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|--------------------|--|-------|---|
| To:                | 123221494_2021_Rev2<br>Westshore Terminals Ltd.<br>1 Roberts Bank<br>Delta, BC V4M 4G5 | From: | Sandra Banholzer<br>Stantec Consulting Ltd.<br>500-4730 Kingsway<br>Burnaby, BC V5H 0C6 |
| File and<br>Doc #: | Qualitative Noise Assessment<br>123221494_2021_Rev2                                    | Date: | April 29, 2021  |

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**Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project**

## INTRODUCTION

Westshore Terminals Ltd. (Westshore) has been operating a coal terminal at Roberts Bank in Delta, BC, for over 45 years, functioning as a key contributor to the Canadian coal industry.

As part of the New Cargo Project (the Project), Westshore is proposing to include potash handling and shipping of up to 4.5 million tonnes per annum (Mtpa) into their product line in addition to coal. The overall terminal capacity remains unchanged at 36 Mtpa. The operation may include different combinations of coal and potash shipment volumes but will not exceed the capacity of 36 Mtpa.

The Project requires a Project and Environmental Review (PER) permit through the Vancouver Fraser Port Authority (VFPA). The VFPA Noise Assessment Screening Sheet result indicates the total weighted project score is 29.6 points (see attachment). A complete noise assessment is not required for scores below 30 (VFPA 2015<sup>1</sup>). Westshore, however, engaged Stantec to produce this memorandum to provide a qualitative, high level noise assessment to support the Project permitting processes. The focus of this assessment is on operational noise only. Construction noise associated with this Project will be addressed in the Construction Environmental Management Plan (CEMP) (VFPA 2018<sup>2</sup>).

Westshore undertook an infrastructure reinvestment project between 2015-2019, which included replacing and/or upgrading outdated equipment and buildings. In 2017, Westshore engaged Stantec Consulting Ltd. (Stantec) to complete a light and noise baseline assessment, as requested by VFPA, as part of the permitting process (Stantec 2017<sup>3</sup>). Subsequently, in 2019, Stantec completed a post-construction light and noise assessment on the completed reinvestment project (Stantec 2020<sup>4</sup>). This assessment concluded that no substantial effects (i.e., noise and light) were identified due to the upgrades/replacement of the infrastructure reinvestment project. This memorandum incorporates knowledge gained from the reinvestment project studies.

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<sup>1</sup>Vancouver Fraser Port Authority. 2015. Project & Environmental Review Guidelines – Environmental Noise Assessment.

<sup>2</sup>Vancouver Fraser Port Authority. 2018. Project & Environmental Review Guidelines – Construction Environmental Management Plan (CEMP).

<sup>3</sup>Stantec Consulting Ltd. (Stantec). 2017. Westshore Terminals Ltd. Baseline Noise and Lighting Assessment.

<sup>4</sup>Stantec Consulting Ltd. (Stantec). 2020. Westshore Terminals Ltd. Post-Construction Noise and Lighting Assessment.

Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

## PROJECT UNDERSTANDING

Currently, the terminal includes two incoming coal handling capacity lines, including railcar unloading (dumpers), stockpile stacking, and two ship loading lines, including stockpile reclaim and ship loading. Currently, maximum possible operations include both ship loading lines and both railcar dumper stacking lines active at the same time.

Figure 1 provides an overview of the Project. As part of the Project, a new potash line (i.e., green line in Figure 1) will be added. The Project includes the following major components:

- New dumper
- New unloading and stacking conveyors with dust collection
- New potash storage building
- New reclaimer and reclaim conveyors with dust collection
- Modifications to existing ship loading system

No additional rail loop or berth is being added as a part of the Project. The maximum concurrent number of trains and vessels is not changing as a result of the Project: a maximum of two trains (two coal, or one coal and one potash) can be unloaded concurrently and a maximum of two vessels (two coal, or one coal and one potash) can be loaded concurrently.

Potash will be stacked and stored inside the new storage building by an overhead tripper conveyor. Coal will continue to be stockpiled outside in the yard by the four existing stackers/reclaimers (S/R) (visible in Figure 1). Potash will only be loaded onto ships at Berth 2.

Figure 1 Project Overview



Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

## NEW OPERATING SCENARIOS

One existing operating scenario (i.e., #1) is outlined together with four future operating scenarios (i.e., #2 to #5) in Table 1 and Figure 2. The scenarios include varying combinations of shipping coal and/or potash. Train unloading includes stacking the material for storage via S/R onto the stockpiles for coal, and via overhead conveyor in the new storage building for potash. Ship loading includes reclaiming material from storage via S/R from the stockpiles for coal and via reclaimer in the storage building for potash.

Coal and potash can be unloaded from trains and conveyed directly to ships bypassing storage. However, this is less common for coal shipping and it is not anticipated to occur frequently for potash. As both of these operational scenarios use less equipment (e.g., no coal S/R or potash reclaimer) and therefore noise would be less from these activities, these scenarios are not considered for the noise assessment.

**Table 1 Operating Scenarios**

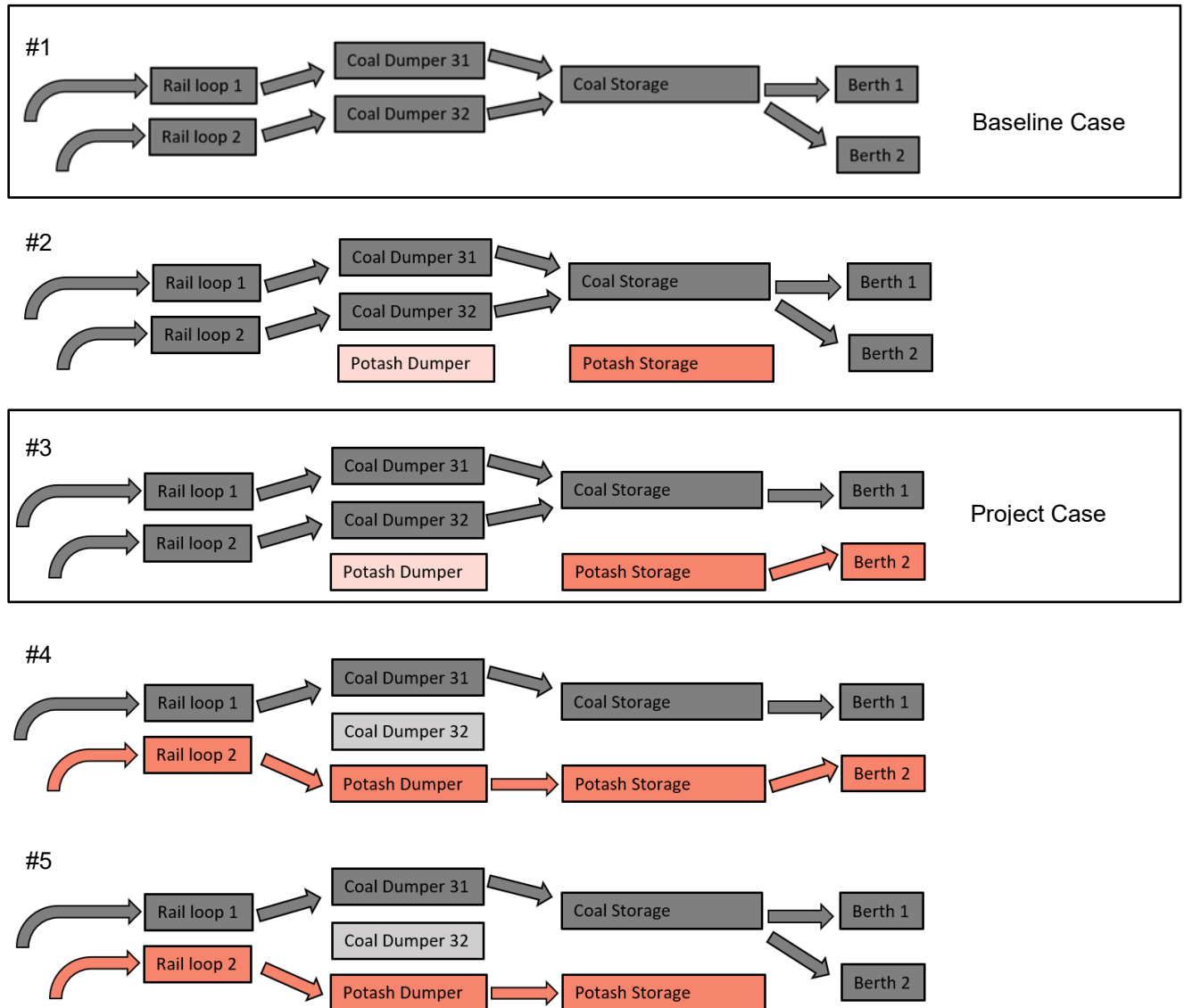
| Scenario           | Coal              |                   |       |         | Potash          |       |         | Berth 1 | Berth 2 |
|--------------------|-------------------|-------------------|-------|---------|-----------------|-------|---------|---------|---------|
|                    | Train 1 Unloading | Train 2 Unloading | Stack | Reclaim | Train Unloading | Stack | Reclaim |         |         |
| #1<br>Base Case    | ✓                 | ✓                 | ✓     | ✓       | --              | --    | --      | coal    | coal    |
| #2                 | ✓                 | ✓                 | ✓     | ✓       | --              | --    | --      | coal    | coal    |
| #3<br>Project Case | ✓                 | ✓                 | ✓     | ✓       | --              | --    | ✓       | coal    | potash  |
| #4                 | ✓                 | --                | ✓     | ✓       | ✓               | ✓     | ✓       | coal    | potash  |
| #5                 | ✓                 | --                | ✓     | ✓       | ✓               | ✓     | --      | coal    | coal    |

In Figure 2, all scenarios show both rail loops and berths as always occupied, however they are not continuously in use. This is dictated by product demand and berths and rail loops can also be vacant. No matter the product that is being handled (i.e., coal or potash), the site layout limits the total amount of equipment being operational at any one time: a maximum of two rail car loops can be unloaded and a maximum of two vessels can be loaded at the same time. The addition of potash into the product line does not affect this.

In Figure 2, the lighter colored elements (i.e., Coal Dumper 32 and Potash Dumper) represent no dumping activities. The absence of an arrow between elements represents no line activities.

Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

Figure 2 Project Operating Scenarios



In this noise assessment only Scenario #1 (the Baseline Case) and #3 (the Project Case) are further assessed. The Baseline Case represents activities with two coal dumpers, all coal conveyor lines, four stackers/reclaimers, and both shipping berths utilized.

In the Project Case, both coal dumpers, coal conveyors, four stackers/reclaimers, and one coal shiplading berth (i.e., Berth 1) are utilized. In addition, the potash reclaimer, reclaim conveyors, ship loading system and one ship loading berth (i.e., Berth 2) will be used for potash. This scenario is identified to be the potential “worst case” scenario for Project noise impacts, this is based on the premise that most major equipment units will be operating at the same time.



Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

## PROJECT NOISE SOURCES

This noise assessment focused on the additional noise sources in the Project. Table 2 summarizes these additional noise sources.

**Table 2 Project Noise Sources**

| Sources of Noise<br>(New Equipment) |                     | Project Noise Sources  |
|-------------------------------------|---------------------|--|
| Potash Dumper                       |                     | The potash dumper and associated equipment will be located inside a building. <ul style="list-style-type: none"> <li>• One new dumper for potash unloading including a rail car indexer (1072 hp)</li> <li>• Rail car opener, closer and vibrator (40 hp each).</li> <li>• Seven new feeders (20 hp).</li> </ul>   |
| Conveyor belts<br>and drivers       | Unloading/stacking  | <ul style="list-style-type: none"> <li>• Four new cladded potash unloading conveyors located outside.</li> <li>• One new potash stacking conveyor inside the new potash storage building (P60)</li> <li>• P60 is not cladded as it will be inside the potash storage building.</li> <li>• Eight enclosed drives for the conveyors.</li> </ul>  |
|                                     | Reclaim             | <ul style="list-style-type: none"> <li>• New potash reclaimer (500 hp) located inside the new potash storage building.</li> <li>• One new potash conveyor P65.</li> <li>• Portion of P65 located outside will be cladded.</li> <li>• Three enclosed drives for the conveyors.</li> </ul>   |
|                                     | Ship loading system | <ul style="list-style-type: none"> <li>• Five existing coal conveyors will be modified/upgraded to handle potash and coal (i.e., C11, C12A, C12B, C13A, and C13B). These conveyors will not be cladded, similar to the existing conveyors. Note conveyors C13A and C13B are part of Shiploaders 3 and 4.</li> <li>• Two enclosed drives for these modified conveyors.</li> </ul>   |
| Dust collectors                     |                     | <ul style="list-style-type: none"> <li>• Dust collectors will be installed along the potash material handling system (including at transfer points of the shared coal/potash conveyors)                             <ul style="list-style-type: none"> <li>– Seven dust collectors for train unloading</li> <li>– Six dust collectors for shipping.</li> </ul> </li> <li>• Eight dust collectors with 100 hp power rating and five dust collectors with 60 hp power rating.</li> </ul> |

## NOISE IMPACTS

### BASELINE CASE

The Baseline Case represents the existing operating scenario. The Baseline Case has been assessed most recently during the post-construction noise and light assessment in 2019 (Stantec 2020). This assessment included long and short-term noise monitoring and concluded that no substantial increases in noise were identified when compared to the pre-construction noise measurements taken in 2015 (Stantec 2017). Therefore, the Baseline Case is in compliance with the VFPA noise requirements (Stantec 2020).

### PROJECT INFRASTRUCTURE

The noise assessment compared the Baseline and Project Case noise emission qualitatively. The Project Case represents the future operating scenario with the potential highest noise impacts. The following sections qualitatively discuss the potential noise impacts from the additional Project noise sources.

**Reference:** Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

## **Potash Dumper**

The new potash dumper is enclosed inside an industrial building separate from the coal dumpers with similar operations. The new potash and existing dumper buildings will provide noise attenuation (i.e., a minimum of 30 decibel (dB) reduction) for the dumping operation. All dumper buildings are open in the front and rear to allow trains to pass through. There will be noise breakout from these openings. However, no increases in noise impacts are expected due to the additional potash dumper because a maximum of two dumpers (i.e., two coal dumpers or one coal and one potash dumper) instead of three dumpers will operate simultaneously in all future scenarios.

Unlike the unloading of coal, which uses a rotary dumper system, unloading of potash uses gates at the bottom rail cars. This potash unloading system is expected to be quieter than the rotary dumper system. The gate unloading system may require the use of vibrators (e.g., railcar shakers) to improve the efficiency of the unloading activity of potash. It is expected that these vibrators only need to be utilized on rare occasions, when there are flow issues. These vibrators would be located inside the dumper building.

## **Conveyors**

All new outdoor dedicated potash conveyors will be cladded. The cladding will provide noise attenuation for the material handling noise impact. Typical cladding material (i.e., 20 to 22 gage sheet metal) will provide a minimum 30 dB noise reduction.

The conveyor drives (i.e., motor, gear box, and coupling) will be located in an enclosure. These conveyor motor enclosures will provide noise attenuation (i.e., a minimum of 30 dB reduction). Existing motors for conveyors 3A and B measured sound level is 88.8 dBA at 15-meter distance (Stantec 2020). The 30 dB noise reduction will result in negligible noise levels for the nearest community 4 km away from the Westshore terminal. In addition, the motors are not expected to operate at 100% capacity. Typical operating load rating for the motors is expected to be at 70%.

The modified coal / potash ship loading conveyors (C11, C12A and C12B) to Berth #2 will not be cladded; however, these conveyors will have similar noise effects as the existing conveyors that are being modified/replaced. The modified coal/potash ship loaders, including conveyors C13A and C13B are also anticipated to be similar to the existing ship loaders. No increase in noise effects are expected.

## **Dust Collectors**

The dust collectors are new additional noise sources that will operate when the associated equipment is running. The dust collector noise rating is 85 dBA at one meter distance. The noise level of 85 dBA at one meter is quieter than other existing equipment operating at the terminal. For example, the existing conveyor belt drivers 3A and B sound level is 88.8 dBA at 15-meter distance (Stantec 2020). A conservative “worst case” noise prediction of all 13 dust collectors (i.e., 85 dBA noise rating) operating continuously is 24 dBA or less at the distance of 4 km (i.e., closest residence). A maximum of six dust collectors are expected to operate in the Project Case. The predicted noise level of 24 dBA is well below measured 2019 sound levels of 49.2 dBA at Roberts Bank Delta (RBD) Tsawwassen First Nation and 49.9 dBA at RBD Gingell Park (Stantec 2020). The locations of RBD Tsawwassen First Nation and TBD Gingell Park are shown in Figure 3. These long-term noise monitoring locations are representative of the closest residences to the Westshore terminal.

If further noise reductions are required, these dust collectors can be fitted with an exhaust stack silencer to reduce the noise emission level.

Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

**Figure 3 Locations of Permanent Port Vancouver Noise Monitoring Stations**



SOURCE: Stantec (2020)

### **New Potash Storage Building**

The overhead stacking conveyor P60 and portion of the new reclaim conveyor P65 is located inside the new potash storage building. The potash reclaim is inside the storage building and has a 500 hp power rating. Similar to the dumper building, the potash storage building will provide noise attenuation (i.e., a minimum of 30 decibel (dB) reduction) for the stacking and reclaiming operation.

The new potash storage building located at the north/northeast part of the Westshore terminal, is expected to be approximately 37 m tall by 408 m long. This structure will serve as a noise barrier towards noise sensitive receptors located in the north/north-east direction (see red box in Figure 4). This noise barrier can provide some noise attenuation to the closest receptors (i.e., RBD Tsawwassen First Nation and RBD Gingell Park).



Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

**Figure 4 Potash Storage Building Location**



SOURCE: Google Earth

### **Train Schedule**

The VFPA noise guideline for environmental noise assessments (VFPA 2015) recognizes that port related projects involving increased capacities, may contribute to increased noise levels in communities beyond the physical boundaries of the projects. The guideline also states that the increases in community noise levels will most commonly be related to increased commodity throughputs and traffic in the community rather than increases on-site itself.

Westshore anticipates that the frequency of trains to the Port will not increase but rather decrease slightly with the addition of the potash handling. Existing terminal coal throughput capacity is anticipated to decrease to accommodate the potash capacity of 4.5 Mtpa; however, the overall terminal shipping capacity remains at 36 Mtpa. Coal trains have approximate capacities between 13,000 and 16,000 tonnes per train and potash trains

**Reference:** Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

are anticipated to have a capacity of over 18,000 tonnes per train. Less total quantity of trains are required for the same annual shipping requirement of 36 Mtpa. The overall train operation frequency for the combined coal and potash shipping operation scenarios is expected to decrease.

## PROJECT CASE

Scenario #3 (Table 1) represents the Project Case for this noise assessment. In this scenario, the activities include both coal trains unloading, all coal S/R equipment operating, coal ship loading at Berth 1, and potash ship loading at Berth 2. This scenario represents a “worst case” scenario for Project noise impacts, this is based on the premise that most major equipment units will be operating at the same time.

Scenarios 4 and 5 represent one coal train and one potash train unloading simultaneously. Only two unloading operations (i.e., two coal trains or one coal and one potash train) can occur simultaneously. Both Scenarios 4 and 5 are expected to be quieter than Scenario 3. Noise effect associated with potash dumping is similar to the coal dump operation. Potash stacking operation is located inside the new potash storage building, quieter as compared to the coal S/R operation outdoor.

In comparison to the Baseline Case, additional noise sources of the Project Case include the following:

- New dust collectors (maximum of six)
- Potash reclaimer
- Potash reclaim conveyor P65
- Potash shipping conveyor P70

Existing sources of noise that will be used for potash include the following:

- Modified shipping conveyors and shiploaders (i.e., C11, C12A, C12B, C13A, and C13B)

The dust collectors noise impact is predicted to attenuate well below the existing sound level at the closest residences. The potash reclaimer is located inside the new potash storage building. A portion of the conveyor P65 is located inside the potash storage building and the outside portion is cladded. New conveyor motors associated with the outdoor potash conveyors will be enclosed inside a building. These additional noise sources are either enclosed inside a building or cladded. The buildings or claddings are predicted to provide attenuation so that the potential impacts of noise from the conveyors and drivers are negligible at the closest residences 4 km away. The modified potash conveyors for ship loading at Berth 2 are not cladded. However, the operation of these conveyors are similar to the existing conveyor operation at Berth 1.

The Project Case noise effects are not expected to substantially increase the noise impacts when compared to the Baseline Case.

Reference: Westshore Terminals Ltd. – Qualitative Noise Assessment - Potash Expansion Project

## DISCUSSION

The additional activities and associated noise sources as described in the Project Case are not expected to substantially increase the noise impacts when compared to the Baseline Case. These additional noise sources are either enclosed inside a building or cladded. Buildings or claddings are predicted to provide attenuation so that the potential impacts of noise from the conveyors and drivers are negligible at the closest residences 4 km away. The dust collector noise impact was also predicted to attenuate well below the existing sound level at the closest residences.

The new potash storage building will also serve as a noise barrier towards noise sensitive receptors in the north/north-east direction, roughly 4 km away.

Noise impacts associated with train traffic are expected to decrease marginally due to reduced train frequency. Project Case noise impacts are not expected to result in substantial noise impacts at the closest community receptors more than 4 km away from the facility.

## CONCLUSION

The purpose of this memo was to qualitatively assess the potential noise impact from the Project (i.e., the addition of potash handling and shipping at the Westshore terminals) and to compare it against the Baseline Case (i.e., existing handling and shipping of coal). Based on the operational scenarios and additional equipment information available, the assessment concludes that noise from the Project activities associated with the changes noted above are not expected to result in substantial noise impacts at the closest community more than 4 km from the Project.

**Stantec Consulting Ltd.**

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**ATTACHMENT**  
**COMPLETED VFPA NOISE SCREENING WORKSHEET**

**APPENDIX I – NOISE ASSESSMENT SCREENING WORKSHEET** - *NEW CARGO EXPORT PROJECT*

This worksheet should be employed by one or more informed individuals representing the applicant in order to establish the potential to create noise impacts within surrounding areas. This screening procedure is opinion-based and largely qualitative in nature and involves completing a series of questions.

1. Complete this worksheet scoring each of the ten items.
2. Transfer the ten questionnaire scores into the Weighted Project Screening Scorecard provided as Appendix II – Noise Assessment Project Score.
3. Follow procedure in Appendix II

|  |                       |
|--|-----------------------|
| <b>Question 1 – New Activity, Replacement or Expansion</b>   |                       |
| Will the project involve only the replacement of existing equipment or activities or the expansion of a pre-existing facility or activity, or will it involve significant new noise sources or activities? |                       |
| • Replacement of Existing Equipment or Activities  | Score 1 point         |
| • Expansion of Existing Equipment or Activities  | Score <u>3</u> points |
| • New Equipment or Activities  | Score 5 points        |

|  |                       |
|--|-----------------------|
| <b>Question 2 – Noise Levels Expected on Project Site</b>  |                       |
| Based on experience with similar operations at the current location or elsewhere, or on your best judgment, do you expect that noise levels within the project site will be: |                       |
| • Very Low   | Score 1 point         |
| • Low  | Score 2 points        |
| • Moderate   | Score 3 points        |
| • High   | Score <u>4</u> points |
| • Very High  | Score 5 points        |

|   |                       |
|---|-----------------------|
| <b>Question 3 - Presence of Undesirable Characteristics</b>   |                       |
| Will any of the key activities/sources create <u>ongoing</u> noise which:   |                       |
| (1). is clearly tonal (hums, whirs, whines),  |                       |
| (2). is impulsive or has very rapid onset (bumps, bangs, material handling impacts, rail car shunting, compressed air release etc.), or |                       |
| (3). contains strong low-frequency content (e.g. large diesel engines, large fans or air compressors).                                  |                       |
| • No  | Score <u>0</u> points |
| • Yes, noise will contain one such characteristic   | Score 3 points        |
| • Yes, noise will contain two or three such characteristics   | Score 5 points        |

|  |                       |
|--|-----------------------|
| <b>Question 4 – Presence of High-Energy Impulsive Noise</b>  |                       |
| Will any activities create <u>ongoing</u> noise which could be classified as "High-energy Impulsive"? Examples of such sources are limited in the port context but could include the industrial use of explosives or explosive circuit breakers. |                       |
| • No   | Score <u>0</u> points |
| • Yes  | Score 5 points        |

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|---|--|----------------|
| <b>Question 5 – Hours/Days of Operation</b> |  |                |
| Will the normal operating schedule be:      |  |                |
| • Day Shift only (5 days/week)              |  | Score 1 point  |
| • Day Shift only (7 days per week)          |  | Score 2 points |
| • Day & Evening Shifts (5 days/week)        |  | Score 2 points |
| • Day & Evening Shifts (7 days/week)        |  | Score 3 points |
| • 24-hours per day (5 days /week)           |  | Score 4 points |
| • 24-hours per day (7 days per week)        |  | Score 5 points |

|  |  |                |
|--|--|----------------|
| <b>Question 6 – Proximity to Noise-Sensitive Areas</b>   |  |                |
| How far is the nearest noise-sensitive land use (residences, schools, hospitals, passive parks etc.) from the property line of the project site? |  |                |
| • More than 1,000 m  |  | Score 0 points |
| • 500 to 1,000 m   |  | Score 1 point  |
| • 250 to 500 m   |  | Score 2 points |
| • 125 to 250 m   |  | Score 3 points |
| • 60 to 125 m  |  | Score 4 points |
| • less than 60 m   |  | Score 5 points |

|  |  |                |
|--|--|----------------|
| <b>Question 7 – Presence of Noise Shielding or Reflection</b>  |  |                |
| Will buildings, structures and/or landforms partially or totally screen (that is, interrupt the line of sight and direct hearing) project noise sources from nearby noise receptors? Here consideration should be given to the relative elevations of the noise sources, the noise receivers (ground and upper floors) and the intervening buildings and/or landforms. Noise shielding effects are maximized when intervening buildings and/or landforms are higher and wider than both the noise source area and the noise receiver area. Alternatively, the project may involve construction of a building or other structure that, while not necessarily a significant source of noise itself, reflects noise from other sources towards adjacent noise-sensitive areas. This other noise may originate from project operations or from sources not related to the project, such as other port operations or transportation facilities related sources. |  |                |
| • Substantial, continuous noise shielding  |  | Score 0 points |
| • Substantial, but not total, screening  |  | Score 1 point  |
| • Intermittent shielding, e.g., row of smaller, non-adjointing buildings   |  | Score 2 points |
| • Scattered shielding by objects, machinery, stockpiles  |  | Score 3 points |
| • No shielding potential   |  | Score 4 points |
| • No noise shielding and will reflect noise towards sensitive areas  |  | Score 5 points |



|   |  |                |
|---|--|----------------|
| <b>Question 8 – Baseline Noise Environment</b>  |  |                |
| How would you rate the baseline (pre-project) noise environment within the noise sensitive area nearest the project site? |  |                |
| • Very noisy (near busy highway, busy port, airport, heavy industry)  |  | Score 1 point  |
| • Noisy (near busy arterial road, light industrial area, urban core)  |  | Score 2 points |
| • Moderately noise (near collector road, suburban residential)  |  | Score 3 points |
| • Quiet (suburban residential away from collector roads)  |  | Score 4 points |
| • Very Quiet (rural residential, well away from industry or main roads)   |  | Score 5 points |

|  |  |                |
|--|--|----------------|
| <b>Question 9 – Population Potentially Exposed to Project Noise</b>  |  |                |
| Approximately how many residences or other noise sensitive land uses are located within 500 m of the project site's property line? |  |                |
| • 5 or less  |  | Score 1 point  |
| • 5 to 15  |  | Score 2 points |
| • 16 to 40   |  | Score 3 points |
| • 41 to 100  |  | Score 4 points |
| • more than 100  |  | Score 5 points |

|   |  |                |
|---|--|----------------|
| <b>Question 10 – Level of Community Concern about Noise</b>   |  |                |
| What level of concern (e.g., complaint history) currently exists among residents/users of adjacent noise sensitive lands regarding noise emissions from PMV lands in general and your project site in particular? |  |                |
| • No history of concern or complaints   |  | Score 1 point  |
| • Minor concerns have been expressed  |  | Score 2 points |
| • Unknown   |  | Score 3 points |
| • Moderate level of concern, some complaints  |  | Score 4 points |
| • High level of concern/organized complaints  |  | Score 5 points |

**APPENDIX II – NOISE ASSESSMENT PROJECT SCORE** – NEW CARGO EXPORT PROJECT

This worksheet should be used together with the questionnaire in Appendix I – Noise Assessment Screening Worksheet. For each of the ten questions, this worksheet applies a weighting factor that is reflective of the relative importance of that attribute in forecasting noise impact potential. The overall noise impact potential of the project is determined by tallying the weighted values of all response scores to obtain a *Total Weighted Project Score* as follows:

1. Complete the questionnaire as provided in Appendix I – Noise Assessment Screening Worksheet, scoring each of the ten items.
2. Transfer the ten questionnaire scores into the Weighted Project Screening Scorecard provided below.
3. Apply the *Importance Weighting* factor (multiplying the weighting factor by the questionnaire score) and determine a *Weighted Score* for each item.
4. Tally the *Weighted Scores* and determine the *Total Weighted Project Score*
5. Submit a completed project score worksheet as part of the PER project permit application

| No.                                   | Attribute of Project or Project Setting         | Questionnaire Score (Appendix I) | Importance Weighting | Weighted Score |
|---------------------------------------|---|----------------------------------|----------------------|----------------|
| 1                                     | New Activity, Replacement or Expansion          | 3                                | 1.2                  | 3.6            |
| 2                                     | Noise Levels Expected on Project Site           | 4                                | 1.8                  | 7.2            |
| 3                                     | Presence of Undesirable Characteristics         | 0                                | 1.6                  | 0              |
| 4                                     | Presence of High Energy Impulsiveness Noise     | 0                                | 1.6                  | 0              |
| 5                                     | Hours/Days of Operation                         | 5                                | 1.2                  | 6              |
| 6                                     | Proximity to Noise Sensitive Areas              | 0                                | 1.6                  | 0              |
| 7                                     | Presence of Noise Shielding or Reflection       | 3                                | 1.8                  | 5.4            |
| 8                                     | Baseline Noise Environment                      | 1                                | 1.6                  | 1.6            |
| 9                                     | Population Potentially Exposed to Project Noise | 1                                | 1.0                  | 1              |
| 10                                    | Level of Community Concern About Noise          | 4                                | 1.2                  | 4.8            |
| <b>Total Weighted Project Score :</b> |   |                                  |                      | <b>29.6</b>    |