

State of New Jersey

Department of Environmental Protection
Air Quality Permitting

General Permit

For

Boilers and Heaters

[Individually Less Than 10 MMBTU/HR]

This General Permit allows for the construction, installation, reconstruction and operation of single or multiple external combustion units [boilers and heaters, or any combination thereof, firing natural gas, propane, kerosene, diesel oil or No. 2 fuel oil exclusively] that meet the applicability outlined below.

I. Definitions

The following terms, when used in this General Permit shall have the following meanings, unless the context clearly indicates otherwise.

“External combustion unit” means a steam-generating unit (*boiler or heater*) that generates steam to supply heat to an industrial process, institutional or commercial operation. This term does not include internal combustion engines, or boilers that serve electric generating units and cogeneration facilities.

“Facility-wide meter” means a measuring and/or monitoring device that totalizes year-to-date flow of liquid or gaseous fuel supplied to a facility.

“In-line flow meter” means a dedicated measuring and/or monitoring device, usually installed between a facility-wide meter and a combustion source(s), to totalize year-to-date fuel consumed by a combustion source(s).

“Internal combustion engine” mean either a reciprocating engine or a combustion turbine in which power, produced by heat and/or pressure that is developed in the engine combustion chamber(s) by the burning of a mixture of air and fuel, is subsequently converted to mechanical work.

“Maximum heat input rate” means, for a given unit of fuel-burning equipment, its maximum steady state fuel firing rate, in BTU per hour of gross heat input as determined by the design rating of the equipment manufacturer.

“Steam generating unit” means fuel-burning equipment or combustion equipment that combusts any fuel in order to produce steam or to heat water or any other heat transfer medium.

II. Authority

This GP is issued under the authority of N.J.S.A. 26:2C-9.2. It shall allow for inspections and evaluations to assure conformance with all provisions of N.J.A.C. 7:27 et seq. An opportunity for public comment was provided on February 5, 2001.

III. Applicability

Other than modification, this GP allows for the construction, installation, reconstruction and operation of single or multiple external combustion units [boilers, heaters, or any combination thereof, firing natural gas, propane, kerosene, diesel oil or No. 2 fuel oil exclusively] using one of the following options:

- A. **A single unit with a maximum rated gross heat input capacity of less than 10 MM BTU/hr; or multiple units with a combined maximum rated gross heat input capacity (nameplate) of less than 10 MM BTU/hr;**
- B. **A single or multiple units including insignificant sources (each component unit having a maximum rated gross heat input capacity of less than 10 MM BTU/ hr) with a combined maximum annual gaseous-fuel usage of less than or equal to 200 million cubic feet (MMCF), monitored by a dedicated-group fuel totalizer or a facility-wide gas meter; or**
- C. **A single or multiple units including insignificant sources (each component unit having a maximum rated gross heat input capacity of less than 10 MM BTU/ hr) with a combined maximum annual liquid-fuel limit of less than or equal to 1 million gallons (MM gals), monitored by a dedicated-group fuel totalizer or a facility-wide liquid fuel meter.**

Note: use of a facility-wide meter is limited to the above applicable sources in B and C. It can not be used in connection with sources excluded under section IV below. This GP can not be used if any one of the excluded sources is connected to the same fuel meter, as are applicable sources (see schematics for *permitting scenarios*). Alternatively, applicable boiler units may be permitted individually under GP-006, which offers additional operational flexibility; or boilers, space and hot water heaters may be grouped under a dedicated fuel meter to meet the applicability threshold in B or C.

IV. Exclusions

1. A combustion source having maximum rated gross heat input capacity of greater than or equal to 10 MM BTU/hr
2. Emergency generators, fire pumps or any other internal combustion engine
3. Utility boilers
4. NSPS / MACT sources
5. Boilers or heaters that combust other commercial liquid fuels, such as No.4, No. 5 or No.6 fuel oil or any solid fuels;
6. Combustion sources burning non-commercial fuels including crankcase oil, spec-oil, or any other used oils, landfill or refinery gas, facility byproducts, or any other type of waste materials, exclusively or in mixtures with commercial fuels;
7. Indirect or direct-fired process heaters exclusively associated with a manufacturing process; or
8. Incinerators, furnaces, kettles, crucibles, stills, roasters, re-boilers, engines, kilns, and other combustion units associated with a production process.

V. Potential-To-Emit (PTE) Options

There are five PTE caps, in tons per year, for Option A and four PTE caps for Options B and C. For Option A, the annual PTEs are based on the maximum combined gross heat input ratings for all covered combustion units. This option allows the use of any of the approved fuels. For Options B and C, the PTEs are based on the total annual fuel usage for a group of multiple units connected to a facility-wide meter or a dedicated *in-line gas or liquid fuel monitoring system*.

NOTE:

Only one Option - General Permit Number per GP registration is allowed.

OPTION A

SINGLE OR MULTIPLE BOILERS AND/OR HEATERS [WITH A COMBINED MAXIMUM HEAT INPUT OF LESS THAN 10 MM BTU/HR] BURNING NATURAL GAS, PROPANE, NUMBER 2 FUEL OIL, DIESEL, KEROSENE OR ANY COMBINATION OF THESE FUELS

TPY-POTENTIAL-TO-EMIT ESTABLISHED BY SELECTING UNIT SIZE CATEGORY

ASSUMES MAXIMUM SIZE BOILER IN SELECTED CATEGORY FIRING CONTINUOUSLY FOR 8760HR/YR

General Permit Number	Size of Unit Maximum Heat Input (Million BTU/HR)	Air Contaminant Category				
		Total Suspended Particulates (TSP)	Sulfur Dioxide (SO _x)	Oxides of Nitrogen (NO _x)	Carbon Monoxide (CO)	Volatile Organic Compounds (VOC)
<input type="checkbox"/> BH-A1	2	0.12	2.66	1.23	0.31	0.05
<input type="checkbox"/> BH-A2	>2 & 4	0.25	5.33	2.47	0.62	0.10
<input type="checkbox"/> BH-A3	>4 & 6	0.37	7.99	3.70	0.93	0.16
<input type="checkbox"/> BH-A4	>6 & 8	0.49	10.66	4.93	1.23	0.20
<input type="checkbox"/> BH-A5	>8 & <10	0.62	13.32	6.17	1.54	0.26

OPTION B

SINGLE OR MULTIPLE BOILERS AND/OR HEATERS BURNING ONLY NATURAL GAS AND/OR PROPANE¹ [MONITORED BY A FUEL METER]

TPY-POTENTIAL-TO-EMIT ESTABLISHED BY SELECTING MAXIMUM GAS USAGE

ASSUMES MAXIMUM CUBIC FEET/YR BURNED IN SELECTED CATEGORY

General Permit Number	Annual Natural Gas Limit (Any Propane used must be converted as described in Footnote 1 below.)	Air Contaminant Category				
		(TSP)	(SO _x)	(NO _x)	(CO)	(VOC)
<input type="checkbox"/> BH-B1	50,000,000 cubic ft/yr.	0.19	0.02	2.50	2.10	0.14
<input type="checkbox"/> BH-B2	100,000,000 cubic ft/yr.	0.38	0.03	5.00	4.20	0.28
<input type="checkbox"/> BH-B3	150,000,000 cubic ft/yr.	0.57	0.05	7.50	6.30	0.42
<input type="checkbox"/> BH-B4	200,000,000 cubic ft/yr.	0.76	0.06	10.00	8.40	0.55

1 - Annual volume of Propane (in gallons) used shall be multiplied by the factor 87.1 to get the equivalent volume (ft³) of Natural Gas. The total of this equivalent volume plus the actual Natural Gas volume shall not exceed the limits of this column for the purpose of determining compliance with this General Permit.

OPTION C MULTIPLE BOILERS AND/OR HEATERS BURNING ONLY NUMBER 2 FUEL OIL, DIESEL, AND / OR KEROSENE [MONITORED BY A FUEL METER] TPY-POTENTIAL-TO-EMIT ESTABLISHED BY SELECTING MAXIMUM OIL USAGE ASSUMES MAXIMUM GALLON/YR BURNED IN SELECTED CATEGORY						
General Permit Number	Annual Limit Total No. 2 Fuel Oil, Diesel and/or Kerosene	Air Contaminant Category				
		(TSP)	(SO _x)	(NO _x)	(CO)	(VOC)
<input type="checkbox"/> BH-C1	100,000 gallons/yr.	0.10	1.42	1.00	0.25	0.03
<input type="checkbox"/> BH-C2	350,000 gallons/yr	0.35	5.00	3.50	0.86	0.10
<input type="checkbox"/> BH-C3	500,000 gallons/yr	0.5	7.10	5.00	1.25	0.14
<input type="checkbox"/> BH-C4	1,000,000 gallons/yr	1.00	14.20	10.00	2.50	0.28

NOTE: The PTE annual emissions listed in Options A, B and C were calculated using emission factors from AP-42, Fifth Edition, Volume 1, Chapter 1.

FACILITY SPECIFIC REQUIREMENTS

COMPLIANCE PLAN: Boilers and Heaters Less Than 10 Million BTU/HR - Firing Natural Gas, Propane, No. 2 Fuel Oil, Diesel or Kerosene

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
1.	<p>Permittee shall ensure combustion equipment is easily identifiable, by clear and conspicuous labeling, using Subject Item E-NJID and its Facility Designation. Permittee shall also maintain a process flow diagram showing locations of all combustion units and fuel monitoring device(s). {N.J.A.C. 7:27-8.13(a)}</p>	None	See Item No. 8	None
2.	<p>Permittee shall not use the equipment in a manner, which will cause visible emissions, exclusive of visible condensed water vapor, except for a period no more than 3 minutes in any consecutive 30-minute period. {N.J.A.C 7:27-3.2(a) & (c)}</p>	<p>Permittee shall visually observe the stack once each month if the equipment is used for more than 2 continuous hours during the month.</p> <p>NOTE: Visual observation may be performed by a non-certified smoke reader. The intent here is for the observer to look for unusual smoking of equipment.</p> <p>{N.J.A.C 7:27-8.13(d)}</p>	<p>Permittee shall record in either a permanent bound log book or in readily accessible computer memories, that the stack was observed (date and time) and if operation of the equipment causes visible emissions (exclusive of visible condensed water vapor) for a period longer than 3 minutes in any consecutive 30 minute period. All records must be maintained on site for a minimum of 5 years. {N.J.A.C 7:27-8.13(d)3}</p>	<p>If visible emissions are observed, refer to operator manual for corrective measures and record corrective action. If measures fail to correct visible emissions within 24 hours of observation, report the incident in writing to the Regional Enforcement Office within three working days. {N.J.A.C 7:27-8.13(d)4}</p>
3.	<p>Allowable emission rate for particulates from the combustion of fuel shall be based on heat input rate to the unit. {N.J.A.C 7:27-4.2}</p>	None	None	None

4.	<p>This equipment shall not cause any air contaminant, including an air contaminant detectable by the sense of smell, to be present in the outdoor atmosphere in such quantity and duration which is, or tends to be, injurious to human health or welfare, animal or plant life or property, or would unreasonably interfere with the enjoyment of life or property, except in areas over which the owner or operator has exclusive use or occupancy. {N.J.A.C 7:27-8.3(j)}</p>	None	<p>Permittee shall record in either a permanent bound logbook or in readily accessible computer memories (date and time) when the operation of equipment has the potential to cause off-property effects. All records must be maintained on site for a minimum of 5 years. {N.J.A.C 7:27-8.13(d)3}</p>	<p>Any operation of the equipment which may cause a release of air contaminants in a quantity or concentration which poses a potential threat to public health, welfare, or the environment or which might reasonably result in citizen complaints shall be reported by the Permittee as required by the Air Pollution Control Act. Permittee shall immediately notify the Department of any non-compliance by calling the Environmental Action Hotline at (609) 292-7172. {N.J.S.A 26:2C-19(e)}</p>
5.	<p><u>For Option A Only</u> Compliance with annual emission limit for each air contaminant (NOx, VOC, CO, SO2, and TSP/PM-10) shall be based on operation of the unit at a maximum of 8760 hours per year for the size(s) registered. {N.J.A.C 7:27-8.13(a)}</p>	<p>For each fuel delivery received, the Permittee shall review delivery records from the oil distributor to verify delivery of the required applicable fuel (Natural Gas, Number 2 Commercial Fuel Oil, Diesel or Kerosene). {N.J.A.C 7:27-8.13(a)}</p>	See Item No. 8	See Item No. 8
6.	<p><u>For Options B or C Only</u> Compliance with annual emission limit for each air contaminant (NOx, VOC, CO, SO2, and TSP/PM-10) shall be based on the annual fuel consumption. Permittee shall comply with annual self-imposed fuel limit. {N.J.A.C 7:27-8.13(a)}</p>	<p>Permittee shall install and operate a totalizing fuel flow meter monitoring the total amount of fuel burned per year based on a 12 consecutive month period (rolling 1-month basis) by a single unit or group of multiple units. {N.J.A.C 7:27-8.13(d)}</p>	<p>Permittee shall record reading from totalizer annually in either a permanently bound logbook or readily accessible computer memory. (See Item No. 8 for detail)</p>	See Item No. 8
7.	<p>The maximum allowable fuel oil (number 2 commercial fuel oil, diesel or kerosene) sulfur content shall be less than or equal</p>	<p>For each fuel oil delivery received, the Permittee shall review the certificate of analysis from the oil distributor for fuel oil</p>	See Item No. 8	See Item No. 8

	to 0.2 wt % . {N.J.A.C 7:27-9}	sulfur content. {N.J.A.C 7:27-8.13(a)}		
8.	<p>OVERALL RECORDKEEPING</p> <p>1. Permittee shall maintain on site a copy of equipment manufacturer's specifications and instructions manual for the life of each combustion unit and fuel monitoring device;</p> <p>2. All other records shall be maintained on site for a period of 5 years, in either a permanently bound logbook or in a readily accessible computer memory. Supporting documentation shall include, but is not limited to, process flow diagram, equipment specification data, fuel delivery records and invoices, records of equipment repairs and corrective actions / preventive measures.</p> <p>3. All records including permit and certificate relating to this GP shall be made readily available for the Department's inspection on the operating premises. {N.J.A.C 7:27-8.13(a)}</p>			<p>OVERALL REPORTING</p> <p>In the event any one of the Applicable Requirement limits is exceeded, permittee shall submit a notification, in writing to the Regional Enforcement Office within 3 working days, from the date of occurrence of event. {N.J.A.C 7:27-8.13(d)4}</p>
9.	<p>The conditions of approval specified herein this Compliance Plan or Specific Facility Requirements, and any condition contained in the General Provisions [pursuant to N.J.A.C. 7:27-8.3] thereof, shall be subject to enforcement. {N.J.A.C 7:27-8.13(h)}</p>			