

Air Emission Control Requirements for Health Care Facilities

This fact sheet is intended to help you identify your key emission sources, and state or federal regulations that may affect your facility, and help you determine whether an air emissions permit is necessary.

Health care facilities, including large office campuses, nursing homes, and hospitals, often have activities that emit air pollutants, some of them toxic. Common emission sources at health care facilities include boilers for hot water or steam heat, space heating equipment, and emergency generators/engines. Emergency generators, either diesel- or natural gas-fired, emit large amounts of air pollution when they are running. Diesel generators emit very high levels of nitrogen oxides and particulate matter—levels high enough to be toxic. Emergency generators burning natural gas emit high amounts of nitrogen oxides.

Air Emissions Permits

To decide whether you need an air emission permit, you will need to determine what your emission sources are, and calculate the Potential to Emit (PTE) for the entire facility.

Inventory your operations to determine the air emissions sources at your facility.

Collect the following information from any such emission sources at your facility:

- Combustion units
 - types of fuel used
 - heating capacity (Btu/hour) or power capacity (horsepower)
 - age of equipment
- Aboveground storage tanks
 - type of material stored
 - storage capacity
 - age of tank

Significant sources of emissions

Determine whether any of your emission sources are “insignificant”, or “conditionally insignificant”.

Insignificant activities include, but are not limited to:

- Hot water heaters used to produce water for personal use.
- Fuel use related to food preparation by a cafeteria.
- Space heaters fueled by kerosene, natural gas, or propane, but only if the combined total capacity of all space heaters at the stationary location is less than or equal to 420,000 Btu per hour. (A space heater is a heating unit that is not connected to piping or ducting to distribute the heat.)
- Routine housekeeping or plant-upkeep activities.
- Routine maintenance of buildings, grounds, and equipment.
- Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities; such as spray painting of buildings, machinery, vehicles, and other supporting equipment.
- Above and below ground fuel oil storage tanks having a combined total storage capacity of less than 100,000 gallons.
- Gasoline storage tanks with a combined total capacity of not more than 10,000 gallons.

- Health care activities: activities and equipment directly associated with the diagnosis, care, and treatment of patients in medical or veterinary facilities or offices, not including support activities such as power plants, heating plants, emergency generators, incinerators, or other units affected by applicable requirements as defined in pt. 7007.0100, subp. 7. (To see this definition, go to <https://www.revisor.mn.gov/rules/?id=7007.0100>.)
- Emissions from a laboratory. (Laboratory means a place or activity devoted to experimental study or teaching in any science, or to the testing and analysis of drugs, chemicals, chemical compounds or other substances, or similar activities, provided that these activities are conducted on a laboratory scale. Activities are conducted on a laboratory scale if the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person. If products are manufactured or produced for profit in any quantity, this operation is not considered a laboratory for these purposes.)

See Minn. R. 7007.1300 for a complete list of insignificant activities. Find it at <https://www.revisor.mn.gov/rules/?id=7007.1300>.

Conditionally insignificant activities include: use of less than 200 gallons or 2,000 pounds of volatile organic compounds for an entire facility in each calendar year.

See Minn. R. 7008.4100 for calculation instructions. Find it at <https://www.revisor.mn.gov/rules/?id=7008.4100>.

These activities need not be considered in determining whether or not an air emissions permit is required unless the MPCA specifically asks you to calculate these emissions.

Calculating potential emissions

To calculate PTE, assume that you are operating at maximum design capacity, 24 hours a day, 365 days a year. Once you have calculated the potential emissions for each significant source of emissions at your facility you need to add them together, so that you know the total PTE for your facility.

Electronic spreadsheets for calculating air emissions for boilers and generators can be found at <http://www.pca.state.mn.us/oxpg7d5>.

You need to apply for an air emission permit if the PTE for your facility exceeds any of the amounts listed in Table 1. A permit will include air emission limits, as well as record keeping and reporting requirements.

Pollutant	Permitting Threshold in MN (ton/year)
Particulate Matter less than 10 microns (PM ₁₀)	25
Volatile Organic Compounds (VOCs)	100
Nitrogen Oxides (NO _x)	100
Carbon Monoxide (CO)	100
Sulfur Dioxide (SO ₂)	50
Lead	0.5
Greenhouse Gases (measured as carbon dioxide equivalent, CO ₂ e)	100,000
Any single Hazardous Air Pollutant (HAP)	10
Total combined HAPs	25

If you determine that you need an air emissions permit because the PTE for your facility is above the permit threshold for one or more pollutants, and you have a generator on site, and this generator is truly used for emergency purposes only you do not need to include screen modeling with your permit application. If it is part of a peak shaving arrangement, it is not an emergency generator. If it is **not an emergency generator**, you need to include form EC-03 Part 2 (Screen Model for Ambient Air Impacts) with your permit application. Form EC-03 Part 2 can be found at <http://www.pca.state.mn.us/nwqh472>. You will also need Screen 3 software, which can be found at http://www.epa.gov/ttn/scram/dispersion_screening.htm.

Standards requiring a permit

Keep in mind that even if your PTE does not exceed permit thresholds, you may still need to apply for an air emission permit. New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) are federal requirements that regulate specific industries or emission units. Several of these standards require particular sources to obtain an air emissions permit.

For a complete list of all NSPS, go to http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?sid=7df45e46ffec8772631b848b7da83fb0&c=ecfr&tpl=/ecfrbrowse/Title40/40cfrv6_02.tpl.

For a complete list of all NESHAP, go to <http://www.epa.gov/ttn/atw/mactfnlalph.html>.

Here are two NSPS that frequently affect health care facilities:

New Source Performance Standards (40 Code of Federal Regulations Part 60)

- Subpart Dc -- Any boilers with a rated capacity between 10 and 100 million Btu/hour constructed, reconstructed or modified after June 9, 1989, are subject to this NSPS. If this rule is the only reason requiring your facility to obtain a permit, and all of your boilers can burn only natural gas (no backup fuels or interruptible service), you need not obtain a permit. Your facility must still comply with the provisions of Subpart Dc.
- Subpart Kb -- Volatile organic liquid storage tanks with a capacity of 40 cubic meters (10,567 gallons) or more constructed, reconstructed or modified after July 23, 1984 are subject to this NSPS. If this rule is the only reason requiring your facility to obtain a permit, and all your storage tanks have a capacity of less than 75 cubic meters, you need not obtain a permit. Your facility must still comply with the provisions of Subpart Kb.

Even if you have determined that your facility does not need a permit, you must comply with the requirements of the standard if any NSPS applies to your facility. These standards are enforceable without a permit.

The proposed NESHAP for Industrial, Commercial and Institutional Boilers and Process Heaters might affect a health care facility. This NESHAP is expected to become a final rule soon. The proposed version of the rule is available on-line at <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

Types of Permits

If you determine that you need an air permit, your next step is to figure out what kind would best suit your facility. There are several types of air emission permits available:

- State Registration (options A, B, C, and D)
- State Capped (options 1 and 2)
- State Individual
- Federal Part 70 (or Title V) Individual.

Information on Capped permits and State and Part 70 individual permits can be found at <http://www.pca.state.mn.us/yhiz482>.

Many health care facilities may qualify for a Registration Permit. Registration Permits are designed for sources that require an air emissions permit due to a NSPS requirement or for sources that exceed a permit threshold but have low actual emissions.

Advantages to a Registration Permit include:

- They do not expire. As long as you comply with your permit, you need not re-apply.
- You can change, modify or expand your facility without a permit amendment. However, if the facility will change so that it no longer qualifies for a Registration Permit, you must apply for a different type of permit before this change is made.
- Simplified permit application.
- Fewer record-keeping requirements than other permit types.

Permit application forms are available at <http://www.pca.state.mn.us/nwqh472>.

Much more information about air emission permits and standards of performance is available at the MPCA's website: <http://www.pca.state.mn.us/index.php/air/air-publications/air-publications.html>.

Incinerators

In 1994, the MPCA banned the use of on-site incinerators except at hospitals. Because federal emission standards promulgated in 2000 forced the use of very strict air pollution control equipment at hospital incinerators, Minnesota hospitals chose to quit operating on-site incinerators. They now send redbag waste to commercial medical waste incinerators or disinfection facilities. On-site medical waste incinerators were very large sources of dioxins and mercury to Minnesota's environment. Eliminating these incinerators means that there is significantly less mercury falling from the air into Minnesota's lakes and streams and less mercury taken up by fish in these water bodies.

For Additional Information

Businesses that are independently owned and operated and have fewer than 100 employees company-wide can contact the MPCA Small Business Environmental Assistance Program at 651-282-6143 or 800-657-3938. Others can contact the MPCA at 651-296-6300 or 800-657-3864.