Appendix M
Operational Noise Management Plan - Outline

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OPERATIONAL NOISE MANAGEMENT PLAN - OUTLINE

PORT OF SEATTLE – TERMINAL 5

RAMBOLL ENVIRON

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1. BACKGROUND

1.1 Introduction

The Port of Seattle's Terminal 5 Cargo Wharf Rehabilitation, Berth Deepening, and Improvements Project is being proposed to accommodate larger vessels. These improvements will serve increased throughput capacity as operations expand to meet expected growth at the terminal, which will require more cranes and vessels, increased cargo-handling equipment (CHE), and increased numbers of trains and trucks moving through the Facility. These changes in operations could result in increased noise levels and noise impacts from Terminal 5 operations when compared to recent historical levels.

The analyses of noise impacts in the EIS considered several alternatives, with potential throughput up to 1.7 million TEUs, but the Port has since committed to a maximum throughput of 1.3 million TEUs. Based on the analyses, evaluations, and mitigation actions included in the FEIS, the Port will continue to seek project authorizations from city, state, federal, and Treaty tribe entities as required for rehabilitating Terminal 5 wharf, berth, and cargo facilities, providing project infrastructure improvements, and managing the impacts from operations resulting from that establishing container cargo capability up to 1.3 million TEUs.

Because the improved terminal and resulting changes in noise could create the potential for facility noise to exceed the Seattle night-time noise limits, a noise management plan was identified as the most effective solution to provide a compliance strategy for the facility. An Operational Noise Management Plan (ONMP) is an adaptive tool to identify reasonable and feasible best practices to meet noise levels.

1.2 Existing Environment

The land surrounding Terminal 5 is primarily used for industrial and commercial purposes however, sensitive receivers potentially impacted by noise associated from Terminal 5 operations include residences on the hillsides west and south of and overlooking the site.

1.3 Seattle Noise Limits

Terminal 5 and the surrounding communities are located within the City of Seattle, and the noise limits included in the Seattle noise ordinance (Seattle Municipal Code Chapter – SMC 25.08) apply to noise related to this project. The SMC sets noise limits based on sound levels and durations of allowable daytime/nighttime operational noise (**Table 1**). These limits are based on the zoning of the source and receiving properties.

As indicated in **Table 1**, the Seattle noise limits are based on hourly sound-energy average equivalent sound levels (L_{eqs}) in addition to not-to-be-exceeded L_{max} levels that vary by zoning of the noise source and receiving properties. The project site is zoned for Industrial uses and the nearby potentially affected sensitive receivers are in residentially zoned areas on the hillsides west and south of the site. As shown in the highlighted cell of **Table 1**, this establishes 1-hour L_{eq} sound level limits for operational noise of 60 dBA during the day and 50 dBA at night. In addition, there are hourly L_{max} limits of 75 dBA during the day and 65 dBA at night.

The Seattle noise code identifies a number of noise sources or activities that are exempt from the noise limits shown in **Table 1**. The following sources are among those exempted:

- Sounds created by motor vehicles are exempt from the sound level limits, except that sounds created by any motor vehicle operated off highways (e.g., on the Terminal) shall be subject to the sound level limits when the sounds are received within a residential district of the City (25.08.480), and
- Sounds created by warning devices or alarms not operated continuously for more than 30 minutes per incident (25.08.530)
- Sounds from the operation of railroads engaged in interstate commerce are exempt from local noise control rules by virtue of a federal preemption of this issue.

Table 1. Seattle Noise Limits (dBA)

Zoning District of Noise Source	Zoning District of Receiving Property		
	Residential Day / Night [(a)]	Commercial	Industrial
Residential	55 / 45	57	60
Commercial	57 / 47	60	65
Industrial	60 / 50	65	70

Note: The above sound level limits are based on the equivalent sound level (L_{eq}) *and* a not-to-be-exceeded L_{max} level 15 dBA higher than the indicated limits.

[(a)] The operational noise limits for residential receivers are reduced by 10 dBA during nighttime hours (i.e., 10 PM to 7 AM weekdays, 10 PM to 9 AM weekends and legal holidays) and are displayed for daytime/nighttime hours.

Source: Seattle Municipal Code - 25.08

2. OPERATIONAL NOISE MANAGEMENT PLAN

2.1 Operational Noise Management Plan Objective

The objective of the ONMP is to:

- Advise a future terminal operator and its contractors along with the Port of Seattle and its management by the NWSA of their responsibilities in managing noise on site;
- Facilitate compliance with City of Seattle noise code;
- Facilitate compliance with any authorizations or conditions with regard to noise management;
- Provide methods to identify and document potential noise issues and to allow development of appropriate mitigation measures and procedures to ensure that the relevant noise regulations and requirements are addressed.

2.2 Operational Noise Management Plan and Responsibility

The NWSA and the Port of Seattle will be responsible for compliance with all project authorization for construction and long-term container cargo operations. Notice of permit authorization and conditions of operation will be identified in all lease and site use agreements with a selected marine terminal operator. Comprehensive compliance with city, state, federal, and Treaty tribe conditional approvals will be shared with selected marine terminal operator at Terminal 5.

2.3 Operational Noise Management Plan Elements

The ONMP provides management and performance requirements related to operational noise at the Terminal. The ONMP includes the following elements:

- Applicable noise limits
- Noise monitoring plan
- Noise complaint response system
- Description of potential sources of noise and potential control measures, and
- Reporting requirements.

The details of the means and methods to meet the management and performance requirements of the elements listed above will be determined in discussions with the City of Seattle when a marine terminal operator is selected. The Plan will be activated and ready for implementation prior to occupancy of the terminal by the selected tenant.

2.4 Activities or Sources not Covered by the ONMP

Unless noted otherwise, the ONMP does not cover the following:

- Vessel movements
- Activities outside the Terminal 5 lease area
- Activities beyond the reasonable control or responsibility of the Port or its terminal operator
- Sources exempt from the Seattle noise limits, unless otherwise specified (e.g., backup/motion alarms)

3. POTENTIAL NOISE SOURCES AND CONTROLS

An equipment noise inventory will be provided.

This section will be updated once a terminal operator is selected and specific information relating to equipment and operations is identified.

4. MANAGEMENT STRATEGIES

Details of overall management methods and procedures that will be implemented to control noise from the Facility will be provided. The terminal operator will identify both proactive and reactive management processes to of noise issues.

4.1 Proactive Noise Management

Proactive noise management will be conducted with annual noise monitoring and maintenance of an equipment noise inventory. If monitored operational noise levels are demonstrated to exceed the Seattle noise limits, then investigation and implementation of control strategies would occur. Similarly, development, maintenance, and review of an equipment noise inventory can be used to identify potential noise issues, leading to proactive management of the issue.

4.2 Reactive Noise Management

Reactive management would be in response to noise complaints received by the terminal operator.

This section will be updated once a terminal operator is selected and specific information relating to equipment and operations is identified.

5. NOISE MONITORING PROGRAM

The noise monitoring program involves several elements, including identification of existing background sound levels, annual noise monitoring of Terminal 5 operations, potential supplementary noise monitoring conducted to assess the efficacy of noise mitigation measures or in response to noise complaints, and the establishment and upkeep of an equipment noise inventory.[1]

Details of the noise monitoring program will be developed in consultation with the City of Seattle once a terminal operator is selected and specific information relating to equipment and operations is identified. The following outline shows specific elements expected to be provided in more detail in the final ONMP.

5.1 Identification of Background Sound Levels

5.1.1 Background Measurement Locations

5.1.2 Measurement Details

5.2 Annual Operational Noise Compliance Monitoring

5.2.1 Measurement Locations

5.2.2 Sound Level Measurement Equipment

5.2.3 Duration and Timing

5.2.4 Reporting

5.3 Equipment Noise Inventory

5.3.1 Timing

5.3.2 Instrumentation and Basic Measurement Procedures

This section will be updated once a terminal operator is selected and specific information relating to equipment and operations is identified.

[1] All noise monitoring tasks will be conducted by an established acoustical consultant who has appropriate experience conducting sound level measurements.

6. NOISE COMPLAINT PROCESS

A key component of the ONMP includes implementation of a noise complaint hotline or process.

Details of the noise complaint process will be developed in consultation with the City of Seattle once a terminal operator has been found and specific information relating to equipment and operations is identified. The following outline shows specific elements expected to be provided in more detail in the final ONMP.

6.1 Noise Complaint Channels

6.2 Responding to Noise Complaints

This section will be updated once a terminal operator is selected and specific information relating to equipment and operations is identified.

7. DOCUMENTATION AND RECORD KEEPING

7.1 Internal Report Obligations

Records relating to noise measurements, noise environment, and community interactions will be retained for a period of time.

Details will be developed when a terminal operator is selected.

7.2 External Report Obligations

Reports of measurements, noise environment, and community interactions will be retained and made available to the community and to the City of Seattle noise department.

Reporting Details of will be developed when a terminal operator is selected.