

AIR QUALITY REQUIREMENTS FOR HOSPITALS

AIR QUALITY GUIDANCE

INTRODUCTION

Hospitals operate equipment that emit air pollutants, making hospitals subject to a variety of state and federal air quality requirements. The purpose of these requirements is to minimize the adverse impact that the air pollutants have on human health and the environment. The U.S. Environmental Protection Agency (U.S. EPA) has the responsibility of developing regulations that implement mandates of the federal Clean Air Act Amendments of 1990. Federal air quality regulations are published under Title 40, Parts 50 through 99 of the Code of Federal Regulations (40 CFR Parts 50-99).

Part 55 (Air Pollution Control) of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (Act 451) is the state law that regulates sources of air contaminants. The Air Quality Division (AQD) of the Michigan Department of Environmental Quality (DEQ) is responsible for developing and implementing state air quality requirements and enforcing compliance with both state and federal air quality requirements.



This document provides hospitals a road map to following these air quality requirements, with a focus on equipment common to most hospitals: boilers, emergency generators, and sterilizers.

AIR CONTAMINANTS

It is important to understand the different groups of air pollutants because many of the regulations target specific pollutants. For hospitals, the majority of air pollutants emitted come from the combustion of fuels used in boilers and generators.

An important group of pollutants that are emitted from hospitals are the criteria air pollutants:

- carbon monoxide (CO);
- lead (Pb);
- nitrogen dioxide (NO₂);
- ozone
- particulate matter (PM); and
- sulfur dioxide (SO₂).

The U.S. EPA set National Ambient Air Quality Standards (NAAQS) for these criteria air pollutants, since they are known to be dangerous to human health and the environment

at certain concentrations. If the measured concentration of any criteria air pollutant exceeds the NAAQS, the area is designated as nonattainment for that criteria air pollutant. If the measured concentration is below the standard, the region is designated as attainment.

Another important group of air pollutants is volatile organic compounds (VOCs), which is any compound that contains carbon and participates in the formation of ground level ozone (smog), a criteria air pollutant. Many compounds are VOCs so there is no definitive list.

Hazardous air pollutants (HAPs) is another group of air pollutants. HAPs are known or suspected to cause cancer and/or other serious health effects, such as reproductive effects, birth defects, or adverse environmental effects. The specific listing of the 187 HAPs can be found on the U.S. EPA's Web site at www.epa.gov/ttn/atw/188polls.html.

AIR QUALITY PERMITS

There are two differing, yet related, air permit programs of which hospitals should be aware:

- Permit to Install program
- Title V Renewable Operating Permit program

Both programs are administered by the Air Quality Division (AQD) of the DEQ.

Permit to Install

According to Rule 201 of the Michigan Administrative Rules for Air Pollution Control, before a facility can legally install, relocate, modify or reconstruct equipment that emits air contaminants, it must apply for and receive an approved Permit to Install (PTI). Each PTI contains a list of general and special conditions. These conditions typically:

- limit the emission of air contaminants;
- restrict hours of operation;
- limit the amount and type of raw materials used; and
- require the operation of air pollution control devices.

Permit to Install Exemptions

The first step in the permit process is to determine whether your equipment is exempt. Michigan Rules 279-290 list numerous activities and processes that are exempt from the requirement to obtain a Permit to Install. Common exemptions that may apply to hospitals include the following:

Rule 280(a): Cold storage refrigeration equipment.

Rule 281(i): Sterilization equipment at medical and pharmaceutical facilities using steam, hydrogen peroxide, peracetic acid, or a combo thereof.

Rule 282(b)(i): Fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only . . . sweet natural gas, synthetic gas, liquefied petroleum gas, or a combination thereof and the equipment has a rated heat input capacity of not more than 50 million Btu/hour. For boilers with

an 80% thermal efficiency, 2.34 megawatts is equal to 10 million Btu/hour heat input.¹

Rule 282(b)(ii): Fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only . . . Number 1 fuel oil, number 2 fuel oil, distillate oil, or a combination thereof which contains not more than 0.40% sulfur by weight and the equipment has a rated heat input capacity of not more than 20 million Btu/hour.

Rule 285(g): Internal combustion engines (natural gas-fired or diesel generators) that have less than 10 million Btu/hour maximum heat input. For generators with a 33% thermal efficiency, 1 megawatt (MW) equals 10 million Btu/hour heat input.² In addition, to be exempt, the emission of air pollutants (tons per year) from the generator cannot exceed the significant levels found below:

- Carbon monoxide - 100 tons per year
- Nitrogen oxides - 40 tons per year
- Sulfur dioxide - 40 tons per year
- Particulate matter (TSP) - 25 tons per year
- Particulate less than 10 microns (PM-10) - 15 tons per year
- Volatile organic compounds - 40 tons per year
- Lead - 0.6 tons per year

For emergency generators, use 500 hours of operation per year and emission data from the manufacturer of the equipment to calculate your emissions. See Rule 278 for more information.

To view these Rules mentioned above, go to www.michigan.gov/deqair and select “Laws and Rules” and then “Air Pollution Control Rules.”

Any hospital operating exempt process equipment does not need a Permit to Install and should be able to provide information demonstrating the applicability of the exemption. The demonstration shall be provided within 30 days of a written request from the DEQ.

General Permit

If you have determined that your equipment does not meet the permit exemption criteria found in the rules mentioned above, you need to apply for a Permit to Install. It is highly recommended you apply for a “General Permit” whenever possible.

Rule 201(a) allows the DEQ to issue a “General Permit” covering numerous processes after public notice and opportunity for public participation. The use of general permits provides a streamlined permitting alternative for processes that meet the eligibility requirements. For hospitals, this includes:

Natural Gas-Fired Boilers with a Maximum Rated Heat Input of 100 million Btu/Hour

This general permit may be used for one or more propane or natural gas-fired boilers, each with a maximum rated heat input of 100 million Btu/hour. Use of this general permit limits the combined fuel use for all boilers to 1,400 million standard cubic feet of gas or propane per 12-month rolling period. A properly operated low-NOx burner must also be used to meet the requirements of this general permit.

Ethylene Oxide (EtO) Sterilizers

This general permit may be used for EtO sterilizers that meet the following criteria:

- Capacity not to exceed 30 cubic feet per unit;
- Must include pollution control equipment (e.g., acid-water scrubber or catalytic oxidation unit); and
- Combined EtO usage rate for all sterilization processes at the hospital shall not exceed 6.5 lbs/day or 141.1 lbs/month.

The general permit to install application forms and associated instructions for the equipment listed above are available at the Michigan Air Permits System Web site www.deq.state.mi.us/aps.

Individual Permit to Install

If you have determined that your equipment does not meet the permit exemption criteria and does not meet the eligibility requirements for a general permit, then you should apply for an individual Permit to Install. The PTI application form and associated instructions are available at the Michigan Air Permits System Web site www.deq.state.mi.us/aps.

After a Permit to Install application is submitted, AQD staff review the application, including a technical review by the Permit Section engineers. After internal processing is completed, the AQD processes the PTI. This permit contains stipulations and conditions necessary to insure that the proposed source will comply with all applicable state, federal, or other regulations in effect at the time the permit is issued, and will operate in an environmentally safe and acceptable manner.

One PTI application package may be submitted for a number of similar individual types of processes or operations that are scheduled for simultaneous installation or alteration. Permit applications for large or complex projects or substantial modifications to existing facilities, should be discussed with the Permit Section in Lansing well in advance of submitting an application.

The PTI application can generally be reviewed in less than 60 days of receipt of a complete application unless the proposed equipment is of such magnitude as to trigger public comment requirements in the state or federal regulations; or public comment requirements are triggered due to a local public controversy (e.g., adding more production capacity at a facility with an existing odor nuisance problem). The restrictions and emission control requirements placed on the final permit will depend on the regulations applicable to the equipment and the amount of emissions expected. A PTI does not expire or have to be renewed. The permit is good for as long as the equipment is in operation. However, it may require notification of completion of the installation, construction, reconstruction, relocation, or modification and notification of the status of compliance.

If you have questions or would like to arrange a pre-application meeting, please contact the Permit Section at 517-373-7074.

Title V Renewable Operating Permit Program

The other air permit program that hospitals should be aware of is the Renewable Operating Permit (ROP) program, which is required by Title V of the 1990 Clean Air Act Amendments. This program

is intended to clarify a facility's air requirements by consolidating all state and federal air quality requirements into one document. The ROP will not add any new requirements, more stringent emission limits, or greater control; however, many facilities will have to establish new monitoring systems to demonstrate compliance with emission and material usage limits.

Most hospitals are not subject to the ROP program. Only major sources are required to apply for a ROP. Healthcare facilities that are part of a large entity such as a prison, university, or military base are most likely to be major sources under the Clean Air Act. A major source has the potential to emit (PTE):

- 10 tons per year of any one HAP;
- 25 tons per year of any combination of HAPs; or
- 100 tons per year of any other regulated air contaminant (such as VOCs).

An **area source** of hazardous air pollutants is defined as a source that does not have the PTE emissions in excess of 10 and 25 ton per year thresholds.

Potential to emit (PTE) is the maximum amount of air contaminants that a hospital could possibly emit if:

- each piece of equipment operates at 100 percent of its design capacity;
- each piece of equipment operates 24 hours per day, 365 days per year;
- materials that emit the most air contaminants are used 100 percent of the time; and
- air pollution control equipment is turned off.

Before calculating your PTE, you need to identify any legally enforceable limitations that can be used to reduce your PTE. Legally enforceable limitations can be in the form of permit conditions or state and federal rules. In addition to reviewing permits and rules, you should review MSDS or technical data sheets, performance test results, vendor literature, and maximum rated capacities of processes. When calculating PTE, be sure to include exempt sources and show your work. Part of the DEQ's review of your applicability to certain regulations includes reviewing how your PTE was calculated. If you use a computer spread sheet, show a sample calculation or the formulas used. Identify all of the assumptions and provide documents that were used to make the calculations.

For additional information on how to perform a detailed PTE calculation, or for electronic PTE calculation sheets for boilers, go to www.michigan.gov/deqair, select "Clean Air Assistance" then "Potential to Emit" or contact the Environmental Assistance Program at 800-662-9278.

If your facility's PTE exceeds any of the thresholds listed above, then you are a major source and must apply for a ROP within 12 months of becoming a major source. Once issued, a ROP is valid for five years, then it must be renewed. Failure to obtain a ROP can result in enforcement action including fines. To apply for a ROP you need to use special software developed by the DEQ called PASSROP (Permit Application Submittal System for Renewable Operating Permits). This software can be obtained from your AQD district office (see the District Map at the end of this document).

Many smaller sources of air pollution have a high PTE but actual emissions are well below the major source thresholds. If your PTE makes you a major source, but your actual emissions are well below the major source thresholds, you can avoid being a major source by limiting your PTE.

By limiting your PTE you will become a “synthetic minor” source. This means that, although you are technically a major source, you have accepted limits that make you a minor source. There are two mechanisms that may be used to limit PTE.

1. Register under Rule 208(a) of the Michigan Air Pollution Control Rules; or
2. Obtain a Permit to Install that includes legally enforceable limits designed specifically to limit your PTE. These types of permits are also known as “opt-out” permits.

Rule 208(a)

One mechanism to opt out of the Renewable Operating Permit program involves having actual emissions less than 50 percent of the major source threshold levels listed above. Michigan Rule 208a allows a facility to accept the 50 percent thresholds as legally enforceable limits by submitting a registration form to the AQD. The registration form must be signed by a responsible official to certify that the facility’s emissions are below all threshold levels and that these levels are accepted as legally enforceable limits on potential to emit.

Therefore, you can use this option if your actual emissions do not exceed 50 tons per year of VOCs and the individual criteria pollutants, 5 tons per year of any single HAP, or 12.5 tons per year of all HAPs combined. Additional information about Rule 208a registration, including the initial and renewal registration forms can be found at www.deq.state.mi.us/aps. Select “Opting out of Title V by Rule 208a Registration.” AQD Operational Memorandum No. 4 provides more detailed information about the Rule 208a registration requirements and can be found at www.michigan.gov/deqair (select “Laws and Rules” then “Air Quality Division Operational Memorandums”).

Opt-Out Permit

Another option for a hospital to avoid being a major source is to obtain an “opt-out” permit. This is a type of Permit to Install that can be used to establish enforceable limits that restrict the source’s PTE to a level below all major source thresholds. As a result, the source is no longer subject to the major source requirements (except MAERS reporting). For example, if a source’s PTE of a single HAP is 11 tons per year, they can obtain an opt-out permit that will limit their PTE of a single HAP to 8.9 tons per year. The legally enforceable limit keeps the source below the major source threshold of 10 tons per year.

Obtaining an opt-out permit is often recommended over Rule 208a registration. An opt-out permit is facility specific and might provide more flexibility. In addition, Rule 208a requires that you renew every year. You do not have to renew an opt-out permit.

The procedure for obtaining an opt-out permit is contained in AQD’s Operational Memorandum 3, which can be found at www.michigan.gov/deqair. Select “Laws and Rules” and then “Air Quality Division Operational Memorandums.”

You can find more information about the ROP Program at www.michigan.gov/deqair. Select “Clean Air Assistance” and then “Renewable Operating Permit Program” or by contacting the Environmental Assistance Program at 800-662-9278.

FEDERAL REQUIREMENTS

Even if you have determined that your facility does not need an air permit, you must comply with the federal requirements. Below is a summary of federal requirements pertaining to equipment found at a hospital.

The U.S. EPA promulgates **New Source Performance Standards (NSPS)** in an effort to regulate new sources of air pollution and ensure that those sources pollute less than the older ones they replace. The NSPS typically places limits on the emission of air pollutants such as carbon monoxide, sulfur dioxide, and particulate matter, and requires performance testing, recordkeeping, reporting, and monitoring. NSPS are applicable to over 75 categories of industrial emission units. The types of operations affected by NSPS range from small boilers to hot drum asphalt batch plants. For more information, go to <http://www.epa.gov/ttn/atw/nsps/nspstbl.html>.

The U.S. EPA also promulgates **National Emission Standards for Hazardous Air Pollutants (NESHAP)**, which are nationally uniform standards oriented towards controlling air pollutants that appear on the U.S. EPA list of HAPs. U.S. EPA had identified over 174 categories of sources that emit HAPs and that should be regulated. The types of operations affected by NESHAP range from percholoroethylene dry cleaning machines to chemical manufacturers. For more information, go to <http://www.epa.gov/ttn/atw/mactfnlalph.html>.

This section will guide you through typical hospital equipment that is subject to the federal requirements listed above. All of the NSPS and NESHAP standards are located in Title 40, Part 60 and Part 63, respectively, of the Code of Federal Regulations. Each standard is identified in the subparts of Part 60 and 63 and are commonly referred to by their subpart.

Boilers

Air emissions from fuel combustion in boilers consist mainly of carbon monoxide and nitrogen oxides. To minimize adverse environmental impacts and to ensure operator safety, boilers must be operated and maintained by trained staff in accordance with the manufacturers' specifications.

NSPS Subpart Dc

Boilers at healthcare facilities, especially those with heat input capacities equal to or greater than 2.34 megawatts or 10 million Btu/hr may be subject to one of the NSPS for steam generating units. Depending on the type of fuel combusted, the regulations have emission standards for sulfur dioxide, nitrogen oxides and particulate matter. Hospital boilers are subject to NSPS Subpart Dc if all of the following are met (40 CFR 60.40 (c)):

- Combust any of several fuel types, including coal, oil, natural gas, or wood;
- Maximum design heat input capacity is greater than or equal to 10 million Btu/hr and equal to or less than 100 million Btu/hr; and
- Construction, modification, or reconstruction started after June 9, 1989.

Most hospital boilers fall under this Subpart. To comply with the standards, hospitals must follow these reporting and recordkeeping requirements (40 CFR 60.48 (c)):

- **Initial notification.** Send a written notification form to the appropriate AQD District Office within 30 days after commencing construction and 15 days after actual startup. The Initial Notification Report For NSPS (EQP 3551) can be found at www.deq.state.mi.us/deqforms or by calling 800-662-9278.
- **Opacity performance test data.** If the boiler burns distillate oil alone, or as a backup to natural gas, AND the heat input capacity is between 30 and 100 million Btu/hr, the boiler is subject to the opacity limit of 20 percent opacity except for one 6-minute period per hour of not more than 27 percent opacity. The hospital will need to conduct an opacity performance test, due 180 days after initial startup or within 60 days of achieving maximum production capacity.
- **Fuel usage recordkeeping.** The amount of distillate oil and natural gas that a boiler combusts must be recorded on a monthly basis in the form of fuel bills or meter readings, and shall be maintained separately for each boiler for a period of two years.
- **Fuel supplier certification recordkeeping.** For each shipment of distillate oil you receive, make sure the fuel supplier provides certification to demonstrate compliance that the sulfur content of the oil is below the limit (by definition, distillate oil cannot contain greater than 0.5% sulfur). Fuel supplier certification for distillate oil must be maintained for at least two years and made available to AQD upon request.

For additional information about the NSPS Subpart Dc for boilers, go to www.michigan.gov/deqair, select “Clean Air Assistance” and then scroll down to “NSPS – Boilers.”

NESHAP

In 2004, the U.S. EPA promulgated the NESHAP to address emissions of HAPs from boilers. This was vacated by the courts in 2007 based on litigation filed jointly by several environmental groups. The U.S. EPA is currently revising the NESHAP and has been ordered by the courts to propose new standards by September, 2009. The new standards may apply to all hospitals, regardless of whether or not they are a major source of HAPs. For more information or to determine how these new regulations might affect your facility, contact the Environmental Assistance Program at 800-662-9278.

Emergency Generators

An emergency generator is a generator whose sole function is to provide back-up power when electric power from the local utility is interrupted. Emissions occur only during emergency situations, and for a very short time, to perform maintenance checks and operator training. Emergency generators (diesel-fired, natural gas-fired, propane-fired, etc.) can emit large amounts of air pollution when they are running. Diesel generators emit very high levels of nitrogen oxides and particulate matter.

NSPS Subpart IIII

This Subpart establishes minimum requirements for new or modified **compressed ignition (diesel-fired) engines** with requirements based on size, type, and date of manufacture. Diesel-fired emergency generators are subject to the NSPS Subpart IIII (40 CFR 60.4200) if:

- Commence construction (date the engine is ordered by the owner or operator) after July 11, 2005 and the engine is manufactured after April 1, 2006 and is not a fire pump; or
- Modify (a change to any engine that causes an increase in the ability to emit any pollutant regulated under this subpart) or reconstruct (an existing source such that the cost of the new components is greater than 50% of the cost of a comparable new unit) after July 11, 2005.

To comply with the standards, hospitals must meet the following requirements:

- If the generator is less than 30 liters per cylinder, the owner/operator must purchase certified units from the manufacturer to meet the applicable engine design emission limits (40 CFR 60.4211(c)).
- Operate the generator and control device in accordance with the manufacturers' instructions (40 CFR 60.4211(a)).
- Install a non-resettable hour meter (40 CFR 60.4209(a)).
- Keep records of generator use in emergency and non-emergency service that is recorded through the non-resettable hour meter. Record the time of operation and the reason the engine was in operation during that time (40 CFR 60.4214(b)).
- Limit maintenance checks and readiness testing to 100 hours per year (40 CFR 60.4211(e)). Sulfur Dioxide (SO₂) emissions from each generator shall not exceed 500 parts per million sulfur content. **NOTE: Beginning October 1, 2010, SO₂ emissions from each generator shall not exceed 15 parts per million sulfur content** (40 CFR 60.4207).

NSPS Subpart JJJJ

This Subpart establishes minimum requirements for new or modified **spark ignition (gas, propane, etc.) engines** with requirements based on size, type, and date of manufacture. Emergency generators are subject to NSPS Subpart JJJJ (40 CFR 60.4230) if:

- Construction commences (date the engine is ordered by the owner or operator) after 6/12/2006 and the engine is manufactured on or after 1/1/2009 for emergency engines with a maximum engine power greater than 25 horsepower (19 KW); or
- The engine is modified (a change to any engine that causes an increase in the ability to emit any pollutant regulated under this subpart) or reconstructed (an existing source such that the cost of the new components is greater than 50% of the cost of a comparable new unit) after 6/12/2006.

Generally, compliance can be achieved by purchasing an engine that has been certified to the emission standards by the manufacturer. Operators need to operate and maintain the engine according to manufacturers' written instructions and keep records of maintenance conducted on the engine to demonstrate compliance (no performance testing required). (40 CFR 60.4243)
If a non-certified engine is purchased, initial performance testing will be required to demonstrate compliance. In addition, a maintenance plan must be developed and records must be kept of maintenance conducted. Also, the engine must operate in a manner consistent with good air pollution control practice for minimizing emissions. (40 CFR 60.4243)

A non-resettable hour meter must be installed by the date specified for the following emergency engines in they are unable to meet the standards applicable to non-emergency engines (40 CFR 60.4237):

- Starting July 1, 2010, if the engine is greater than or equal to 500 HP and manufactured on or after July 1, 2010; or
- Starting January 1, 2011, if the engine is greater than or equal to 130 HP and less than 500 HP and manufactured on or after January 1, 2011; or
- Upon start up of engine, if the engine is less than 130 HP and was manufactured on or after July 1, 2008.

Make sure to keep records of the generator use in emergency and non-emergency service that is recorded through the non-resettable hour meter. Record the time of operation and the reason the engine was in operation during that time. Limit maintenance checks and readiness testing to 100 hours per year. There is no limit on use during actual emergencies. (40 CFR 60.4245)

NESHAP Subpart ZZZZ

Emergency generators have limited requirements under this subpart, depending on date of construction and size.

Newer emergency generators that fit the categories below (40 CFR 63.6585) should meet the requirements of this part by meeting the requirements listed above in either NSPS Subpart IIII (for compressed ignition engines) or NSPS Subpart JJJJ (for spark ignition engines). No further requirements apply for such engines under this part.

- Site rating (maximum manufacturer's design capacity at engine site conditions) is less than or equal to 500 horsepower, located at a major source of HAPs (10 tons/year of single HAP or 25 tons/year of combination of HAPs), with construction or reconstruction commencing on or after June 12, 2006; or
- located at an area source with construction or reconstruction commencing on or after June 12, 2006.

Please note that "existing" emergency generators will be addressed in a separate regulation, expected to be promulgated in 2010. This includes the following categories:

- Site rating is greater than 500 horsepower, located at a major source of HAPs, with construction or reconstruction commencing before December 19, 2002;
- Site rating is less than or equal to 500 horsepower, located at a major source of HAPs, with construction or reconstruction commencing before June 12, 2006; or
- Located at an area source with construction or reconstruction commencing before June 12, 2006.

Ethylene Oxide Sterilizers

Ethylene oxide (EtO) sterilizers are commonly used at hospitals to sterilize and fumigate medical equipment. EtO is a HAP, and certain exposure levels may cause severe health problems.

NESHAP Subpart WWWW

All hospital EtO sterilizers are subject to this NESHAP, which went into effect December 28, 2007. The NESHAP management practice requires all hospitals which do not control their emissions of EtO to reduce emissions by sterilizing full loads to the extent practical. Affected hospitals are required to submit an Initial Notification of Compliance Status which notifies DEQ that they operate a sterilizer covered by the rule and certify that they are operating their sterilizers in accordance with the requirement of the rule. (40 CFR 63.10390)

The final rule includes the use of a control device as an alternative compliance option for the management practice requirement. Specifically, a hospital may demonstrate compliance by certifying that it is operating its sterilizers with an air pollution control device. The hospital must certify that it is running the sterilizers in accordance with any applicable state and/or local regulations, or, if there are no such regulations, with manufacturers' specifications. (40 CFR 63.10400)

Except for hospital EtO sterilization facilities that demonstrate compliance by using add-on controls, affected hospitals must maintain on site records of the date and time of each sterilization operation. If less than a full load is sterilized due to medical necessity, the operator must record this as well. These sterilization records must be kept in a form suitable and readily available for expeditious review. They must be kept for 5 years and at least the most recent 2 years on site. (40 CFR 60.10420)

The Initial Notification Report For NESHAP Subpart WWWW (EQP 3551) is attached. For additional information about the NESHAP for EtO Sterilizers, go to www.epa.gov/EPA-AIR/2007/December/Day-28/a25233.htm.

Asbestos

NESHAP Subpart M

A hospital that performs any demolition or performs renovation involving asbestos is subject to the NESHAP for asbestos. The AQD reviews the notifications, inspects demolitions and asbestos removals, and initiates enforcement actions when violations occur. NESHAP requirements include (40 CFR 61.410):

- A written notice of intention to demolish or renovate must be submitted to the DEQ at least 10 working days prior to the start of construction. Even if the demolition (i.e., removal of a load bearing member) does not involve asbestos, notification must still be made.
- No asbestos is to be stripped, removed, or otherwise handled or disturbed unless at least one authorized representative trained in NESHAP asbestos regulations is present.

- Asbestos must be removed prior to demolition or renovation and proper precautions must be made such as wetting down the material to keep it intact.

For more information about the Asbestos NESHAP, go to www.michigan.gov/deqair, click on “Compliance,” then go to the “Information Section” and click on “Asbestos NESHAP Program.”

Air Conditioning and Refrigeration

The recovery and recycling of refrigerants during the servicing and disposal of air conditioning and refrigeration equipment is subject to certain requirements under the Clean Air Act (Section 608 Refrigerant Recycling Rule). Requirements include:

- Prohibition of venting
- Certified equipment
- Technician certification
- Leak repair
- Proper disposal
- Recordkeeping

For more information on refrigeration and air conditioning, go to www.epa.gov/region02/cfc/ or contact the U.S. EPA Stratospheric Ozone Information Hotline at 800-296-1996.

AIR QUALITY FEES

The AQD has the authority to collect an annual air quality fee from certain businesses, including hospitals. Any facility that must obtain a Renewable Operating Permit has to pay an annual fee. Major sources and facilities subject to a NESHAP or federal NSPS are subject to the fee program.

The fee consists of two parts: a **facility charge** and an **emissions charge**. The facility charge used in the formula is based on the category. Category I fees are for major sources of criteria air pollutants and the facility charge is \$4,485. Category II fees are for NSPS subject facilities and major sources of HAPs and the facility charge is \$1,795. Category III fees are for sources subject to a National Emission Standard of Hazardous Air Pollutants (NESHAP) but do not fit under Categories I or II. The facility charge is \$250 and there is no emissions charge. Since most hospitals are subject to the NSPS for boilers, most are subject to air quality fees under Category II.

The emissions charge used in the fee formula is for Category I or II facilities and is calculated as \$45.25 per ton of actual emissions. For example, a facility that emits 14 tons per year of HAPs (Category II) would pay a facility fee of \$1,795 and an emission charge of \$633.50 (14 tons x \$45.25/ton). Therefore, that facility’s annual air quality fee would be \$2,428.50. For questions about air quality fees, call the Environmental Assistance Program at 800-662-9278.

REPORTING AIR EMISSIONS

The federal Clean Air Act requires that an inventory of air pollution emissions for certain facilities be maintained and updated every year. The AQD maintains the annual emission inventory for

commercial, industrial, and governmental stationary sources of air pollution in Michigan. The emissions information is used to track air pollution trends, determine the effectiveness of current air pollution control programs, serve as a basis for future year projections of air quality, track source compliance, provide information for permit review, and calculate the emissions portion of the air quality fee.

The AQD updates this emission inventory by requesting facilities to complete an electronic Michigan Air Emissions Reporting System (MAERS) annual report. Facilities that have been sent a MAERS reporting package by late January must submit their completed MAERS report to the DEQ by March 15. Since most hospitals are subject to the NSPS for boilers, most are subject to air emission reporting. You can access the MAERS web site at www.michigan.gov/deqair and click on “Emissions,” then “Emissions Reporting.”

CONTACT INFORMATION

The DEQ’s Environmental Assistance Program offers free assistance to small businesses with environmental questions. Call us at 800-662-9278 from 8:00 am to 4:00 pm Monday through Friday. The EAP can help companies understand and comply with federal and state regulations that protect our air, water, and land.

If you have questions pertaining to air permits, contact the DEQ’s Air Permit Section at 517-373-7074.

Questions pertaining to refrigerants (i.e, CFCs, Freon, and R-12) can be directed to the U.S. EPA Stratospheric Ozone Information Hotline at 800-296-1996.

ADDITIONAL WEB SITES

- Code of Federal Regulations - www.gpoaccess.gov/cfr/index.html
- DEQ Air Permits - www.deq.state.mi.us/aps
- DEQ Environmental Assistance Program – www.michigan.gov/deqenvassistance
- Practice Greenhealth – <http://cms.h2e-online.org/ee/facilities/air-emissions/>
- U.S. EPA – www.epa.gov
- Michigan Clean Air Consultant Directory – www.michigan.gov/deqair, click on “Clean Air Assistance,” then “Environmental Consultant Assistance.” The directory assists in determining when an air quality consultant might be needed, describes the various types of air quality consultants, and gives an overview of some of the more common air quality activities performed by consultants.

Footnotes

$$1. \quad \frac{10,000,000 \text{ Btu}}{\text{Hr}} \times \frac{1 \text{ KW -hr}}{3,413 \text{ Btu}} \times \frac{80 \text{ Btu/hr output}}{100 \text{ Btu/hr input}} \times \frac{1 \text{ MW}}{1,000 \text{ KW}} = 2.34 \text{ MW}$$

$$2. \quad \frac{10,000,000 \text{ Btu}}{\text{Hr}} \times \frac{1 \text{ KW -hr}}{3,413 \text{ Btu}} \times \frac{33 \text{ Btu/hr output}}{100 \text{ Btu/hr input}} \times \frac{1 \text{ MW}}{1000 \text{ KW}} = 1 \text{ MW}$$

Air Quality Requirements for Hospitals Page 14 of 16



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, ENVIRONMENTAL ASSISTANCE PROGRAM

INITIAL NOTIFICATION REPORT

National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart WWWW

Applicable Rule: 40 CFR Part 63, Subpart WWWW – National Emission Standards for Hazardous Air Pollutants for Hospital Ethylene Oxide Sterilization. Initial notification is being made in accordance with §63.10430.

Please print or type all information.

1. COMPLETE THIS SECTION FOR EACH PRODUCTION FACILITY. MAKE ADDITIONAL COPIES AS NECESSARY.			
OWNER/OPERATOR			
HOSPITAL NAME			
EQUIPMENT LOCATION ADDRESS			
CITY	STATE	ZIP CODE	COUNTY
PLANT CONTACT, NAME AND TITLE			TELEPHONE AREA CODE & NUMBER
MAILING ADDRESS (if different from above)	CITY	STATE	ZIP CODE
Primary SIC Code/NAICS Code	RENEWABLE OPERATING OR AIR USE PERMIT NUMBER (if applicable)		STATE REGISTRATION NUMBER (SRN), if known

<p>2. Facility subject to 40 CFR Part 63, Subpart WWWW?: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>You are subject to 40 CFR Part 63, Subpart WWWW if both of the following are true: Your facility is an Area Source of Hazardous Air Pollutants, and You own or operate an ethylene oxide (EtO) sterilization facility at your hospital</p>
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<p>3. Total annual actual EtO usage at the facility: _____ lbs</p>

<p>4. The Initial Notification of Compliance Status is due:</p> <p><input type="checkbox"/> On or before June 27, 2009 if you are an existing source (i.e., 180 days after the compliance date)</p> <p>You are an existing source if you commenced construction or reconstruction before November 6, 2006. Your compliance date is December 29, 2008.</p> <p><input type="checkbox"/> 180 days after the compliance date if you are a new source</p> <p>You are a new source if you commenced construction or reconstruction on or after November 6, 2006.</p>

5. Number of EtO sterilizers:		Number of separate aeration units:		
For each sterilizer, please provide:				
No.	Sterilizer volume:	No. sterilization cycles/yr:	EtO vented to add-on air pollution control device (APCD)	Type of add-on APCD (if applicable)
1	ft ³		<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	ft ³		<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	ft ³		<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	ft ³		<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	ft ³		<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	ft ³		<input type="checkbox"/> Yes <input type="checkbox"/> No	

**INITIAL NOTIFICATION REPORT
NESHAP 40 CFR 63 Subpart WWWW**

7. Compliance Demonstration (check one):

- I certify that the source sterilizes full loads of medical items having a common aeration time, except under medically necessary circumstances.
- The sterilization unit(s) operates with add-on APCD(s) (for reducing EtO emissions to the atmosphere) pursuant to a State Air Permit. I certify that the sterilization unit operates in accordance with the State regulation and follows the add-on APCD manufacturer's recommended practices.
- The sterilization unit(s) operates with add-on APCD(s) (for reducing EtO emissions to the atmosphere) but are not subject to any State or local regulation for limiting EtO emissions. I certify that the sterilization unit operates by venting EtO emissions from each unit to an add-on APCD and certify that the add-on APCD (for reducing EtO emissions to the atmosphere) operates during all sterilization processes and follows the add-on APCD manufacturer's recommended practices.

8. Certification

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report and the supporting enclosures are true, accurate and complete.

Print or type the name and title of the "Responsible Official*" for the plant:

Name of Responsible Official (print or type)	Title	Phone Number

*A "Responsible Official" can be:

- The president, vice-president, secretary, or treasurer of the company who owns the plant
- The owner of the plant
- The plant engineer or supervisor
- A government official if the plant is owned by the Federal, State, City, or County government
- A ranking military officer if the plant is located on a military base

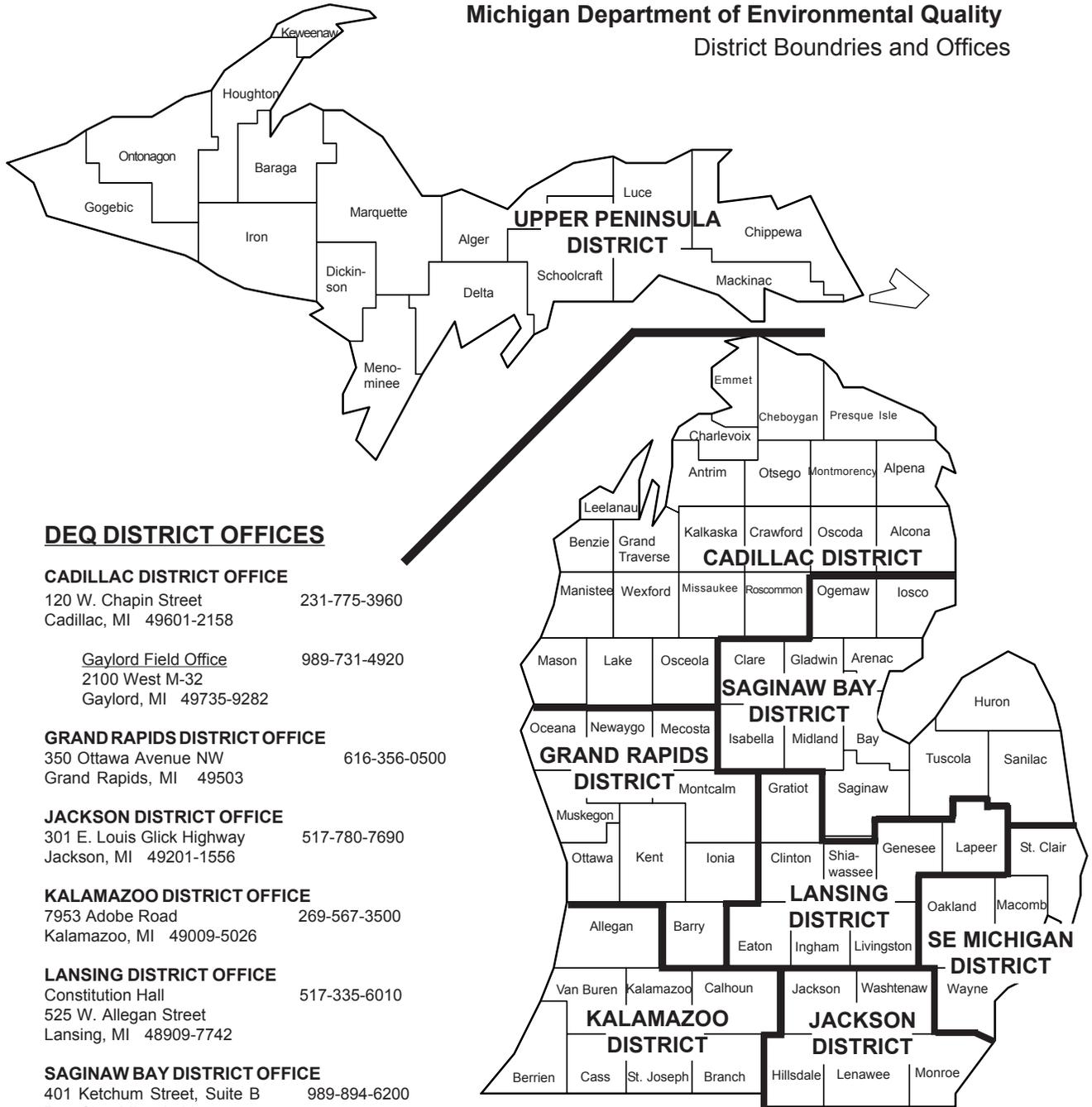
Signature of "Responsible Official"

Date

Please make three copies of this Initial Notification Report and submit to the following:

- 1) Original signed copy to the appropriate MDEQ Air Quality Division district office (Attachment A)
- 2) U.S. Environmental Protection Agency (USEPA) Region 5
Compliance Tracker (AE-17J)
77 West Jackson Boulevard
Chicago, IL 60604-3507
- 3) U.S. Environmental Protection Agency (USEPA)
Sector Policies and Programs Division
Coatings and Chemicals Group (E143-01)
Attn: Hospital Sterilizers Project Leader
Research Triangle Park, NC 27711
- 4) Keep a copy for your records.

**Michigan Department of Environmental Quality
District Boundries and Offices**



DEQ DISTRICT OFFICES

CADILLAC DISTRICT OFFICE

120 W. Chapin Street 231-775-3960
Cadillac, MI 49601-2158

Gaylord Field Office 989-731-4920
2100 West M-32
Gaylord, MI 49735-9282

GRAND RAPIDS DISTRICT OFFICE

350 Ottawa Avenue NW 616-356-0500
Grand Rapids, MI 49503

JACKSON DISTRICT OFFICE

301 E. Louis Glick Highway 517-780-7690
Jackson, MI 49201-1556

KALAMAZOO DISTRICT OFFICE

7953 Adobe Road 269-567-3500
Kalamazoo, MI 49009-5026

LANSING DISTRICT OFFICE

Constitution Hall 517-335-6010
525 W. Allegan Street
Lansing, MI 48909-7742

SAGINAW BAY DISTRICT OFFICE

401 Ketchum Street, Suite B 989-894-6200
Bay City, MI 48708

SOUTHEAST MICHIGAN DISTRICT OFFICE

27700 Donald Court 586-753-3700
Warren, MI 48092-2793

Detroit Field Office 313-456-4700
Cadillac Place
3058 West Grand Boulevard, Suite 2-300
Detroit, MI 48202-6058

UPPER PENINSULA DISTRICT OFFICE

420 5th Street 906-346-8300
Gwinn, MI 49841

ENVIRONMENTAL ASSISTANCE CENTER

(for general information):
Telephone: 800-662-9278
Fax: 517-241-0673

POLLUTION EMERGENCIES

Telephone: 800-292-4706

DEQ WEB PAGE

www.michigan.gov/deq