-40s degrees Fahrenheit. The weather conditions were within the range accepted by Washington Administrative Code (WAC) 173-58, *Sound Level Measurement Procedures*.

A summary of the measured sound levels at the monitoring location MA including an energy average over the duration of the sound monitoring, is presented in Table 4-2.

TABLE 4-2 SUMMARY OF 24-HOUR SOUND-LEVEL MEASUREMENTS (dBA)		
Measurement Location	**Measured Leq Sound Levels, dBA**	
	Daytime (7 a.m. to 10 p.m.)	**Nighttime (10 p.m. to 7 a.m.)**
MA	45-54 Overall 50	41-51 Overall 46

The measured sound levels at the short-term measurement Locations MB to ME are shown in Table 4-3.

TABLE 4-3
SUMMARY OF SHORT-TERM SOUND-LEVEL MEASUREMENTS (dBA)

	Short-Term Measurement Location			
	MB	**MC**	**MD**	**ME**
Short-term measured sound level at location (Leq, dBA)	48	47	56	51
Time of short-term measurement on 12/19/2023	1:33 p.m.	1:53	1:10 p.m.	12:45 p.m.

Noise sources affecting the sound measurement locations included distant traffic, sirens, aircraft flyovers, birds, and general residential neighborhood activity. Construction activities at Centeris took place during the daytime hours of 7 a.m. to 4 p.m. These activities were audible at Location MA and were only occasionally, faintly audible at Locations MB and MC. Mechanical equipment serving Wesley Homes was audible at Location ME.

The attended measurements were paused for noise sources in the immediate vicinity of the instruments, such as pass-bys on adjacent driveways or parking aisles.

The results of the noise measurements are below City of Puyallup daytime and nighttime noise limits at all measurement locations. The comparison with noise limits is presented for reference only. The measured sound levels include contributions from sources such as traffic and aircraft flyovers, which are not directly attributable to permanent equipment at Centeris and are not subject to the City of Puyallup noise limits. Compliance of existing and proposed mechanical equipment and generators with applicable noise limits will be determined on the basis of calculated sound levels listed in the following sections.

5. EXISTING AND PROPOSED OPERATIONS AND SOUND EMISSIONS

5.1 Existing Equipment:

The principal existing exterior mechanical equipment at the Centeris Data Center comprises three Carrier air-cooled chillers and two Marley cooling towers. The existing chillers are located North of the west half of the Centeris building and the cooling towers South of the east half of the building.

Seven existing standby generators are located North of the west half of the Centeris building. They comprise one 2.0-MW Caterpillar generator, three 2.5-MW Caterpillar generators, and three 2.5-MW Cummins generators.

Existing standby generators are exercised periodically during the daytime or nighttime shift. The exercise operation entails running three generators at a time for a period of 30 minutes at no load. In addition, standby generators are operated once a year for two hours at full load in order to test the associated load banks.

5.2 Proposed Equipment Additions:

Six additional York air-cooled chillers are proposed. Two would be located North of the Centeris building, adjacent to the existing three chillers. Four additional chillers would be located South of the east half of the building. As an alternative to the proposed chillers, Evapco fluid coolers would also be provided. The fluid coolers would operate instead of the proposed chillers during certain conditions. The transition between operation of the chillers and fluid coolers would entail a period of 15 minutes or less in any given hour when both types of equipment would operate simultaneously.

One Marley cooling tower would be added to the existing two units located South of the building.

A total of ten generators would be added to the existing seven units. They comprise four 2.5-MW Caterpillar and six 2.5-MW Kohler generators. Seven of the 10 new generators (six Kohler and one Caterpillar generator) would be located in a new generator yard North of the east half of the Centeris building; remaining three Caterpillar generators would be added to the existing generator yard North of the center of the building.

Existing and proposed added standby generators would continue to be exercised periodically following current practices. However, as a noise-mitigation measure, Centeris proposes to restrict the exercise to the daytime hours between 7 a.m. and 10 p.m.

5.3 Equipment Sound Emissions:

Reference sound-emission levels during exercising of one of each of the three types of existing generators were measured on Wednesday, December 20, 2023. Sound measurements were taken at distances of 25 to 30 feet in three or four directions around the generator, as space permitted. The generators were exercised at no load.

Reference sound levels for mechanical equipment and for proposed additional generators were obtained from equipment submittals.

The source sound emissions for existing and proposed generators are presented in Table 5-1 as sound power levels and as sound pressure levels normalized to reference distances. The source sound emissions for existing and proposed mechanical equipment are shown in Table 5-2.

TABLE 5-1
REFERENCE SOUND LEVELS OF EXISTING AND PROPOSED GENERATORS

Source	Sound Power Level, dBA	Sound Pressure Level at Distance, dBA
Existing Generators		
2.0-MW Caterpillar[1,2,7] (one unit)	97	72 dBA @ 23'
2.5-MW Caterpillar[1,2,7] (one of three)	99	74 dBA @ 23'
2.5-MW Cummins[1,2,8] (one of three)	97	72 dBA @ 23'
Proposed Generators		
2.5-MW Caterpillar[3] (one of four)	110	85 dBA @ 23'
2.5-MW Kohler (one of six)		
Engine with Level-1 Enclosure[4,6]	107	82 dBA @ 23'
Exhaust[5]	95	84 dBA @ 3.3'

Notes

[1]Measured at Centeris, no load

[2]Noisiest measurement direction

[3]Overall sound level from Caterpillar Model 3516C submittal with Level-2 enclosure including critical-grade exhaust silencer, load not specified; frequency spectrum from measurements of existing unit at Centeris

[4]Overall sound level from Kohler Model KD2500 submittal at no load with Level-1 enclosure; frequency spectrum from measurements of existing Caterpillar unit at Centeris

[5]Raw exhaust from Kohler submittal at no load: 114 dBA @ 3.3.', then applying critical-grade silencer

[6]Logarithmic average of measurement directions

[7]Caterpillar Model 3516C with sound-attenuated enclosure including exhaust silencer

[8]Cummins Model QSK60 DQKAN

TABLE 5-2 REFERENCE SOUND LEVELS OF EXISTING AND PROPOSED MECHANICAL EQUIPMENT		
Source	**Sound Power Level, dBA**	**Sound Pressure Level at Distance, dBA**
Existing Mechanical Equipment		
Existing chiller (one of three)[1]	104	72 dBA @ 50'
Existing cooling tower (one of two) [2]	108	76 dBA @ 50'
Proposed Mechanical Equipment		
Proposed chiller (one of six)[3]	104	72 dBA @ 50'
Proposed cooling tower [2]	108	76 dBA @ 50'
Proposed fluid cooler (one of six)[4]	107	75 dBA @ 50'

Notes

[1]No data available for existing Carrier; used sound emissions of proposed York chiller

[2]Marley submittal pertaining to existing and proposed units

[3]York submittal at 100% load

[4]Evapco submittal

6. CALCULATED SOUND LEVELS

6.1 Methodology and Sound Analysis Locations:

The sound levels received at surrounding properties from existing and proposed equipment were computed using the CadnaA program, which is based on International Standard ISO 9613 for the calculation of environmental noise. The model takes into account the sound power level, directivity, location, and height of the noise sources, distance, ground cover and topography between the noise source and receiver, obstacles such as buildings and sound barriers, atmospheric conditions, and location and height of the receiver.

The sound calculations were executed for six Analysis Locations listed in Table 6-1 and shown in Figure 2-1. Table 6-1 contains descriptions of the Analysis Locations, EDNA Classifications, and City of Puyallup noise limits that apply to an EDNA Class C noise source.

TABLE 6-1 SOUND ANALYSIS LOCATIONS			
AL #	Description	EDNA Class	Noise Limits Day/Night
1	South property line of 2913 11th St. SE	A	60/50
2-2	Second-story window of Residence at 2908 12th St. SE	A	60/50
3	SW corner of 2910 13th St. SE	A	60/50
4-2	2nd-story window of residence at 3132 17th Street Pl. SE	A	60/50
5-4	4th-story window of Wesley Homes, 707 39th Ave. SE	B	65/65
6	South property line of Pierce College holdings north of site	B	65/65

6.2 Calculated Sound Levels:

Sound levels were calculated for existing and proposed operation of mechanical equipment (daytime and nighttime hours) and exercising of generators (daytime only). The resulting calculated A-weighted sound levels at the Analysis Locations are shown in Table 6-2. The table also shows the City of Puyallup noise limits and existing measured sound levels. Table 6-2 shows calculated sound levels assuming either the proposed chillers or proposed fluid coolers in operation.

TABLE 6-2
CALCULATED SOUND LEVELS
FROM EXISTING AND PROPOSED EQUIPMENT
A-WEIGHTED DECIBELS (dBA)

Scenario	#	Analysis Location					
		AL 1	AL 2-2	AL 3	AL 4-2	AL 5-4	AL 6
Existing Centeris Equipment, Daytime	04	**44**	**46**	**43**	**44**	**47**	**56**
Exercising 3 Existing Generators		37	38	36	31	36	50
Existing Chillers		43	45	42	38	32	55
Existing Cooling Towers		32	33	30	42	46	36
Existing Centeris Mechanical Equipment, Nighttime	04	**44**	**45**	**43**	**43**	**46**	**55**
Existing Chillers		43	45	42	38	32	55
Existing Cooling Towers		32	33	30	42	46	36
Existing and Proposed Centeris Equipment, Daytime	03	**50**	**52**	**50**	**48**	**50**	**62**
Exercising 3 Proposed Generators		48	50	48	43	40	61
Existing Chillers		43	45	42	38	32	55
Proposed Chillers		42	44	41	42	46	52
Existing Cooling Towers		32	33	30	42	46	36
Proposed Cooling Towers		27	27	26	41	43	32
Existing and Proposed Centeris Mechanical Equipment, Nighttime	03	**46**	**48**	**45**	**47**	**50**	**57**
Existing Chillers		43	45	42	38	32	55
Proposed Chillers		42	44	41	42	46	52
Existing Cooling Towers		32	33	30	42	46	36
Proposed Cooling Towers		27	27	26	41	43	32
Existing and Proposed Centeris Equipment, Daytime	06	**51**	**53**	**51**	**50**	**52**	**63**
Exercising 3 Proposed Generators		48	50	48	43	40	61
Existing Chillers		43	45	42	38	32	55
Proposed Fluid Coolers		46	49	45	45	50	57
Existing Cooling Towers		32	33	30	42	46	36
Proposed Cooling Towers		27	27	26	41	43	32
Existing and Proposed Centeris Mechanical Equipment, Nighttime	06	**48**	**50**	**47**	**48**	**52**	**59**

Existing Chillers		43	45	42	38	32	55
Proposed Fluid Coolers		46	49	45	45	50	57
Existing Cooling Towers		32	33	30	42	46	36
Proposed Cooling Towers		27	27	26	41	43	32
City of Puyallup Daytime Noise Limits		**60**	**60**	**60**	**60**	**65**	**65**
City of Puyallup Nighttime Noise Limits		**50**	**50**	**50**	**50**	**65**	**65**
Nearest Measurement Location		MB	MB or MC	MC	MD	ME	MA
Nearest measured daytime Leq		48	47 or 48	47	56	51	45-54 Overall 50
Nearest measured nighttime Leq		--	--	--	--	--	41-51 Overall 46

The calculations indicate that combined A-weighted sound levels produced by the existing and proposed exterior mechanical equipment would meet City of Puyallup nighttime noise limits at the sound-analysis locations. Combined sound levels from existing and proposed exterior mechanical equipment and daytime exercising of three existing or proposed standby generators would meet City of Puyallup daytime noise limits at the sound-analysis locations.

Table 6-2 shows that calculated sound levels from combined existing and proposed equipment are in the range of baseline measured sound levels or within 7 dBA of baseline at all residential land uses (Analysis Locations 1 to 5-4). Sound-level increases of less than 10 dBA are not considered substantial increases or significant noise impacts according to the WSDOT criteria presented in Section 3.3. Sound levels at the nearest property line (Location AL6) would increase by at least 14 dBA during the daytime and nighttime. However, AL6 does not represent an occupied property, therefore, the sound-level increases at this location do not constitute a noise impact.

It should be noted that the results listed in Table 6-2 represent worst-case results of all mechanical equipment operating at 100% load. These worst-case conditions are not expected to occur. Chillers are not expected to operate simultaneously at 100% load in typical Northwest climatic conditions, especially during the nighttime hours. Therefore, the resulting sound levels from the Centeris equipment are expected to be considerably lower than the results in Table 6-2 during most hours.

A separate calculation was conducted of sound levels that may be expected during the brief transition between operation of the proposed chillers and proposed fluid coolers. During this transition period, the proposed chillers and fluid coolers would operate simultaneously. The results of this calculation are listed in Table 6-3.

The transition is expected to last no more than 15 minutes in any given hour. Therefore, as presented in Section 3.2, the City of Puyallup noise limits applicable to the transition are 5 dBA higher than those for continuous sound levels lasting the entire hour.

TABLE 6-3
CALCULATED SOUND LEVELS
FROM EXISTING AND PROPOSED EQUIPMENT DURING CHILLER TRANSITION
A-WEIGHTED DECIBELS (dBA)

Scenario	#	Analysis Location					
		AL 1	AL 2-2	AL 3	AL 4-2	AL 5-4	AL 6
Existing and Proposed Centeris Equipment, Daytime Transition (<15 minutes	05	**52**	**53**	**51**	**50**	**53**	**64**
Exercising 3 Proposed Generators		48	50	48	43	40	61
Existing Chillers		43	45	42	38	32	55
Proposed Chillers		42	44	41	42	46	52
Proposed Fluid Coolers		46	49	45	45	50	57
Existing Cooling Towers		32	33	30	42	46	36
Proposed Cooling Towers		27	27	26	41	43	32
Existing and Proposed Centeris Mechanical Equipment, Nighttime Transition (<15 min)	05	**49**	**51**	**48**	**49**	**53**	**60**
Existing Chillers		43	45	42	38	32	55
Proposed Chillers		42	44	41	42	46	52
Proposed Fluid Coolers		46	49	45	45	50	57
Existing Cooling Towers		32	33	30	42	46	36
Proposed Cooling Towers		27	27	26	41	43	32
City of Puyallup Daytime Noise Limits[1]		**65**	**65**	**65**	**65**	**70**	**70**
City of Puyallup Nighttime Noise Limits[1]		**55**	**55**	**55**	**55**	**70**	**70**

[1]Noise limits incorporate the 5-dBA increase permitted for less than 15 minutes per hour

The calculation results of Table 6-3 indicate that combined A-weighted sound levels produced by the existing and proposed exterior mechanical equipment during the transition between chiller and fluid-cooler operation would meet the adjusted City of Puyallup nighttime noise limits at the sound-analysis locations. Combined sound levels from existing and proposed exterior mechanical equipment and daytime exercising of three existing or proposed standby generators would meet City of Puyallup daytime noise limits at the sound-analysis locations.

7. SOUND MITIGATION MEASURES

The equipment and operations at Centeris incorporate a number of features that function as noise mitigation measures. The following measures were taken into account in the sound calculations presented in Section 6.

- Centeris proposes to restrict future exercising of the generators to the daytime hours of 7 a.m. to 10 p.m.
- Generators are exercised in groups of no more than three simultaneously.
- The periodic exercising of the generators is conducted with no load.

- The existing Caterpillar generators feature sound-attenuating enclosures with integral exhaust silencers.
- Proposed Caterpillar generators feature Level-2 enclosures that include critical-grade exhaust silencers.
- Proposed Kohler generators feature Level-1 sound-attenuating enclosures and critical-grade exhaust silencers.
- Proposed air-cooled chillers feature the manufacturer's low-sound kit.
- Existing and proposed cooling towers feature manufacturers' low-sound fans.

The mitigation concepts contained in this section are for acoustical purposes only and should be reviewed by others to ensure compliance with structural, ventilation, fire-protection, drainage, operational feasibility, and other non-acoustical requirements.

8. SUMMARY AND CONCLUSIONS

The findings of the Sound Analysis are summarized as follows:

- Sound levels from mechanical equipment at Centeris and from exercising of the standby generators are regulated by Section 6.16 of the Puyallup Municipal Code. Operation of the standby generators in an actual emergency is exempt from the noise regulation.
- Existing measured sound levels are below City of Puyallup noise limits at all measurement locations in the vicinity of the project site. The comparison with noise limits is presented for reference only. The measured sound levels include contributions from sources such as traffic and aircraft flyovers, which are not directly attributable to the mine operation and are not subject to the City of Puyallup noise limits.
- Calculated sound levels produced by the existing and proposed exterior mechanical equipment and by exercising of three existing or proposed standby generators meet applicable City of Puyallup noise limits at all sound-analysis locations.
- Calculated sound levels from combined existing and proposed equipment are in the range of baseline measured sound levels or within 7 dBA of baseline at all residential land uses. Sound-level increases of less than 10 dBA are not considered substantial increases or significant noise impacts according to the WSDOT criteria presented in Section 3.3.
- Worst-case calculated sound levels at the nearest non-residential property line may increase by at least 14 dBA. However, sound-level increases at an unoccupied location do not constitute a noise impact. Furthermore, sound levels during most conditions are expected to be lower than worst-case due to the low likelihood of all mechanical equipment operating simultaneously at 100% load.
- The existing and proposed equipment incorporates noise mitigation measures including sound-attenuating enclosures, exhaust silencers, and manufacturers' low-sound options. Operational noise mitigation measures include scheduling the exercising of generators under no load, in groups of no more than three, and during daytime hours only.

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