ATTACHMENT C

SOUND ASSESSMENT STUDY

SOUND ASSESSMENT STUDY
OF
RULAND ROAD SUBSTATION REACTORS PROJECT

Melville, Suffolk County, New York

Prepared for:

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Project No. 01315-1152

Education

Energy Utility

Healthcare

Public Works

Real Estate

Science & Technology

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EXECUTIVE SUMMARY

The Ruland Road Substation is located in the Hamlet of Melville, Suffolk County, New York and operated by PSEG Long Island (PSEG LI). The existing Ruland Road Substation is located on Ruland Road and is currently operating. The proposed project (the "Project") will include the installation of six new 138 kilovolt (kV) Air Core Reactors and associated steel support equipment on vacant property (herein referred to as the "Site") located adjacent to the southwest of the Ruland Road Substation (see Figures 1 and 2). With respect to sound-generating equipment, the six new air core current limiting reactors will be the only continuously operational noise-generating equipment installed as part of the Project and were therefore the only equipment evaluated in this sound assessment.

PS&S performed this sound assessment to evaluate the predicted future sound levels at the nearby sensitive receptors once the Project is completed. Existing sound level measurements were collected at five locations in the surrounding area to understand the ambient sound levels in the neighborhood and evaluate potential impacts from the Project.

PS&S modeled the future sound conditions and found that sound levels associated with the Project will be in compliance with the New York State Department of Environmental Conservation (NYSDEC) guidance at the residential properties adjacent to the Project.

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1.0 INTRODUCTION

PS&S performed this Sound Assessment Study for the proposed Project located in the Hamlet of Melville in the Town of Huntington, Suffolk County, New York. PS&S assessed the existing ambient sound levels and modeled future sound levels at the properties of the closest sensitive receptors.

PS&S compared the existing and future sound levels with the NYSDEC "Assessing and Mitigating Noise Impacts" dated October 6, 2000, last revised February 2, 2001 (NYSDEC Code).

2.0 SITE LOCATION & DESCRIPTION

The Project is located north of Ruland Road, east of Broadhollow Road, and south of Duryea Road, adjacent to the existing Ruland Road Substation. The Site is bound to the north by the Ruland Road Substation and undeveloped vegetated land, bound to the east by the Ruland Road Substation, bound to the south by undeveloped vegetated land and the Ruland Road Substation, and bound to the west by undeveloped vegetated land. Residential properties exist south of the Site across Ruland Road, and commercial properties exist west of the Site along Broadhollow Road.

PSEG LI is proposing the installation of six air core current limiting reactors on currently vacant vegetated land located immediately west of the existing active Ruland Road Substation.

Existing sound sources observed during the field measurements included traffic on Broadhollow Road and Ruland Road, and equipment at the existing Ruland Road Substation. Sounds from dogs barking and cars starting were intermittent.

3.0 NOISE STANDARDS & CRITERIA

PS&S compared the existing and future sound levels with the NYSDEC "Assessing and Mitigating Noise Impacts" dated October 6, 2000, last revised February 2, 2001.

4.0 EXISTING SOUND LEVELS

4.1 Sound Monitoring

Sound measurements were collected by a trained professional using the following instrumentation:

- Bruel & Kjaer 2250 Type 1 Sound Level Meter, certified June 10, 2025;
- Wind Screen;
- Bruel & Kjaer Calibrator, certified June 10, 2025; and
- Wind Meter.

The certified sound-level meter was set to the "A-weighting" scale and "slow" measurement speed.

Weather conditions during the monitoring period were acquired from the local weather service and observed conditions were noted on field observation sheets at the time the readings were collected. Temperatures were in the mid 30's (degrees Fahrenheit) and winds (measured on-site) were generally between 1.2 to 3.6 miles per hour. There was no precipitation during the sound level monitoring. These conditions satisfy the meteorological requirement for the measurement of ambient sound.

Existing sound levels were measured at five locations in the vicinity of the Project during the nighttime period of February 19, 2026 into February 20, 2026 (10:00 PM – 7:00 AM). These sound monitoring locations were chosen to help understand the

existing ambient sound in the neighborhood as well as measure sound levels at the properties of sensitive receptors. Existing sound levels are shown on Figure 1.

5.0 SOUND MODELING

5.1 Model Inputs

The six reactor units were identified as the sound-generating equipment to be used in the model. The model inputs are based on Trench Air Core Current Limiting Reactor units operating at a sound pressure level of 68 dBA maximum at a distance of 2 meters from the coil surface. The proposed locations of the reactors were taken from site plans for the Project. Existing topography, forested area, and several existing structures were also included in the modeling.

The locations of the reactors and the sound receptor locations used in the computer sound propagation modeling are shown in Figure 2.

5.2 Sound Modeling

Projections of future sound conditions were produced using the nationally recognized SoundPLAN Essential (V. 5.1) three-dimensional acoustic propagation model software.

The SoundPLAN software calculates anticipated future sound from multiple sound sources at multiple receivers while accounting for specific site sound radiation patterns and propagation effects of structures. The sound sources are identified in the propagation modeling with x and y coordinates and a relative height above terrain. The new equipment was modeled as point sources and digitized into a referenced coordinate system based on the proposed site plan that included site dimensions, equipment layout and heights of structures.

Modeled receptors were located at nearby property lines at an average ear level height of 1.7 meters above ground level. Proposed equipment locations in the Project area were digitized based on actual dimensions, where possible, and were included in the model calculations. The modeled sound levels were then compared to the applicable NYSDEC Code.

5.3 Modeling Results

Figure 2 shows the modeled results at the closest property lines. Table 5-1 presents a summary of the sound modeling results for future sound levels from the reactors operating simultaneously at maximum capacity, compared to the existing observed sound levels.

Table 5-1: Measured Existing Conditions and Modeled Sound Levels

Monitoring Location ID	Existing Sound Pressure Level (dBA)	Modeled Sound Pressure Level (dBA)
1	45	49
2	49	52
3	50	52
4	52	53
5	54	54

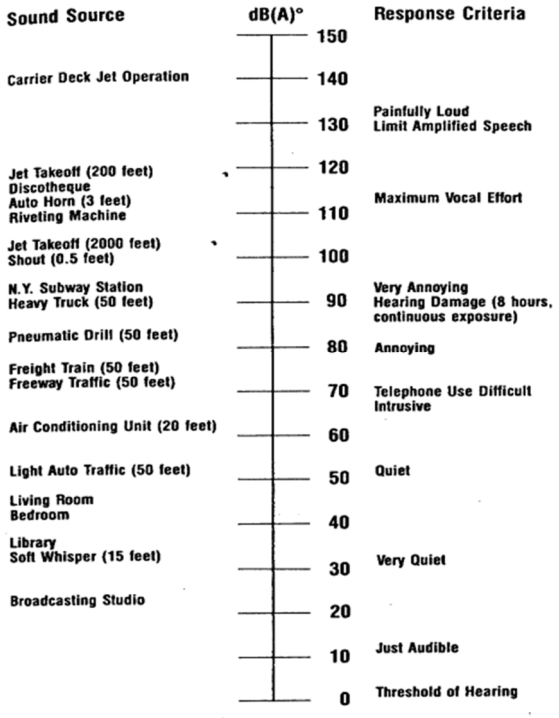
6.0 FUTURE CONDITIONS

The greatest difference between modeled future sound levels and the existing ambient sound (existing condition sound pressure) levels was observed at Monitoring Location 1, located across Ruland Road facing the proposed reactor units. The predicted future sound level at this residential property line is approximately 49 dBA, which is 4 dBA greater than the measured ambient sound of 45 dBA.

7.0 SUMMARY & CONCLUSIONS

The NYSDEC Code states a 3-6 dBA increase in sound pressure level may have potential for adverse noise impact only in cases where the most sensitive of receptors are present. The modeled sound pressure levels (ranging from 49 dBA to 54 dBA) are also below the 65 dBA maximum for ambient noise level in a non-industrial setting stated in the NYSDEC Code and quantified as "quiet" in Table E of the NYSDEC Code (copied below). Based on this guidance and the proximity of this and the adjacent residences to the Site, PS&S believes the predicted increase in sound pressure level should not trigger a mitigation requirement.

Table E from NYSDEC Code



FIGURES

PSEG LI Ruland Road
Substation Reactors
Sound Assessment

Fig. 1 - Existing Sound Levels

Legend

- Property Line
- Vegetated Areas
- Existing Building
- Receptor

Level tables

- 51 Sound Levels dBA [Night]

1 : 3387

0 15 30 60 90 120 m

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PSEG LI Ruland Road
Substation Reactors
Sound Assessment

Fig. 2 - Sound Model Results

Legend

- Property Line
- Vegetated Areas
- Existing Building
- Receptor
- Proposed Reactor

Level tables

- 51 Sound Levels dBA [Night]

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0 15 30 60 90 120 m

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