

Emergency Generator Checklist Supplement To Application For Approval, EPA s.9

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INFORMATION FOR PROPONENTS APPLYING FOR A CERTIFICATE OF APPROVAL (AIR) FOR AN EMERGENCY GENERATOR

Section 9 of the *Environmental Protection Act*, R.S.O. 1990 prohibits anyone from constructing, altering, replacing or extending any plant, structure, equipment, apparatus, mechanism or thing that may discharge or from which a contaminant may be discharged into the natural environment, other than water, without first applying for and being issued with a Certificate of Approval from the Director. As a result, no person may install and operate equipment, such as an emergency generator, that discharges contaminants into the atmosphere without first obtaining a Certificate of Approval. Detailed information on approval requirements and procedures are contained in a separate document entitled "[Guide for Applying for Approval \(Air & Noise\) Version 2.0](#), Section 9, Environmental Protection Act, R.S.O. 1990, Environmental Assessment and Approvals Branch, November 2005". This document is available on the Ministry of Environment's web site (www.ene.gov.on.ca) or can be obtained by contacting Client Services at 416-314-8001.

EMISSIONS and CRITERIA FOR APPROVAL - EMERGENCY GENERATOR

Due to the unique nature of emergency generators, the Environmental Assessment and Approvals Branch have developed a separate method for evaluating these pieces of equipment. The technical evaluation is based on the operation of the emergency generator for testing or maintenance purposes. Please take the time to review this information sheet and the attached checklist prior to submitting your application for a Certificate of Approval (Air).

[Under Ontario Regulation 419/05 Air Pollution - Local Air Quality](#), as amended by Ontario Regulation 516/07, "standby power source" is defined as equipment that is intended to be used for the purpose of producing power to maintain operating conditions when the power produced by normal sources is cut off or reduced. An emergency generator is used for this purpose. Therefore, it is captured by the definition in the regulation.

Recent amendments to the Regulation exempt a standby power source from the requirements of Section 18, 19 and 20 of O.Reg. 419/05 when the following criteria are met:

1. Testing and maintenance of the standby power source is done according to the manufacturer's recommendations and generally accepted standards.
2. The discharge occurs during one of the following periods:
 - i. A period in which the standby power source is operated solely for testing or maintenance purposes.
 - ii. A period in which the standby power source is used for its intended purpose.
3. The standby power source has not been operated for testing or maintenance purposes for more than 60 hours in the 12 months before the discharge.

This amendment formalizes the Ministry's current procedure of approving emergency generators that comply with the Environmental Assessment and Approvals Branch's point of impingement screening levels. As a result, it is not necessary for the proponent of an emergency generator to obtain the point of impingement limits for the discharged contaminants from the Schedule 1, Schedule 2 and Schedule 3 standards. The significant contaminants emitted to the atmosphere from an emergency generator are nitrogen oxides. For a generator used for emergency use only, the Environmental Assessment and Approvals Branch has an approvals screening level of 1880 micrograms per cubic metre - maximum ½-hour average at non-sensitive receptors. In the event of a sensitive receptor (e.g., child care facility, health care facility, senior citizen's residence, long-term care facility, school), the less stringent approvals screening level no longer applies and the proponent must comply with the Schedule 1 standard of 500 micrograms per cubic metre – maximum ½-hour average. Furthermore, all approved dispersion models including; Appendix to O.Reg. 346, SCREEN3, AERMOD, ASHRAE or ISCPRIME can be used to assess compliance with the ½-hour approvals screening level or Schedule 1 standard.

The Environmental Assessment and Approvals Branch has developed an internal screening procedure for determining which emergency generators require additional noise information to be submitted in the form of a *noise statement* along with your application. Emergency generators located indoors require a *noise statement* when the ventilation openings for combustion air intake/exhaust or the combustion exhaust stack are 20 metres or less from the nearest residential receptor, hotel/motel, nursing home, hospital, camp ground or noise sensitive building such as schools and places of worship. Emergency generators located outdoors in an enclosure require a *noise statement* when the ventilation openings for combustion air intake/exhaust or the combustion exhaust stack are 60 metres or less from the nearest residential receptor, hotel/motel, nursing home, hospital, camp ground or noise sensitive building such as schools and places of worship. In both cases, if there are rental residences, nursing/retirement homes, hospitals or schools located on-site then the distance is measured from the ventilation openings for combustion air intake/exhaust or the combustion exhaust stack, to the nearest on-site receptor. The *noise statement* must include information demonstrating compliance with Ministry noise guidelines at the point of reception. Compliance is established when the estimated attenuated noise level of the emergency generator is lower than the noise limits set out in the [Ministry Publication NPC-205](#) at the point of reception. Supporting documents, such as manufacturer noise data, manufacture specification sheets for the noise attenuating equipment or structures, site plans, etc., used to determine the estimated attenuated noise level must be included with the statement. Please note that if compliance cannot be verified by the Reviewer after the technical analysis of the *noise statement*, the Reviewer will contact you and/or your identified Project Technical Information Contact to request further noise information or a detailed noise assessment.

If ventilation openings for combustion air intake/exhaust or the combustion exhaust stack are less than 100 metres but do not fall into the range requiring a *noise statement*, the certificate will be issued for the emergency generator set with a general requirement for compliance with noise limits set out in the [Ministry Publication NPC-205](#). Please note that in order to achieve compliance, it is necessary to have appropriate silencing equipment and materials installed. The following minimum recommendations for noise abatement measures should be adequate for a majority of installations:

- Acoustical treatment of the cooling air intake and exhaust openings (facing the receptor within $\pm 90^\circ$ angle from the axis of each opening) in the mechanical room housing the diesel generator set, capable of providing the following values of Insertion-Loss in 1/1 octave frequency bands:

| | | | | | | |
|---------------------------|-----|-----|-----|------|------|------|
| Centre Frequency (Hertz) | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| Insertion-Loss (decibels) | 10 | 12 | 14 | 15 | 15 | 15; |

- Engine combustion exhaust muffler for the diesel generator set, capable of providing the following values of Insertion-Loss in 1/1 octave frequency bands:

| | | | | | | |
|---------------------------|-----|-----|-----|------|------|------|
| Centre Frequency (Hertz) | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| Insertion-Loss (decibels) | 23 | 29 | 30 | 28 | 22 | 21 |

and;

- External doors in the mechanical room housing the diesel generator-set made of at least 50 millimetres thick solid slab wood or steel skin with glass fibre insulated core, set in a door jamb fitted with dual solid neoprene gaskets on perimeter, capable of providing a minimum Sound Transmission Class of STC35.

We emphasize that it is the applicant's responsibility to provide adequate noise abatement measures to ensure compliance. Please note that some installations may require more effective noise abatement measures than the above minimum recommendations.

INFORMATION REQUIREMENTS APPLICATIONS FOR EMERGENCY GENERATORS

The Emergency Generator Checklist identifies the necessary information that is required by the Ministry to assess an application for Certificate of Approval (air). The inclusion of all on-site sources of nitrogen oxides emissions is of particular importance for verifying compliance with the point of impingement limits. The dispersion modeling output and a scaled site plan, including elevations and surrounding land usage, is also important to facilitate the conversion of emission estimates to a predicted point of impingement impact for subsequent comparison to the point of impingement limits administered by [Ontario Regulation 419/05 Air Pollution – Local Air Quality](#).

If you need a copy of [Publication NPC-205](#), please call the Ministry's Public Information Centre at 416-325-4000 or toll free at 1-800-565-4923. If you have any questions regarding the approvals process, please feel free to contact our Client Services representatives at 416-314-8001.

Emergency Generator Checklist Supplement To Application For Approval, EPA s.9

The Emergency Generator Checklist has been developed to ensure that all applicants for an EPA s.9 (Air) approval are aware of the information required to be submitted with their application. This checklist should be completed and submitted with all applications for an Emergency Generator identified as candidates for the Streamlined Review Unit. Note: If the emergency generator set is to produce electricity in non-emergency situations, please refer to Guideline A-10, "Procedure for Preparing and Emission Summary and Dispersion Modelling (ESDM) Report, March 2009", for the required information that should be submitted with the application for a Certificate of Approval.

Applicant Information

| |
|--------------|
| Company Name |
| Site Address |

Checklist

| The following supporting documentation must be included with your application for a Certificate of Approval | |
|---|--|
| <input type="checkbox"/> | Brief description of the facility |
| <input type="checkbox"/> | Brief description of the intended use of the emergency generator(s) |
| <input type="checkbox"/> | Brief description of the generator(s) including fuel type and kilowatt power rating |
| <input type="checkbox"/> | Location of emergency generator(s) (e.g., indoors, outdoors in enclosure) |
| <input type="checkbox"/> | Land use zoning designation plan |
| <input type="checkbox"/> | Site Plan drawn to scale indicating the location of source(s), nearby buildings property line and receptors |
| <input type="checkbox"/> | Elevation Drawing drawn to scale |
| <input type="checkbox"/> | Distance to the closest sensitive receptor (e.g., child care facility, health care facility, school, senior citizen's residence) |
| <input type="checkbox"/> | Distance to the closest Point of Reception and a brief description of the Point of Reception |
| <input type="checkbox"/> | Noise Statement (if applicable) including supporting information |
| <input type="checkbox"/> | Source Summary Table |
| <input type="checkbox"/> | Dispersion Modelling Input Data and Output Results |
| <input type="checkbox"/> | Emission Summary Table |
| <input type="checkbox"/> | Manufacturer Specification Sheets (if available) |