

The Environmental Impact Statement (EIS) provides information about the Roberts Bank Terminal 2 Project, identifies potential effects and benefits of the Project, and describes mitigation measures to reduce potential Project effects. The EIS has been prepared according to the “Guidelines for the Preparation of an Environmental Impact Statement for the Roberts Bank Terminal 2 Project”, issued by the Canadian Environmental Assessment Agency in January 2014.

## AIR QUALITY

An assessment was carried out to predict potential changes in air quality as a result of the Roberts Bank Terminal 2 Project.

The results of the air quality assessment were used in the assessments of human health and current use of land and resources for traditional purposes.

### SCOPE OF ASSESSMENT

The assessment modelled Project-related emission sources during the construction phase, and fuel combustion during the construction and operation phases, and compared them to modelled existing conditions and future expected conditions without the Project.

Air contaminants that were considered in the assessment included:

- Criteria air contaminants (i.e., carbon monoxide, nitrogen oxides, sulphur dioxide, particulate matter and ground-level ozone);
- Trace organic contaminants (i.e., formaldehyde and other contaminants related to fuel combustion);
- Greenhouse gases; and
- Climate-forcing particulate matter (black carbon).

Hypothetical maximum emission scenarios were used to conservatively estimate existing conditions and potential changes from the Project. Shore power is included in the Project design and would be available for ships to use while at berth. Estimated emissions and predicted ambient concentrations did not account for the benefits of shore power, which is expected to further decrease future emissions. The predicted concentrations of contaminants are therefore conservative (i.e., worst-case).

The focus of the assessment included locations on land where people may be exposed to contaminants and also included areas over water. The local study area was a 19 kilometre by 16 kilometre area and captured the extent to which the Project would have an influence on air quality. Meteorological modelling was carried out over a larger (26 kilometre by 24 kilometre) area to support the predictions of Project-related and cumulative changes to air quality.

### EXISTING CONDITIONS

The description of existing conditions considered emissions from marine vessels, trains, trucks, vehicles and equipment from the existing Westshore Terminals, Deltaport Terminal and BC Ferries terminal, while emissions from industrial, commercial and residential sources within Delta were represented through measured air quality levels in Tsawwassen. A general trend of decreasing concentrations of contaminants has been observed and is expected to continue in the Lower Fraser Valley for some criteria air contaminants, as well as for some trace organic contaminants. Air quality within Delta is generally good as compared with other locations in the Metro Vancouver region.

### KEY FINDINGS

Generally, air quality is expected to improve in the future, either with or without the Project, as a result of improvements in engine technologies and the use of cleaner fuels.

#### Criteria Air Contaminants

- Construction activities are predicted to cause a minor negative change in air quality, primarily associated with particulate matter in areas over water in the vicinity of construction works.

- During operation:
  - Concentrations of criteria air contaminants are expected to decrease relative to existing conditions, though they would be higher with the Project than without the Project.
  - Future ambient air concentrations are predicted to be below air quality criteria on land, including populated areas, with the exception of one-hour average concentrations for nitrogen dioxide in the immediate vicinity of the Roberts Bank terminals.
- Project activities are expected to have a negligible (i.e., too small to be measurable) effect on future ozone levels.

#### **Trace Organic Contaminants**

- Small increases in emissions are predicted for benzene, acetaldehyde and formaldehyde associated with Project operations relative to expected conditions without the Project.
- Levels of trace organic contaminants are not predicted to exceed air quality criteria at locations on land.

#### **Greenhouse Gases**

- Greenhouse gases are expected to increase in the future as a result of Project activities and increased activity at existing terminals.

#### **Black Carbon**

- Although Project activities would emit black carbon, black carbon is expected to decrease in the future with the Project, due to equipment fleet turnover at existing terminals to newer engines that meet more stringent emission standards for particulate matter.

The overall assessment is considered to provide a conservative evaluation of potential changes in air quality resulting from the Project. The implementation of shore power is expected to decrease predicted future emissions during Project operation.

The combination of Project-related emissions with emissions from other certain and reasonably foreseeable projects and activities is expected to make a small incremental contribution to overall air quality levels. Future cumulative ambient air quality concentrations are predicted to be below air quality criteria on land, including populated areas.

### **About the Roberts Bank Terminal 2 Project**

The Roberts Bank Terminal 2 Project is a proposed new three-berth container terminal at Roberts Bank in Delta, B.C., on Canada's west coast. The Project would provide 2.4 million twenty-foot equivalent units (TEUs) of container capacity. Port Metro Vancouver proposes to build the Project to meet increasing demand for containerized trade on the west coast of Canada.

The Project is undergoing a federal environmental assessment by an independent review panel, under the *Canadian Environmental Assessment Act, 2012*. The Project is also undergoing an assessment under the *British Columbia Environmental Assessment Act*, and requires other permits and authorizations before it can proceed.

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