EXPLANATION OF DIESEL PARTICULATE RISK IN NEW JERSEY (November 2012)

The National Scale Air Toxics Assessment (NATA), compiled by USEPA every three years, is an estimate of the ambient concentrations of air toxics nationwide based on an inventory of air toxics emitted from point, nonpoint, on-road and non-road sources. NATA includes diesel particulate matter. The emissions are input into an air quality dispersion model that then estimates air concentrations around the country. The concentrations are used to determine population exposure and health risk.

The maps on the left of each page attached, titled "Estimated Risk in 2005," were generated using 2005 NATA information for diesel particulate matter and California's unit risk factor, which quantifies the potency of diesel's carcinogenicity by estimating the risk of getting cancer relative to exposure. The health benchmark is the air concentration that a person would have to be exposed to for a lifetime in order to have no more than a 1 in 1 million risk of contracting cancer. The isopleths and different colors on the map indicate risk levels in the indicated ranges. For example, areas of the state marked in red denote air concentrations of diesel particulate matter that may result in a 100 to 1000 in a million risk of developing cancer if exposed to those levels over 70 years.

The maps on the right of each page (attached), titled "Estimated Risk in 2020," were based on NJDEP's projection of the diesel particulate matter emissions and corresponding air concentrations in 2020, based on fleet turnover (i.e., fleets buying cleaner vehicles). The projection does not account for additional diesel minimization strategies that have been, or are being, implemented, such as construction retrofits and locomotive repowers. The 2020 map reveals that there are still areas of the state that have relatively high risk and thus additional strategies are warranted to reduce that risk.

NJDEP has a risk management procedure for stationary facilities, which is available in the technical manual titled "Guidance on Risk Assessment for Air Contaminant Emissions" dated November 2009 (www.state.nj.us/dep/aqpp/downloads/techman/1003.pdf). In several situations, NJDEP has applied this facility wide risk procedure for stationary sources to mobile source analyses and risk management. Action levels are summarized in the following table.

Cancer Risk	**DEP Classification**
>1000 in a million	Unacceptable risk
100-1000 in a million	Pursue short term risk minimization strategies
10-100 in a million	Pursue long term risk minimization strategies
<10 in a million	Negligible risk for an entire facility