



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Air Quality Permitting Element
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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.