

**Expected Emissions from North Bergen Liberty Generating Power Plant**

On October 17, 2018 the NJDEP responded to a letter from the Don't Gas the Meadowlands Coalition requesting more information on the plans for the NBLG power plant. (A copy of the DEP letter is available upon request). The letter included the emissions levels the applicant expected the plant to generate as shown below:

<b>Pollutant</b>	<b>Total Emissions (tons/year)</b>
CO2 (carbon dioxide)*	3,500,000**
Methane*	73
CO (carbon monoxide)	423.3
NOx (total nitrogen based emissions)	305.3
Pb (lead)	0.038 (76 lbs)
PM10 (total) (particulate matter 10 micrometers or less in diameter)	190.8
PM2.5 (total) (particulate matter 2.5 micrometers or less in diameter)	185.6
SO2 (sulfur dioxide)	52.4
TSP (total suspended particles)	99.7
VOC (total) (volatile organic compounds)	79.6
Ammonia	262.7
Butadiene (1,3-) (organic compound linked to leukemia)	0.056 (112 lbs)
Acrolein (organic compound used as a pesticide)	0.186 (372 lbs)
Arsenic	0.03 (60 lbs)
Benzene	0.499 (998 lbs)
Cadmium	0.014 (28 lbs)
Formaldehyde	8.971
Manganese	2.128
Mercury	0.003 (6 lbs)
Polycyclic organic matter (class of organic compounds linked to lung cancer)	0.172 (344 lbs)
Selenium	0.067 (134 lbs)
Toluene (used as paint thinner)	3.786

\*CO2 and methane are not considered pollutants by the DEP and were not listed as pollutants but these emission levels were included in the letter.

\*\* For reference, total NJ greenhouse gas emissions in 2015 were equivalent to 101M metric tons of CO2 and electricity production in New Jersey currently generates 18M metric tons of CO2 annually. 3.5M tons is equivalent to a 19.4% increase in CO2 from electric generation.

<https://www.state.nj.us/dep/aqes/climate/data.html>

The resolution provided by the Don't Gas the Meadowlands Coalition, prior to receipt of this information from the DEP listed estimated emissions levels for four of these substances based on studies of similar power plants. With the receipt of this new information the resolution has been revised to reflect the numbers above. A comparison of the original estimates vs. the new information is shown below. Clearly the coalition's estimates were very conservative as the applicant's expected emissions exceed those levels for three of the four substances and there is a question regarding the meaning of the methane estimate as described in the footnote.

<b>Emission Substance</b>	<b>Original Estimate</b>	<b>Revised Value</b>	<b>Difference (Revised - Estimate)</b>
CO2	2.4M metric tons (5.2896B lbs)	3.5M metric tons (7.714B lbs)	+1.1M metric tons (2.424B lbs)
NOx	Up to 375,000 pounds	305.3 tons (610,600 lbs)	+235,600 lbs
Methane***	1,000 metric tons (2.204M lbs)	73 metric tons (0.161M lbs)	-927 metric tons (-2.043M lbs)
SOx	Up to 30,000 pounds	52.4 tons (104,800 lbs)	+74,800 lbs

\*\*\* As noted above the original methane estimate of **1,000 tons per year** was based on studies of similar power plants. Recent studies of methane emissions from power plants have shown under-reporting by factors ranging from 21 to 120 by the power plant operators. The study also stated, "Most of the methane emissions were associated not with the CO<sub>2</sub> plumes from the combustion stacks, but rather from other parts of the facilities (such as compressors, steam turbines, steam boilers and condensers), which indicates that natural gas is leaking *before* it is burned to generate power. The combustion stack sources, which the EPA GHG Inventory currently estimates to have only minor emissions, may actually contribute only about ten- to twenty percent of the total methane emissions from the facility." It is not known if the applicant's methane emissions took this leakage into account or is just estimating the stack emissions.  
<http://blogs.edf.org/energyexchange/2017/03/16/study-emissions-from-power-plants-refineries-may-be-far-higher-than-reported/>