

TABLE 1.—SUMMARY OF HAP EMISSION FACTORS

Turbine	Load	Fuel	HAP emission factor (lb/MMBtu)
Diffusion Flame	All loads	Natural Gas	0.0188
Diffusion Flame	>80%	Natural Gas	0.00479
Diffusion Flame	All loads	Diesel	0.00241
Diffusion Flame	>80%	Diesel	0.00233
Lean Premix	All loads	Natural Gas	0.000644
Lean Premix	>80%	Natural Gas	0.000212

If the turbine mainly operates at high load, the emission factor for greater than 80 percent load should be used. If the turbine operates on varying loads, the emission factor for all loads should be used. Emission factors were developed based on data from the combustion turbines emissions database. A copy of the emissions database may be downloaded off the internet at <http://www.epa.gov/ttn/atw/combust/turbine/turbpg.html>.

The proposed rule does not cover duct burners. They are part of the waste heat recovery unit in a combined cycle system. Waste heat recovery units, whether part of a cogeneration system or a combined cycle system, are steam generating units and are not covered by the proposed rule.

Finally, the proposed rule does not apply to stationary combustion engine test cells/stands since these facilities will be covered by another NESHAP, 40 CFR part 63, subpart P. The proposed rule covers stationary combustion turbines. A stationary combustion turbine is any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. The combustion turbine may, however, be mounted on a vehicle for portability or transportability.

B. What Source Categories and Subcategories Are Affected by the Proposed Rule?

The proposed rule covers stationary combustion turbines. A stationary combustion turbine is any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self propelled or intended to be propelled while performing its function. The combustion turbine may, however, be mounted on a vehicle for portability or transportability.

Stationary combustion turbines have been divided into the following six subcategories: (1) Emergency stationary combustion turbines, (2) limited use stationary combustion turbines, (3) stationary combustion turbines which fire landfill gas or digester gas as their primary fuel, (4) stationary combustion turbines of less than 1 MW rated peak

power output, (5) stationary diffusion flame combustion turbines, and (6) stationary lean premix combustion turbines.

An emergency stationary combustion turbine means any stationary combustion turbine that operates as a mechanical or electrical power source when the primary power source for a facility has been rendered inoperable by an emergency situation. One example is emergency power for critical networks or equipment when electric power from the normal source of power is interrupted. Another example is to pump water in the case of fire or flood. Peaking units at electric utilities and other types of stationary combustion turbines that typically operate at low capacity factors, but are not confined to operation in an emergency, are not emergency stationary combustion turbines.

A limited use stationary combustion turbine means any stationary combustion turbine that operates 50 hours or less per calendar year. One example is a stationary combustion turbine used to stabilize electrical power voltage and protect sensitive electronic equipment during periods of brown outs. Another example is periodic operation of an emergency stationary combustion turbine to check readiness or perform maintenance checks. Since electrical power has not been interrupted during these readiness and maintenance checks, the stationary combustion turbine is not operating as an emergency stationary combustion turbine.

We are specifically soliciting comments on creating a subcategory of limited use combustion turbines with a capacity utilization of 10 percent or less. This is further discussed in the "Solicitation of Comments and Public Participation" section of this preamble.

Stationary combustion turbines which fire landfill gas or digester gas as their primary fuel qualify as a separate subcategory because the types of control available for these turbines are limited.

Stationary combustion turbines of less than 1 MW rated peak power output

were also identified as a subcategory. These small stationary combustion turbines are few in number and, to our knowledge, none use emission control technology to reduce HAP. Given the very small size of these stationary combustion turbines and the lack of application of HAP emission control technologies, we have concerns about the applicability of HAP emission control technology to them.

The stationary diffusion flame combustion turbines subcategory includes only diffusion flame combustion turbines that are greater than 1 MW rated peak power output and are not emergency stationary combustion turbines, limited use stationary combustion turbines, or stationary combustion turbines which fire landfill gas or digester gas as their primary fuel. In a diffusion flame combustor, the fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition. Hazardous air pollutants emissions from these turbines can be significantly decreased with the addition of air pollution control equipment.

The stationary lean premix combustion turbines subcategory includes only lean premix combustion turbines that are greater than 1 MW rated peak power output and are not emergency stationary combustion turbines, limited use stationary combustion turbines, or stationary combustion turbines which fire landfill gas or digester gas as their primary fuel. Lean premix technology, introduced in the 1990's, was developed to reduce NO_x emissions without the use of add on controls. In a staged lean premix combustor, the air and fuel are thoroughly mixed to form a lean mixture before delivery to the combustor. The staged entry limits the flame temperature and the residence time at the peak flame temperature. Lean premix combustors emit lower levels of NO_x, carbon monoxide (CO), formaldehyde and other HAP than diffusion flame combustion turbines.