



**Leading Light
Wind**

New Jersey's 3rd Offshore Wind Solicitation – Clarification Question Responses

Responses to December 1, 2023 clarification questions



Prepared By

**The Leading Light Wind project team on behalf of:
Invenergy Wind Offshore LLC**

Aaron Geschiere

ageschiere@invenergy.com

Origination

Contents

Responses to NJBPU December 1st, 2023 questions	4
NJBPU Question 1	4
Question 1 Response	4
NJBPU Question 2.....	5
Question 2 Response	6

Introduction

Dear Mr. Ferris and NJBPU Staff,

This document contains Leading Light Wind's (LLW) written responses to the BPU's December 1st, 2023 list of clarification questions related to our bid into New Jersey's 3rd offshore wind solicitation.

LLW believes that the initial set of responses herein fully cover the clarification questions. However, should additional information be needed related to these topics or any others, please advise and we will respond promptly. Thank you for your consideration of the LLW proposal.

Best Regards,
The Leading Light Wind Project Team

Responses to NJBPU December 1st, 2023 questions

NJBPU Question 1

Attachment 10.1: Invenergy Wind Offshore (at p. 23) states: “...we fully expect that our suppliers’ vessels will be providing significant reduced emissions than what is reported here as the new generation of low NOx emitting diesel engines, and zero greenhouse gas emitting synthetic fuels come on line in the next few years.” Invenergy Wind Offshore (at p. 27) further states: “...the emissions from the onshore construction may not be considered incremental to the project as the economies of New Jersey and the whole north Atlantic region are significantly robust that it may be assumed that all construction forces would be entirely engaged with or without the proposed offshore wind projects.”

a. What emission controls and emission rates were assumed for the diesel engines assumed to be in use?

b. Please provide an updated Application Form for each Project option showing (on the “Emissions Impacts-Project” worksheet) direct emissions during each Project phase (development, construction, operation, and decommissioning) assuming that (a) low NOx diesel engines will be in service for all project phases; and (b) emissions from onshore construction equipment are not incremental to the Project. Do not include any aspect of the Prebuild Infrastructure in this analysis.

Question 1 Response

a. As indicated in Attachment 10.1, vessel diesel engine emission controls and emission rates are based on

[REDACTED]

Table 1: Average assumed vessel diesel engine emission rates

[REDACTED]

b. Updated Application Form “Emissions Impacts-Project” worksheets have been uploaded to the Levitan & Associates Sharefile site as “CONFIDENTIAL_Application Form_LLW_Emissions_Updated_Clarification Question 1.” These worksheets include direct emissions during each Project phase, assuming that low-NOx diesel engines [REDACTED] will be in-service for all project phases and that emissions from onshore construction equipment are not incremental to the Project. Please note that [REDACTED]

[REDACTED]

No Prebuild Infrastructure emissions have been included in this analysis. Additional corrections to previously reported results as discussed below in Question #2 are also included in this file. The revised results for direct project emissions by phase (in short tons) for each of our [REDACTED] submitted project sizes ([REDACTED]) are provided in the following revised Appendix 10-1 tables.

Table 10.1-2 (Revised). Total project emissions all phases (short tons) for [REDACTED] project

A large black rectangular redaction box covering the content of Table 10.1-2.

Table 10.1-3 (Revised). Total project emissions all phases (short tons) for [REDACTED] project

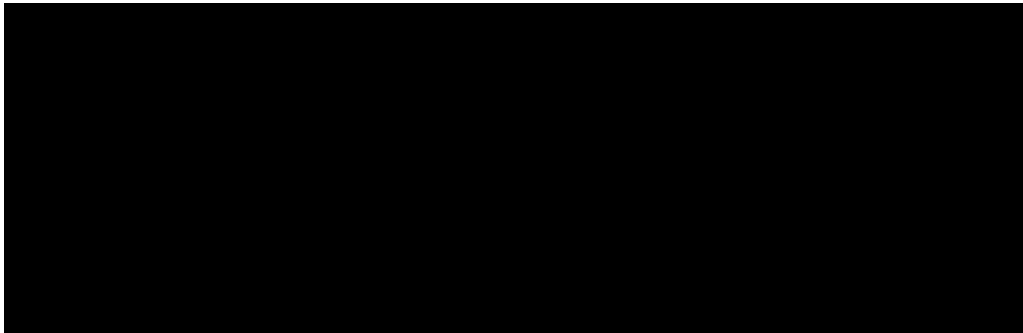
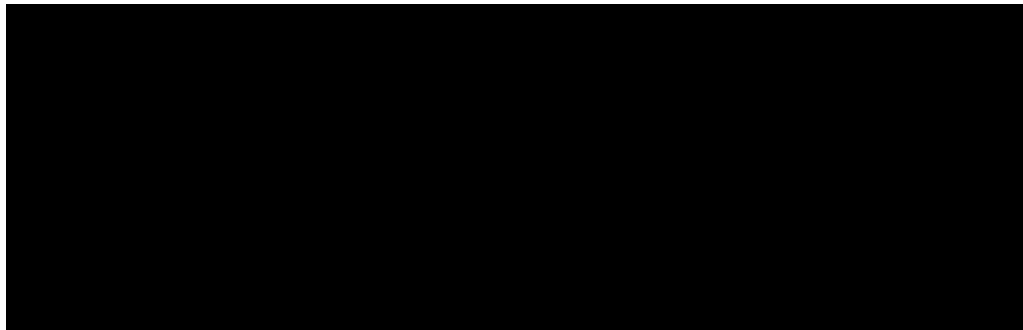
A large black rectangular redaction box covering the content of Table 10.1-3.

Table 10.1-4 (Revised). Total project emissions all phases (short tons) for [REDACTED] project

A large black rectangular redaction box covering the content of Table 10.1-4.

The revised project emissions result in an improvement of the project Benefit Cost Analysis (BCA) as compared with what was originally provided in Section 17 of our bid submission, with revised Benefit Cost Ratios (BCRs) approximately [REDACTED] higher.

NJBPU Question 2

The U.S. EPA publication AP 42 (<https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors>) provides industry-standard emission factors for different types of emissions sources. Volume 1 Chapter 3: Stationary Internal Combustion Sources, lists emission rates for Gasoline and Diesel Industrial Engines. In Table 3.3-1, the emission factors for an uncontrolled diesel industrial engine are 4.41 lb/MMBtu of fuel input for NOx, and 164 lb/MMBtu of fuel input for CO2, or a NOx to CO2 emission ratio of 0.027.

a. Please explain why the emission ratios of NOx to CO2 provided in the updated Application Forms provided in response to Clarifying Questions Set #2 are significantly higher than what would be expected even if all emissions sources were uncontrolled diesel engines.

b. If these values are in error, please provide updated Application Forms for each Project option with corrected "Emissions Impacts-Project" worksheets.

Question 2 Response

- a. Errors were identified in the calculations for the modeled NOx emissions reported for the development and decommissioning phases of the project; these have been corrected in the "CONFIDENTIAL_Application Form_LLW_Emissions_Updated_Clarification Question 2" file uploaded to the Levitan & Associates Sharefile site. [REDACTED] No errors were found in the calculations for the NOx emissions for the construction and operations phases and the NOx-to-CO₂ emission ratios for these phases were found to be within expected limits.
- b. The errors in the calculation of the NOx emissions for the development and decommissioning phases have been corrected against the original submission and included in the in the "CONFIDENTIAL_Application Form_LLW_Emissions_Updated_Clarification Question 2" file uploaded to the Levitan & Associates Sharefile site. To avoid any confusion, the **Question 2** spreadsheet does not include the changes discussed in Question 1, while the **Question 1** spreadsheet does include the changes discussed in Question 2.

