



State of New Jersey

Jon S. Corzine
Governor

DEPARTMENT of ENVIRONMENTAL PROTECTION

Lisa P. Jackson
Commissioner

Division of Air Quality
Bureau of Operating Permits
401 E. State Street, 2nd floor, P.O. Box 27
Trenton, NJ 08625-0027

MEMORANDUM

TO: AQPP Permit Evaluators

FROM: John Preczewski, Assistant Director [click here for a signed copy](#)
Air Quality Permitting Program

SUBJECT: Inclusion of Hazardous Air Pollutant (HAP) Emissions in Air Quality Permits

DATE: August 8, 2008

The purpose of this memorandum is to clarify my January 7th memo "Reporting Thresholds for Inclusion in Facility Specific Requirements". Questions have arisen with regard to the reporting of Hazardous Air Pollutant (HAP) Emissions from the storage and combustion of commercial fuels. AQPP staff is directed to include HAP emissions for any equipment or source operation that exceed reporting thresholds in N.J.A.C. 7:27-8 or in N.J.A.C. 7:27-22. These values must be included as limits in the facility specific requirements with the appropriate monitoring recordkeeping and reporting requirements.

After the date of this memo, all draft air quality permits issued must conform to this procedure. Existing permits that do not contain HAP emission limits where HAP emissions for any equipment or source operation that exceed reporting thresholds in N.J.A.C. 7:27-8 or in N.J.A.C. 7:27-22 must be updated as per the following schedule:

1. All equipment or source operations in the emission unit or batch process under modification must be updated as part of the modification application including
 - a. Preconstruction applications submitted pursuant to N.J.A.C. 7:27-8.18, N.J.A.C. 7:27-8.19, N.J.A.C. 7:27-8.20, N.J.A.C. 7:27-8.21 (b) 3 - 8.
 - b. Minor modification and significant modification to operating permits submitted pursuant to N.J.A.C. 7:27-22.23 & N.J.A.C. 7:27-22.24.
2. All equipment in operating permit renewals must be updated as part of the renewal.

Updates on the HAP emission limits must include an evaluation of the health risk impact. State of the Art (SOTA) analysis is not required for equipment or source operation being updated to include HAP emission limits, if it is not undergoing modification as defined in N.J.A.C. 7:27-8.1 or in N.J.A.C. 7:27-22.1

c: W. O'Sullivan, Director Division of Air Quality
AQPP ListServ



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

MARK N. MAURIELLO
Acting Commissioner

MEMORANDUM

TO: Air Quality Permitting Staff

FROM: John Preczewski, Assistant Director

SUBJECT: Guidance on Determining Health Risks for Diesel Exhaust Particulates from Internal Combustion Engines

DATE: January 28, 2009

The purpose of this memorandum is to provide guidance for permit evaluations of internal combustion engines which use diesel as fuel, specifically how and when a health risk assessment for diesel exhaust particulates should be conducted.

Consistent with my [August 8th, 2008 memorandum "Inclusion of Hazardous Air Pollutant \(HAP\) Emissions in Air Quality Permits"](#), HAP emissions from the combustion of commercial fuels must be included in permit evaluations. These evaluations must include the emissions of diesel particulate. The "diesel exhaust particulates" emission rates are assumed to be equivalent to the emission rates of Particulate Matter less than 10 microns (PM-10). The PM-10 emission limits will be proposed by the applicant and verified by the evaluator.

If the PM-10 emission rate proposed exceeds the reporting threshold listed in N.J.A.C. 7:27-8 and N.J.A.C. 7:27-22, a health risk assessment of diesel exhaust particulates must be analyzed by the evaluator using the Risk Screening Worksheet (Worksheet). If a significant health risk (Total incremental risk greater than 1×10^{-6}) is determined from the Worksheet, the procedures in "Risk Screening Policy and Second-Level Risk Screening" must be followed.

The exceptions to this procedure are "Emergency Generators", as defined in N.J.A.C. 7:27-19.1 and portable, temporary (operating fewer than 90 days at a single site) equipment. Emergency Generators and portable, temporary equipment do not have to undergo a health risk assessment for diesel exhaust particulates.

c: W. O'Sullivan, Director
AQPP Listserv



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Division of Air Quality
Air Quality Permitting Element
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MARK MAURIELLO
Acting Commissioner

MEMORANDUM

TO: Air Quality Permitting Staff

FROM: John Preczewski, Assistant Director

SUBJECT: Stack Height Equivalents for Use in First Level Screening Analyses for Diesel Engines

DATE: June 10, 2009

This provides alternate stack heights that can be used when conducting a First Level Risk Screening Analysis for diesel engines. These alternate stack heights are outlined in the following Table and are to be used only for stacks with a vertical discharge direction:

Engine Category	Alternate Stack Height
< 500 horsepower (HP) (< 3.5 MMBTU/hr)	Height in feet on Emission Point Inventory Plus 25 feet
500 – 1500 HP (3.5 – 10.5 MMBTU/hr)	Height in feet on Emission Point Inventory Plus 50 feet
> 1500 HP (> 10.5 MMBTU/hr)	Height in feet on Emission Point Inventory Plus 65 feet

The alternate stack heights are based on the anticipated plume rise from the indicated engine category. Examples of the effect on the first level risk screening cancer risk predictions are given below for typical sources in each category with a property line distance of 200 feet. The percent reduction in using an effective stack height for diesel engines versus only the stack height is listed.

Engine Category	Stack height listed in emission point inventory (feet)	Effective Stack Height (feet)	Percent Reduction in Cancer Risk When Using the Effective Stack Height as Opposed to Stack Height Only
< 500 horsepower (HP) (< 3.5 MMBTU/hr)	10	35	62%
500 – 1500 HP (3.5 – 10.5 MMBTU/hr)	20	70	84%
> 1500 HP (> 10.5 MMBTU/hr)	30	95	86%

All other procedural guidelines concerning the determination of health risk should be followed.



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MARK MAURIELLO
Acting Commissioner

MEMORANDUM

TO: Air Quality Permitting Staff

FROM: John Preczewski, Assistant Director

SUBJECT: Update to Guidance on Determining Health Risks for Diesel Exhaust Particulates from Internal Combustion Engines

DATE: June 24, 2009

This memorandum is a follow-up my [January 28, 2009 memorandum](#), which advised staff to conduct health risk assessments for diesel exhaust particulates emitted from Internal Combustion Engines. The results of the subsequent risk assessments conducted for the engines have generally demonstrated significant risks after the second level assessment was conducted. In order to minimize the health risks from the engines and process these applications in a timely manner, the following procedures should be implemented:

1. Consistent with current guidance, if the health risk assessment for an application for diesel engine(s) demonstrates a negligible (less than one in a million) risk either based on the results of a first or second level screening assessment, the engine may be issued an APC permit, assuming all other applicable regulations are met. (**NOTE:** Please refer to the June 10, 2009 memorandum "[Stack Height Equivalents for Use in First Level Screening Analyses for Diesel Engines](#)" prior to conducting a first level screening assessment).
2. If the first level risk screening assessment demonstrates a significant risk, the project should be referred to the Bureau of Technical Services (BTS) so that a second level screening procedure should be conducted.
3. If the risk after the second level screening assessment demonstrates a significant risk, the following steps should be evaluated to minimize the risk:
 - A. Installing a State-of-the-Art control device for Diesel Particulates such as a high efficiency Diesel Particulate Filter (DPF);

- B. Requiring that only ultra-low sulfur fuel (less than 15 parts per million by volume) be combusted in the engine; and
- C. Changes to the way air contaminants are emitted, such as moving the engine to a site at the facility further from the property line or increasing the stack height.

If diesel exhaust particulate emissions after 3.A, B, and C above are evaluated for first and second level risks, and a non-negligible risk remains, the APC permit application may still be approved on a case-by-case basis as long as the health risk level for the engine is not greater than 1 in 100,000. The case-by-case determination is to be made by the Section Chief, Bureau of Air Permits in consultation with the Section Chief, Bureau of Technical Services, Air Quality Evaluation section.

Any remaining non-negligible risk for an engine between 1 in a 100,000 and 1 in a 10,000 should follow the existing permitting procedures and be evaluated by the risk management committee.