

NJDEP Air Pollution Control Permit Applicability

N.J.A.C. 7:27-8

PERMITS AND CERTIFICATES FOR MINOR FACILITIES
(AND MAJOR FACILITIES WITHOUT AN OPERATING PERMIT)

N.J.A.C. 7:27-22

OPERATING PERMITS

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PERMIT APPLICABILITY FOR MINOR FACILITIES FOUND AT N.J.A.C. 7:27-8.2

N.J.A.C. 7:27-8.2(a)

- Any equipment or source operation **that may emit one or more air contaminants**, except carbon dioxide (CO₂), directly or indirectly into the outdoor air and belongs to one of the categories listed below, **is a significant source** (and therefore requires a preconstruction permit and an operating certificate), **unless it is exempted from being a significant source pursuant to (d), (e) or (f) below:**

KEY DEFINITIONS FROM N.J.A.C. 7:27-8.1

- **“Source operation” or “source”** means any process, or any identifiable part thereof, **that emits or can reasonably be anticipated to emit any air contaminant either directly or indirectly into the outdoor atmosphere.** A source operation may include one or more pieces of equipment or control apparatus.
- **“Significant source operation” or “significant source”** means a source that is classified as a significant source pursuant to N.J.A.C. 7:27-8.2(c) and that is not exempted from being a significant source pursuant to N.J.A.C. 7:27-8.2(d) or (e).
- **“Insignificant source”** means, for the purposes of this subchapter, any equipment or source operation that does not need a permit and certificate under N.J.A.C. 7:27-8.2.

“GRANDFATHERED” SOURCES

- **N.J.A.C. 7:27-8.2(d)** – A source which:
 - Was in operation prior to the date that sources of its kind were subject to permit requirements under this subchapter;
 - Has not been reconstructed or modified since that date; and
 - Is still operable;

“GRANDFATHERED” SOURCES (continued)

- The first regulation that required air pollution control permits for certain pieces of equipment was entitled: "Laws on Permits". This law became effective on **June 15, 1967** as part of the New Jersey Air Pollution Control Act; it was the precursor to N.J.A.C. 7:27-8, which became effective on **January 15, 1968**.
- Since January 15, 1968, N.J.A.C. 7:27-8 has been amended twenty times. The Regulatory History can be found after the Table of Contents in the present Subchapter 8.

“GRANDFATHERED” SOURCES (continued)

- The list of equipment requiring permits has changed with virtually each amendment. It is necessary to know what those changes and their operative dates were if a correct determination is to be made regarding the need for permits.
- The need for permits for specific equipment is applicable only for the equipment which had been installed or modified after the operative date of a revision.

“GRANDFATHERED” SOURCES (continued)

EXAMPLE:

- A boiler having a heat input rating of 1,000,000 BTU per hour or greater using solid fuel requires a permit if installed or modified on or after June 15, 1967. A boiler, using liquid or gaseous fuels would require a permit only if installed or modified on or after the first revision date of Subchapter 8 as of March 5, 1973.

“GRANDFATHERED” SOURCES (continued)

“Grandfathered” dates may be found at:

<http://nj.gov/dep/aqpp/downloads/forms/gf.pdf>

**APPLICABILITY DISCUSSION BY PARAGRAPH UNDER
N.J.A.C. 7:27-8.2(c)**

COMBUSTION SOURCES

- **(1)** Commercial fuel burning equipment, except for a source listed in (c)21 below, that has a maximum rated heat input of 1,000,000 BTU per hour or greater to the burning chamber, including emergency generators;
- **(13)** Except where a registration has been filed pursuant to N.J.A.C. 7:27-20.3, any equipment that is used for the burning of non-commercial fuel, crude oil, or process by-products in any form, including, but not limited to, off-specification used oil, processed used oil fuel, or on specification used oil as defined in N.J.A.C. 7:27-20.1;
- **(21)** Any stationary reciprocating engine with a maximum rated power output of 37 kW or greater, used for generating electricity, not including emergency generators.

PRINTING AND COATING SOURCES

- **(5)** Equipment that is used in a graphic arts operation including, but not limited to, newspaper, lithographic, gravure, flexographic, letterpress and screen printing, in which the quantity of ink, fountain solution, or cleaning material used in any one hour is equal to or greater than one half gallon;
- **(12)** Equipment that is used in a surface coating operation including, but not limited to, spray or dip painting, roller coating, and electrostatic depositing, in which the quantity of coating or cleaning material used in any one hour is equal to or greater than one half gallon of liquid;

STORAGE VESSELS

- **(8)** Stationary storage tanks which have a capacity in excess of 10,000 gallons and which are used for the storage of liquids, except water or distillates of air;
- **(9)** Stationary storage tanks which have a capacity of 2,000 gallons or greater and which are used for the storage of a VOC or mixture of VOCs having a vapor pressure or sum of partial pressures of 0.02 pounds per square inch absolute (1.0 millimeters of mercury) or greater at standard conditions;
- **(10)** Tanks, reservoirs, containers and bins which have a capacity in excess of 2,000 cubic feet and which are used for the storage of solid particles;

OTHER SOURCES

- (2) Any source operation or equipment that has the potential to emit any Group 1 or Group 2 TXS (or a combination thereof) at a rate **greater than 0.1 pounds per hour** (45.4 grams per hour);

As per N.J.A.C. 7:27-17:

- "Toxic substance" or "**TXS**" means a substance listed in **Table 1** of this subchapter.

OTHER SOURCES (continued)

- (2) Any source operation or equipment that has the potential to emit any Group 1 or Group 2 TXS (or a combination thereof) at a rate **greater than 0.1 pounds per hour** (45.4 grams per hour);

TABLE 1 - TOXIC SUBSTANCES

| GROUP I | |
|---|------------|
| Name | CAS Number |
| Benzene (Benzol) | 71-43-2 |
| Carbon tetrachloride (Tetrachloromethane) | 56-23-5 |
| Chloroform (Trichloromethane) | 67-66-3 |
| Dioxane (1,4-Diethylene dioxide; 1,4 - Dioxane) | 123-91-1 |
| Ethylenimine (Aziridine) | 151-56-4 |
| Ethylene dibromide (1,2-Dibromoethane) | 106-93-4 |
| Ethylene dichloride (1,2-Dichloroethane) | 107-06-2 |
| 1,1,2,2-Tetrachloroethane (sym Tetrachloroethane) | 79-34-5 |
| Tetrachloroethylene (Perchloroethylene) | 127-18-4 |
| 1,1,2-Trichloroethane (Vinyl trichloride) | 79-00-5 |
| Trichloroethylene (Trichlorethene) | 79-01-6 |

OTHER SOURCES (continued)

- (2) Any source operation or equipment that has the potential to emit any Group 1 or Group 2 TXS (or a combination thereof) at a rate **greater than 0.1 pounds per hour** (45.4 grams per hour);

TABLE 1 - TOXIC SUBSTANCES

| GROUP II | |
|---|------------|
| Name | CAS Number |
| Methylene chloride (Dichloromethane) | 75-09-2 |
| 1,1,1-Trichloroethane (Methyl chloroform) | 71-55-6 |

OTHER SOURCES (continued)

- **(2)** Any source operation or equipment that has the potential to emit any Group 1 or Group 2 TXS (or a combination thereof) at a rate **greater than 0.1 pounds per hour** (45.4 grams per hour);

EXAMPLE:

Environmental laboratory analytical equipment



OTHER SOURCES (continued)

Zymark Turbovap



OTHER SOURCES (continued)

Zymark Turbovap (continued)

- Procedures for analysis of aqueous samples can include mixing the sample with up to 180 ml of methylene chloride (TXS and HAP), and up to 50 ml hexane (HAP). The sample is then evaporated in the Turbovap.
- Calculations reveal that a Turbovap can evaporate up to 2,400 ml of solvent per hour, which can produce emissions as high as 7 lbs of methylene chloride emitted per hour.

OTHER SOURCES (continued)

- **(3)** Dry cleaning equipment;

OTHER SOURCES (continued)

- (4) A surface cleaner which uses a cleaning solution containing five percent or more VOCs, HAPs, or VOC and HAP combined and which is:
 - An unheated open top surface cleaner with a top opening of greater than six square feet (0.56 square meters) or a capacity greater than 100 gallons;
 - A heated open top surface cleaner;
 - A conveyORIZED surface cleaner; or
 - A stationary spray cleaning or surface stripping operation using one half gallon or more of cleaning solution in any one hour;

OTHER SOURCES (continued)

- **(6)** Any tank or vessel which has a capacity of **more than 100 gallons** and which is used:
 - In etching, pickling, or plating; or
 - In chromium electroplating or chromium anodizing;

OTHER SOURCES (continued)

- (7) A transfer operation involving gasoline or other VOCs **that is regulated under N.J.A.C. 7:27-16.3 or 16.4**, or a marine tank vessel loading or ballasting operation **that is regulated under N.J.A.C. 7:27-16.5**, if the operation is required to have a control device other than bottom fill or submerged fill;

OTHER SOURCES (continued)

- **(11)** Stationary material handling equipment using pneumatic, bucket or belt conveying systems **from which emissions occur;**

OTHER SOURCES (continued)

- **(14)** An incinerator;

OTHER SOURCES (continued)

- **(15)** Equipment which is used for treating groundwater, industrial waste water, or municipal wastewater with a solids content of less than two percent by weight as it enters the equipment (typical operations performed by this type of equipment include, but are not limited to, air stripping, aeration, digestion, thickening, flocculating, surface impounding, and dewatering), if the equipment does either of the following:
 - Treats or handles influent which has one or both of the following:
 - A total concentration of VOCs and Group 2 TXS in the influent of 3,500 parts per billion by weight (ppbw) or more; or
 - A total Group 1 TXS concentration in the influent of 100 ppbw or more; or
 - Discharges more than 50 pounds per hour of sludge. For the purposes of this paragraph, wastewater with a solids content of two percent by weight or greater is considered sludge;

OTHER SOURCES (continued)

- **(16)** Equipment that is used for treating waste soils or sludges, including municipal solid wastes, industrial solid wastes, or recycled materials, **if the influent to the equipment has a solids content of two percent by weight or greater.**
- Typical operations performed by this type of equipment include, but are not limited to, soil cleaning, composting, pelletizing, grit classifying, drying, and transfer station operations.
- However an area used as a temporary storage area, such as a concrete pad or a roll-off container, shall not be considered to be equipment used for treating waste soils or sludges, **provided that the area is not also used for treatment;**

OTHER SOURCES (continued)

- (17) **Equipment** used for the purpose of venting:
 - a closed or operating dump,
 - sanitary landfill,
 - hazardous waste landfill, or
 - other **solid waste facility***

directly or indirectly into the outdoor atmosphere,
including, but not limited to:


- any transfer station,
- recycling facility, or
- municipal solid waste composting facility;

* **“Solid waste facility”** means any system, site, **equipment**, or building which is utilized for the storage, collection, processing, transfer, transportation, separation, recycling, recovery, or disposal of solid waste.

OTHER SOURCES (continued)

- (17) Equipment used for the purpose of venting... (continued):

EXAMPLE – Bulb Crushers



New Jersey
Department of
Environmental
Protection

COMPLIANCE ADVISORY
WARNING

Making You Aware of Emerging Patterns of Non-Compliance

| | | |
|--------------------------|--|----------|
| Compliance & Enforcement | Issued: October 2005 Updated: July 2006 | #2005-13 |
|--------------------------|--|----------|

Proper disposal of fluorescent lamps/bulbs and the use of bulb crushing machines

The use of bulb crushing machines is increasing as several manufacturers have begun marketing their products in New Jersey. The proper operation of bulb crushing machines and disposal of mercury containing bulbs/lamps is extremely important to help reduce public exposure to harmful mercury emissions.

Crushing is the intentional breaking of fluorescent and mercury lamps for the purpose of volume reduction. Crushing reduces the physical volume of lamps but does not recover any mercury, which is a toxic substance and a hazardous air pollutant. Disposal of mercury containing lamps can release the mercury to the environment, potentially causing adverse health effects.

Bulb Crushers Constitute "Treatment "

In order for lamps to be managed under the Universal Waste Rule, "treatment" by handlers or transporters is not allowed. Under federal regulations, crushing is considered a type of treatment. Generators who treat their own lamps may do so, but when they do the lamps lose their "Universal Waste" status and are considered fully-regulated hazardous waste, subject to numerous more stringent federal and state standards than Universal Wastes (40CFR262, N.J.A.C 7:26G) such as reduced accumulation time, biennial reporting, and manifesting.

Bulb Crushers Require Air Permits

If a facility chooses to treat the bulbs themselves by using a bulb/lamp crushing machine they will also be required to obtain an air permit per N.J.A.C. 7:27-8.2 (c) 17. The current fee for a preconstruction permit and operating certificate is \$1,500.00. The renewal fee is \$750.00. The Department requires that bulb-crushing equipment have a positive ventilation of the process and broken bulb container through a filter and mercury control, such as a carbon bed. The mercury containing carbon, or other adsorbent, must then be properly recovered or disposed so the mercury is not emitted to the air. Failure to obtain an air permit or to adequately control mercury emissions in accordance with Department's regulations can result in the issuance of civil administrative penalties of up to \$10,000.00 for the first offense.

Treating Bulbs as a Universal Waste Without a Bulb Crusher

For proper disposal as a Universal Waste, spent lamps should be placed in containers or packages that are adequate to prevent breakage and sent to an appropriate recycling facility (see internet address below for a list).

Bulb Eater

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OTHER SOURCES (continued)

- (17) Equipment used for the purpose of venting... (continued):

EXAMPLE – Hard Drive Shredders



OTHER SOURCES (continued)

- **(18)** Equipment that shreds wood, if the engine powering the equipment has a maximum rated gross heat input of 1,000,000 BTU per hour or greater;

OTHER SOURCES (continued)

- **(20)** Welding equipment, if the weight of the welding rod or welding wire used in the process is greater than 12 pounds in any calendar day;

OTHER SOURCES (continued)

“Catch-all” provisions:

- (19) Equipment in which the combined weight of all raw materials used exceeds 50 pounds in any one hour, provided:
 - Such equipment shall **not** include equipment which is the same type as is included within a category described in (c)
 - 1 (Commercial fuel burning equipment)
 - 2 (TXS sources)
 - 4 (Surface cleaners)
 - 5 (Graphic arts sources)
 - 6 (Plating, etc. tanks)
 - 7 (VOC transfer operations)
 - 8 (Tanks > 10,000 gallons)
 - 9 (VOC tanks \geq 2,000 gallons)
 - 10 (Solids containers)
 - 12 (Surface coating operations)
 - 15 (Groundwater & wastewater operations)
 - 18 (Wood shredders)
 - 20 (Welding equipment)

but which is excluded from the category because it does not meet an applicability threshold set forth in the description of the category.

OTHER SOURCES (continued)

“Catch-all” provisions (continued):

- (19) Equipment in which the combined weight of all raw materials used exceeds 50 pounds in any one hour, provided:
 - In determining the weight of the raw materials used, the weight of the following shall be excluded:
 - Air;
 - Water;
 - Containers, provided that the container is not consumed as part of the operation of the equipment; and
 - Paper, metal, or plastic that is twisted, bent, or folded, in the equipment, provided that the twisting, bending, or folding, does not cause visible emissions or air pollution;

PERMIT EXEMPTIONS

- **8.2(d)** Even if a source is listed in (c) above, any of the following *[14 paragraphs]* is not a significant source (and therefore does not need a preconstruction permit and operating certificate);

EXAMPLE:

- **(14)** Dry cleaning equipment that uses only liquid carbon dioxide (CO₂) as the cleaning agent.

PERMIT EXEMPTIONS (continued)

- **8.2(e)** Equipment or a source operation, which would be classified as a significant source solely because it meets the criteria in (c)19 above, is not a significant source (and therefore does not need a permit and certificate), provided that:
 - 1: (*“...equipment or source operation is one of the following [SEVEN CATEGORIES]...”*)
 - 2: (*“...the following [SIX] criteria are met...”*) and
 - 3: (*Required documentation*)

below are satisfied:

EXAMPLE:

- The equipment or source operation is one of the following: A mixer, cutter, molder, conveyer, blender, filler, or cooking kettle which processes material intended as food for direct human consumption, provided that the temperature of the food does not exceed 225 degrees Fahrenheit;

PERMIT EXEMPTIONS (continued)

- **8.2(e)** – (continued)

REQUIRED DOCUMENTATION:

- The owner or operator of the source has readily available upon Department request a statement certified in accordance with N.J.A.C. 7:27-1.39, signed by the responsible official, as defined at N.J.A.C. 7:27-1.4, that:
 - Specifies the contents of the source, if the source is a mixing or blending vessel;
 - Affirms that the source meets all the criteria listed in (e)2 above; and
 - Attests that the source is in compliance with all other applicable State or Federal air pollution requirements.

PERMIT EXEMPTIONS (continued)

● 8.2(f) – MICROTURBINES AND FUEL CELLS

Equipment or a source operation that would be classified as a significant source **solely because it meets the criteria in (c)1 above** is not a significant source (and, therefore, does not need a preconstruction permit and operating certificate) provided that it meets the criteria at (f)1 through 4 below:

REQUIRED DOCUMENTATION:

The owner or operator of the source shall have available on site a statement, certified in accordance with N.J.A.C.7:27-1.39, by the responsible official, that the equipment or source operation meets all the criteria in (f)1 and 2 above. This certification shall be provided to the Department upon request;

PERMIT APPLICABILITY FOR SOURCE OPERATIONS AT MAJOR FACILITIES

7:27-22.6 Operating permit application contents

- (c) Any source operation at a facility subject to this subchapter shall be included in the facility's application for an operating permit, except for exempt activities as defined at N.J.A.C. 7:27-22.1.
- (d) **All source operations which are not exempt as defined at N.J.A.C. 7:27-22.1 and are significant or insignificant source operations shall be included in a facility's application for an operating permit.** Source operations shall be classified as either significant or insignificant, as defined at N.J.A.C. 7:27-22.1. Different types and amounts of information are required for significant and insignificant source operations in the application for an operating permit.

PERMIT APPLICABILITY FOR SOURCE OPERATIONS AT MAJOR FACILITIES (continued)

DEFINITIONS

- **"Significant source operation"** means any source operation which is one of the following unless the source operation is explicitly specified, in the definition of "exempt activity," as an exempt activity, and unless the source operation is explicitly specified, in paragraphs 1, 2 or 4 of the definition of "insignificant source," as an insignificant source:

These categories essentially mirror N.J.A.C. 7:27-8.2(c).

PERMIT APPLICABILITY FOR SOURCE OPERATIONS AT MAJOR FACILITIES (continued)

DEFINITIONS (continued)

- **"Exempt activity" and "Insignificant source operation":**
These generally encompass the exemptions found in N.J.A.C. 7:27-8.2(d), (e) and (f), and 8.2(c)19
- **"Grandfathered"** means, in reference to equipment or control apparatus, that construction, reconstruction, or modification occurred prior to the enactment of N.J.S.A. 26:2C-9.2 on June 15, 1967, the initial promulgation of the rules codified at N.J.A.C. 7:27-8, or any subsequent applicable revisions to the rules; and there has been no construction, reconstruction or modification of the equipment or control apparatus.

Note that this term appears nowhere else in Subchapter 22.

AIR COMPLIANCE & ENFORCEMENT MAKES ALL FINAL DECISIONS TO DETERMINE PERMIT APPLICABILITY

- Please make permit applicability determination requests in writing to the respective Air Regional Enforcement Office:

Northern Regional Office: (973) 656-4444

- (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union and Warren counties)

Central Regional Office: (609) 292-3187

- (Burlington, Mercer, Middlesex, Monmouth and Ocean counties)

Southern Regional Office: (856) 614-3601

- (Atlantic, Camden, Cape May, Cumberland, Gloucester, and Salem counties)

- Please provide detailed supporting information with your request in order to facilitate a timely response from Enforcement.

Questions?