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Filer:	Caitlin Barns
Organization:	Stantec Consulting Services, Inc.
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**Fountain Wind Project Response to CEC Data Requests AIR-013 and -014
July 27, 2023**

Fountain Wind, Air Quality Responses

1. **CEC RESPONSE:** The response is insufficient. Specifically, project PM10 emissions during construction would exceed Shasta County AQMD thresholds of significance. Data provided (TN 250818) shows PM10 for year 1 as 433.15 pounds per day. The Shasta County significance thresholds are 80 lb/day for Level A and 137 lb/day for Level B. The 2003 Shasta County protocol indicates that emissions exceeding the thresholds should be evaluated for potential violation of ambient air quality standards using dispersion modeling. Applicant may choose to use screening models or a refined analysis, as needed.

STANTEC RESPONSE: Ambient air quality analysis was prepared for Year 1 PM10 emissions with USEPA AERMOD dispersion modeling. AERMOD was used to estimate the concentration of PM10 emissions at the site boundary, all receptors were placed at the default assumption of zero meters above ground level. The site was modeled as an area source with construction PM10 emissions from Year 1 dispersed uniformly across the site using meteorological data from Redding Municipal Airport from 2017-2021. The meteorological data was pre-processed through CARB.

To determine the ambient air quality impact, the background concentration and Project emissions are combined and compared against applicable CAAQS and NAAQS standards. Background concentrations of 24-hour and annual average PM10 for the year 2021 (the latest year of available PM10 data) were pulled from the Shasta Lake monitoring station, the closest monitoring station to the site.¹ The table below presents the results of the ambient air quality modeling for PM10.

Averaging Time	2021 PM10 Background (ug/m3)	PM10 from Project (ug/m3)	Combined PM10	CAAQS	Exceed?	NAAQS	Exceed?
24 Hour	112.4	0.0129	112.4129	50 ug/m3	Yes	150 ug/m3	No
AAM	15.1	0.0036	15.1036	20 ug/m3	No	-	-

As shown in the table, the ambient concentration of 24-hour PM10 would not exceed NAAQS and annual average PM10 would not exceed CAAQS. However, the ambient concentration of 24-hour PM10 will exceed CAAQS.

The background concentration at the Shasta Lake Monitoring Station already determined that the maximum 24-hour concentration in 2021 more than doubled the CAAQS. As such, even without the Project, the area would exceed the 24-hour PM10 CAAQS. The Project would only contribute 0.012% of the total background concentration. This addition is negligible compared to the existing background levels of pollution. Moreover, the Project would only contribute this amount of PM10 during the first year of construction. PM10 emissions would decrease during Year 2 of construction and through operation. Project construction would follow all air district rules and regulations as well as a series of mitigation measures aimed at reducing PM10 to the maximum extent possible to reduce its impact to the area.

Finally, the PM10 levels generated by the Project are lower than those calculated within the 2019 analysis. Therefore, the contribution to the background concentration from the Project are lower than the previous project considered in 2019.

¹ CARB. 2023. ADAM. Website: <https://www.arb.ca.gov/adam/topfour/topfourdisplay.php>. Accessed July 2023.

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2. **CEC RESPONSE:** The response is insufficient. The response should provide a detailed justification of why dispersion modeling isn't required for typical operation of the project, including scenarios of emergency generator use.

STANTEC RESPONSE: Project operation would primarily generate emissions from vehicle trips, maintenance work, and from the emergency, diesel generator. Ambient air quality analysis is concerned with on-site emissions. Since the majority of emissions from vehicles would occur off-site, they would not be included in an ambient air analysis. This is consistent with South Coast AQMD guidance and SJVAPCD guidance for using their local significance thresholds to determine the ambient air impact. The emergency, diesel generator and maintenance work activities would generate emissions on the Project site. However, emissions posed from the generator are anticipated to be periodic, operating an average of 0.167 hours per day. Maintenance work activities include turbine repair and testing, as such maintenance would move across the 120 acre site and associated emissions would be dispersed throughout the site. Emissions from operation were modeled within CalEEMod and found to fall below Shasta County AQMD Level A thresholds.

Results Summary

C:\Lakes\AERMOD View\FountainWind\FountainWind.isc

PM10 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
24-HR	1ST	0.01294	ug/m ³	595114.76	4519707.66	1164.42	0.00	1209.00	1/21/2021, 24
ANNUAL		0.00360	ug/m ³	595114.76	4519707.66	1164.42	0.00	1209.00	

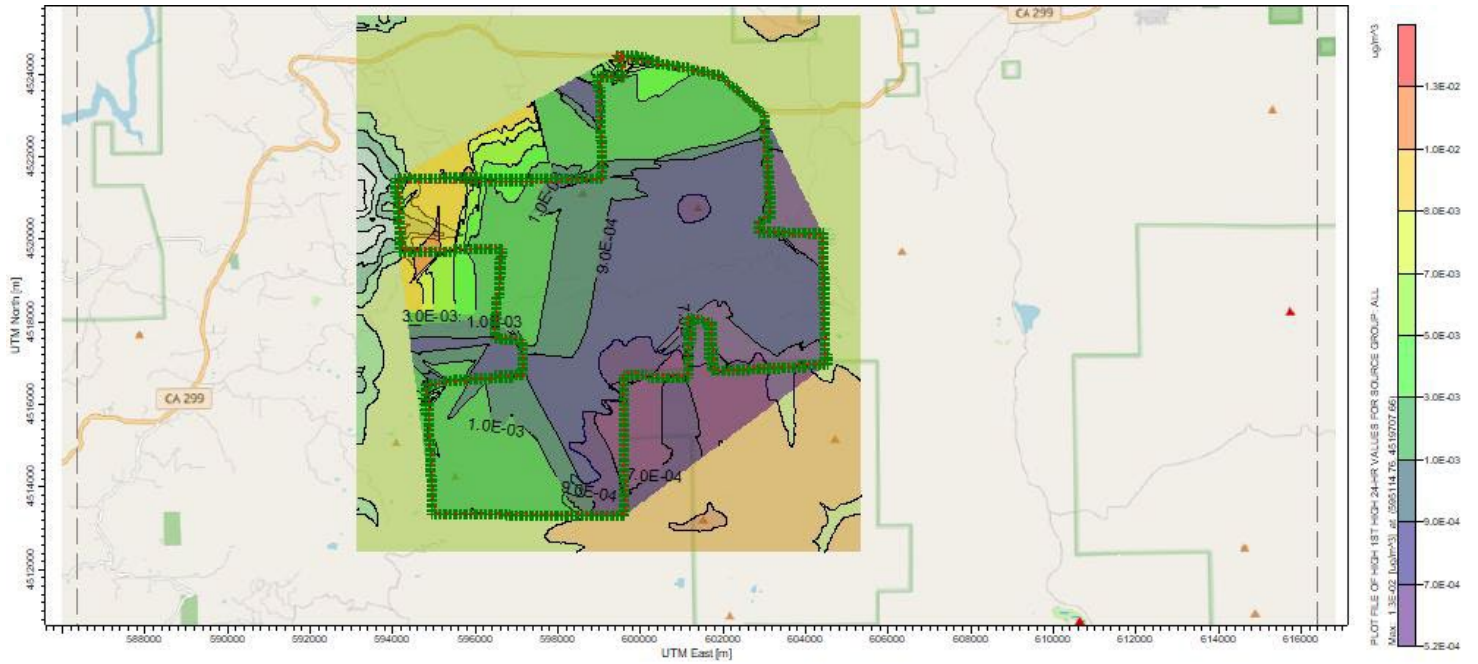


Figure 1. AERMOD dispersion modeling, Fountain Wind, 24 Hour PM10 Results

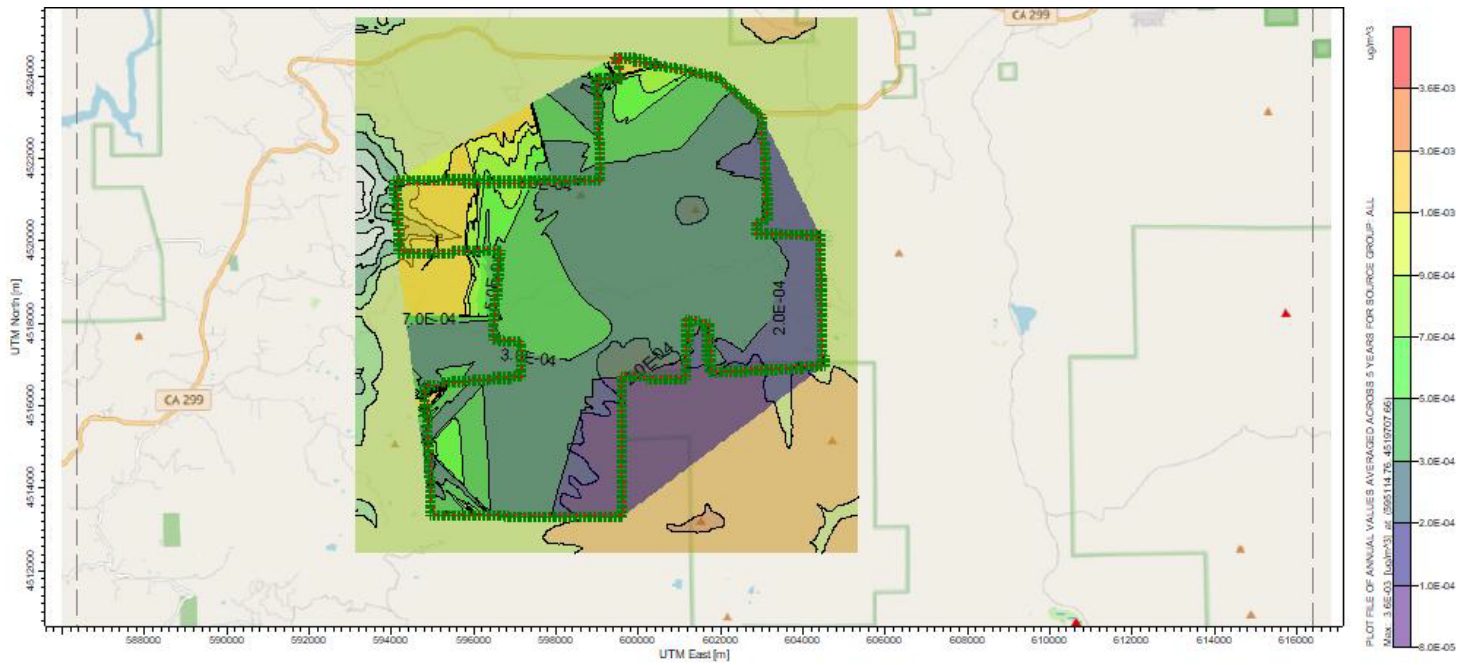


Figure 2. AERMOD dispersion modeling, Fountain Wind, Annual PM10 Results