

Mainely Environmental LLC
Air, Energy & Environmental Consulting

April 1, 2020

Electronic Mail to Board Service List Only

Presiding Officer Duchesne and Board Members
Maine Board of Environmental Protection
17 State House Station
28 Tyson Drive
Augusta, Maine 04333-0017

**RE: Comments on the Department’s Air Dispersion Modeling Analysis,
Dated March 13, 2020**

Dear Presiding Officer Duchesne and Board of Environmental Protection:

On March 13, 2020, the Maine Department of Environmental Protection (the “Department”) released a report documenting the results of an in-house air dispersion modeling analysis. The modeling shows that Nordic’s proposed engine emissions will meet all applicable ambient air quality standards. The Department’s decision to conduct a comprehensive air dispersion modeling went above and beyond the applicable regulatory requirements. This modeling supersedes a modeling report, dated December 18, 2019, which also showed compliance. The March 13th modeling includes revised building heights, additional receptors abutting the site’s fence and building wall boundaries, and updated stack gas temperatures. The Department determined, after listening to Board testimony on February 13, 2020, to remodel with these changes in order to ensure that the modeling provided conservative estimates.

The air dispersion modeling prepared by the Department used EPA’s approved model AERMOD. The model inputs include stack parameters, building parameters, stack gas flow and emission rates, actual surrounding terrain parameters, and five years of real measured representative meteorological data.

The Department modeled a 10 km by 10 km grid centered on the facility which included 8,000 receptors. Receptors are the actual locations at which the model calculates impacts. The model calculated impacts at all locations accessible to the public.

The Department model assumed seven engines running simultaneously at full capacity all year. In fact, these generators will only be used for peak shaving and emergency events. Therefore, the Department’s model likely overestimates potential impacts.

The Department’s modeling documents compliance with applicable Ambient Air Quality (“AAQ”) and Class II Increment Standards. See Tables below.

Table - Ambient Air Standards Model Results

Pollutant Averaging	Max Impact with Background (µg/m ³)	NAAQS (µg/m ³)
SO ₂		

1-hour	16.59	196
3-hour	3.33	1,300
PM10		
24-hour	19.27	150
Annual	6.60	50
PM2.5		
24-hour	19.27	35
Annual	6.60	12
NO2		
1-hour	159.62	188
Annual	11.36	100
CO		
1-hour	1,423.42	40,000
8-hour	972.53	10,000

Table - Class II Increment Model Results

Pollutant Averaging	Max Impact (µg/m³)	Class II Increment Standard (µg/m³)
SO2		
1-hour	1.33	512
24-hour	1.20	91
Annual	0.06	20
PM10		
24-hour	4.27	30
Annual	0.60	17
PM2.5		
24-hour	8.46	9
Annual	0.60	4
NO2		
Annual	7.36	25

In summary, DEP's modeling report, dated March 13, 2020 affirmatively documents, based on conservative assumptions, that Nordic's proposed engines will meet applicable ambient air quality standards.

Sincerely,

Mainly Environmental LLC



Steven Whipple, P.E.