



Environment, Energy and Climate Action

Guidelines for Asphalt Plants

January 2024



PROVINCE OF PRINCE EDWARD ISLAND

DEPARTMENT OF ENVIRONMENT, ENERGY AND CLIMATE ACTION

GUIDELINES FOR ASPHALT PLANTS

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Overview

These guidelines apply to all asphalt plants located and operated in Prince Edward Island. They replace the “*Guidelines for Asphalt Plants*” of July 1985.

The *Environmental Protection Act* Air Quality Regulations govern the permitting and operation of any asphalt plant within the province. Asphalt plants fall under the definition of an “industrial source” in the regulations. Anyone discharging a contaminant into the air from an industrial source, incinerator or fuel-burning equipment requires a permit to operate.

The regulations provide ambient air levels that permit holders must adhere to for carbon monoxide, hydrogen sulfide, sulphur dioxide, nitrogen dioxide and total suspended particulates (total particulate matter). These levels are meant to protect human health and the environment. The Department of Environment, Energy and Climate Action (EECA) administers the Air Quality Regulations.

The purpose of these guidelines is to provide policy guidance for the issuance of Air Quality Permits for asphalt plants under the Air Quality Regulations. It is also meant to provide guidance to proponents applying for an Air Quality Permit for an asphalt plant. The document provides information such as the application process, setback distances, site and operational requirements, and stack testing schedules. It is the responsibility of asphalt plant owners and operators to ensure that the requirements of these guidelines are met. These requirements are meant to protect the environment, protect human health and reduce nuisance issues for surrounding landowners.

Definitions

Air Dispersion Modelling – a method of predicting the concentration of air pollutants at ground level emitted from a source using a series of mathematical equations to describe and predict the behavior of pollutants in the air. Information such as land use, meteorological data, pollutant source information and terrain characteristics are used in the calculations.

EECA – Prince Edward Island (PEI) Department of Environment, Energy and Climate Action;

Industrial Source – as defined in the PEI *Environmental Protection Act* Air Quality Regulations, means any facility, operation, activity or equipment but does not include fuel burning equipment or incinerators;

Minister – Minister of the PEI Department of Environment, Energy and Climate Action;

Non-industrial use –

- i. in municipalities with official plans and bylaws, means areas not zoned as industrial (not including the Confederation Trail); or
- ii. in municipalities without official plans and bylaws or locations not in a municipality, means areas used as, but not limited to, dwelling, educational facilities, hospitals, government buildings, religious institutions, cultural centres, libraries, recreational areas (not including the Confederation Trail) and commercial establishments;

Watercourse – as defined in the PEI *Environmental Protection Act*, means an area that has a sediment bed and may or may not contain water, and without limiting the generality of the foregoing, includes the full length and width of the sediment bed, bank and shore of any stream, spring, creek, brook, river, lake, pond, bay, estuary or coastal body, any water therein, and any part thereof, up to and including the watercourse boundary;

Wetland - as defined in the PEI *Environmental Protection Act*, means

- (i) an area which contains hydric soil, aquatic or water-tolerant vegetation, and may or may not contain water, and includes any water therein and everything up to and including the wetland boundary, and
- (ii) without limiting the generality of the foregoing, includes any area identified in the Prince Edward Island Wetland Inventory as open water, deep marsh, shallow marsh, salt marsh, seasonally flooded flats, brackish marsh, a shrub swamp, a wooded swamp, a bog or a meadow;

Site Requirements

Proponents that apply to build and operate an asphalt plant must meet certain site requirements. The requirements are meant to protect both the environment and neighbouring landowners, from a human health perspective and a nuisance perspective.

Setbacks

Various setbacks are required from an asphalt plant. For the purposes of the setback distances, an asphalt plant includes the plant, loading/unloading areas and aggregate piles. No part of the asphalt plant can be closer than the setbacks listed in the following table:

Table 1 – Setback distances for asphalt plants

Area	Setback	
	Municipality with an official plan and bylaws	Areas without an official plan and bylaws
Non-industrial Use	The greater of 500 meters or applicable bylaw	500 meters
Watercourse or Wetland	The greater of 100 meters or applicable bylaw	100 meters

Where approved residential lots outside of municipalities with an official plan and bylaws have not been built-on for an extended period, on a case-by-case basis, the Minister may consider and determine that a setback from an unbuilt residential lot is not required.

Setback Reduction

The setback distance to a non-industrial use listed in Table 1 may be reduced where compliance with ambient standards is demonstrated through air dispersion modelling by a qualified consultant. In most cases, only models endorsed by the United States Environmental Protection Agency (USEPA) will be recognized for use in Prince Edward Island.

The cost of the air dispersion modelling is the responsibility of the applicant. The Minister may also require that the applicant obtain written approval from any resident(s) within the 500 meter setback zone stating they are not opposed to the siting of the asphalt plant within this 500 meter setback zone. The Minister will use the results of the air dispersion modelling to determine if or how much of a reduction will be permitted.

In addition to air dispersion modelling, the Minister may require noise dispersion modelling to assess the potential impacts of noise for the site.

Setback Exemption

In some cases, non-industrial use developed within the setback distance specified in Table 1 to an existing asphalt plant after the asphalt plant was first permitted. In these cases, the asphalt plant may continue to be permitted using the originally permitted setback distances.

Sizing and Organization of the Site

When designed, a proposed site must be big enough to hold a holding/settling pond that is positioned so that water released from it has an opportunity to soak into the ground.

The site also needs to be organized so that silt from unvegetated parts of the work site does not enter a watercourse or wetland, onto adjacent property or into public road ditches. On a case-by-case basis, this might require a sediment pond or other silt retention mechanisms.

A site that requires noise abatement (see section on Noise, Odour and Dust below) might need sufficient space on the site for whichever mechanism is chosen for the abatement. As an example, a site may need to be large enough to house berms to reduce noise for neighbouring properties.

Operational Requirements

Best Management Practices

Asphalt plants must be operated using appropriate industry best management practices, such as those outlined in the Canadian Construction Association's (CCA) Environmental Best Practices Guide for Hot Mix Asphalt Plants (CCA 83-2004).

Water and Wastewater

Asphalt plants often need to use and dispose of water. Asphalt plant Air Quality Permit holders must adhere to the following water related requirements:

1. A licensed well-driller is required for the drilling of a well on an asphalt plant site. The well must be drilled in accordance with the *Water Act Well Construction Regulations*;
 - a. In the unlikely event that the well is a high capacity well, a Groundwater Exploration Permit is required prior to drilling;
 - b. A Water Withdrawal Permit is required if the well usage is over 25 cubic meters per day;
2. Process water from the site must be collected in a holding/settling pond prior to release to the environment;
 - a. The concentration of total suspended solids of process water released from a settling/holding pond must not exceed 100 milligrams per litre;
3. Stormwater runoff must be managed to ensure neighbouring properties are not adversely affected.

Air Emissions

As a condition of an asphalt plant permit, air emissions must be controlled so as to not cause adverse effects to neighbouring properties. The following measures must be followed during the operation of an asphalt plant:

1. Pollution control systems are serviced on regularly scheduled basis as per the manufacturer's specifications in order to meet the required emissions levels stated in Table 2;
2. Pollution control systems are operating to normal efficiency ratings;

3. Staff are provided proper operational procedures, equipment maintenance and operator training;
4. Emissions from the asphalt plant do not exceed values in the following table:

Table 2 – Air Emission Limits for Asphalt Plants

Contaminant	Limit (mg/Nm³)
Total Particulate Matter	150
Carbon Monoxide	500
Nitrogen Oxides	150
Sulphur Dioxide	150
Opacity (%)	20

5. Every reasonable effort shall be made to eliminate fugitive emissions and ensure that all emissions from the burner leave through the stack of the asphalt plant;
6. If the Minister has reason to believe that an asphalt plant is in violation of these guidelines, the terms and condition of a permit or the Air Quality Regulations, or that that emissions from an asphalt plant are causing an adverse effect on a neighbouring property, he may require that stack testing be conducted to determine plant emissions, at the operator’s expense.

Noise, Odour and Dust

Asphalt plant Air Quality Permit holders are expected to control fugitive dust, odours and noise to levels that do not significantly impact surrounding properties. In most cases adhering to industry’s best management practices will reduce or eliminate such issues. Excessive levels of fugitive dust, odours and/or noise from any part of the operation, which cause complaints, may necessitate the operator to undertake ambient air monitoring or noise monitoring. The Minister may require corrective actions to be taken by the operator as a result of the testing.

Stack Testing Requirements

To ensure asphalt plants meet the emission limits listed in Table 2, EECA requires operators to periodically perform stack testing. Stack testing confirms that plants are continuing to meet air emission limits. The following lists the requirements and schedule for stack testing:

1. Testing must be completed by qualified environmental consultant;
2. Testing must be conducted in accordance with the Environment and Climate Change Canada (ECCC) reference method EPS 1/RM/8 for particulate matter and the ECCC reference method EPS 1/RM/15 for combustion gases, unless otherwise agreed to by EECA;
3. Testing shall occur:
 - a. Once every 6 seasons if the plant emission control system is a baghouse; or
 - b. Once every 5 seasons for any other emission control system.
4. When test results show failure to meet emissions requirements, the asphalt plant Air Quality Permit holder shall be required to rectify the problems. Further stack testing may be required either immediately or once every 2 seasons depending upon the severity of the testing failure.

Application Process

The application to site and operate a new asphalt plant has several components, and they can vary depending upon whether the site is located within a municipality with its own official plans and bylaws or not. Before an asphalt plant can be sited and begin operation, an asphalt plant Air Quality Permit and a Development Permit from the respective authorities are required. A review through the Environmental Impact Assessment process is required. Areas without official plans and bylaws are under the jurisdiction of the province for development permits. Municipalities with their own official plans and bylaws issue their own development permits.

Prior to beginning the process listed below, applicants should review these guidelines to determine if there are any issues with the proposed site that contradict requirements in these guidelines. Proponents should apply for a Development Permit and an asphalt plant Air Quality Permit at the same time to expediate the process.

Air Quality Permit

Any new or existing asphalt plant requires an Air Quality Permit in order to operate. Applicants are required to fill out the *Application for a Permit to Operate an Asphalt Plant* form. The application form can be found at:

https://www.princeedwardisland.ca/sites/default/files/forms/asphalt_plant_permit_application.pdf

The application requests information such as plant type, site information, plant layout, water supplies emission information and monitoring equipment. This information is used to determine if the proposed plant would meet the requirements of both the Air Quality Regulations and these Guidelines. An asphalt plant Air Quality Permit will not be issued unless issuing jurisdictions determine that they will be able to issue a development permit and an EIA approval / screening review is completed. When issued, asphalt plant Air Quality Permits are normally set to expire at the end of December of the issuing year. On occasion, the term may be shorter when plant performance is required to be demonstrated.

Development Permit

A Development Permit is required for all asphalt plant sites and will be issued from whomever the responsible authority is for the proposed site (e.g. municipality, Province of PEI). Applying for a Development Permit will usually prompt the responsible authority to circulate the application to several other authorities for comment, including EECA. The application process will determine if the site is suitable for the proposed development, reviewing issues such as site suitability, zoning, neighbouring land uses, environmental issues, and road access.

Environmental Impact Assessment

A review of the project is required through the province's Environmental Impact Assessment (EIA) process. As part of the Development Permit and asphalt plant Air Quality Permit application processes, the application will be sent to EECA's Environment Regulatory Division for an EIA review. The application will be reviewed to determine if the project is considered an "undertaking" or whether the project can be "screened out". If a project is screened out, an EIA is not required. Even if an EIA is not required

(screened out), conditions regarding the operation of the asphalt plant may be required as a result of the review. More details regarding the EIA process can be found at www.princeedwardisland.ca/EIA.