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Carlsbad, CA 92010  
619-609-0712

February 3, 2020

Donna Tisdale  
Backcountry Against Dumps, Inc.  
P.O. Box 1275  
Boulevard, CA 91905

Re: Campo Wind Project  
Noise / Acoustical Review

Ms. Tisdale:

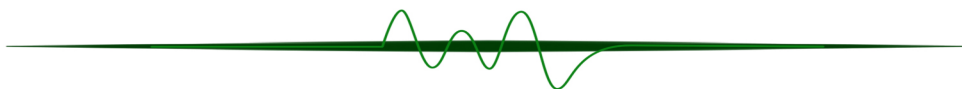
dBF Associates, Inc. was retained by Backcountry Against Dumps, Inc. to review the following documents:

- Draft Environmental Impact Report for the Campo Wind Project with Boulder Brush Facilities. Dudek. December 2019.
- Draft Acoustical Analysis Report for the Campo Wind Project with Boulder Brush Facilities. Dudek. December 2019.
- Campo Wind Project with Boulder Brush Facilities – DEIR Appendix G (Noise) Addendum. December 3, 2019.

Our comments are presented below.

1. In the Acoustical Analysis Report (AAR) for the May 2019 DEIS, the project description included up to 60 wind turbine generators producing up to 4.2 megawatts (MW). The current AAR does not describe the proposed turbine power generation capability. The current AAR Section 6.1.3.1 indicates that its modeling methodology uses sound level data associated with General Electric (GE) 2.X-127 60 Hz model wind turbines, which are turbines producing between 2.0 and 2.9 MW. The AAR should use sound level data associated with the proposed turbines or justify the use of alternate data. This concern was noted in our comments on the Campo Wind DEIS dated July 2019, and has not been addressed.

The octave band sound data is presented on page 1 of AAR Appendix B. However, the GE source document for this data is not included in the report. This document does not appear to be readily available to the public. The AAR should include its source sound level data reference(s) as an appendix. This concern was noted in our Campo Wind DEIS comments dated July 2019, and has not been addressed.



2. AAR Section 4.2.3 cites “An Ordinance Amending the San Diego County Zoning Ordinance Related to Wind Energy Turbines”, the text of which has been incorporated into the County Zoning Code.

County Zoning Code Section 6952(f)(3) states:

Pure Tone. If the sound from a large wind turbine while operating contains a steady or intermittent pure tone, such as a whine, screech or hum, the applicable standards for noise set forth in County Code section 36.404 shall be reduced by five dBA. A “pure tone” exists if one-third of the octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of sound pressure levels of the two contiguous one-third octave bands by five dBA for center frequencies of 500 Hz or more, by eight dBA for center frequencies between 160 Hz and 400 Hz, or by 15 dBA for center frequencies less than or equal to 125 Hz.

The GE Product Acoustic Specifications for its 1.7-103 with LNTE (Low Noise Trailing Edge) and 3.6-137 Wind Turbine Generator Systems include one-third octave band sound data. The equipment manufacturer for this project should provide one-third octave band sound data for the proposed turbines.

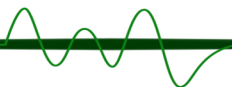
The AAR should evaluate pure tone noise, as directed by the County of San Diego Wind Energy Turbine (WET) Guidelines, as a threshold of significance.

This concern was noted in our Campo Wind DEIS comments dated July 2019. The AAR has been updated to take note of the requirement, but does not contain any analysis or further discussion.

3. The previous AAR utilized ambient noise level measurements conducted with Soft dB Piccolo ANSI Type 2 sound level meters (SLMs), which are incapable of accurately measuring sound levels below 37 dB.

The current AAR utilizes updated ambient noise level measurements conducted with ANSI Type 1 SLMs in most locations. At several locations – LT-3, LT-6, LT-8, LT-9, LT-10, LT-11, and BBF-LT-8, the updated ambient measurements reported higher ambient noise levels than in 2018.

The current AAR incorrectly bases impact findings on the higher ambient noise levels. Despite the limitations of the Type 2 equipment, the 2018 measurements demonstrate that the ambient noise environment can be quieter than characterized by the 2019 measurements. Using the louder of the measured levels understates potential impacts.

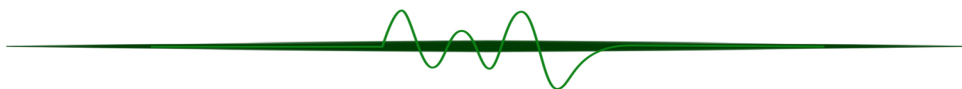


In particular, the 2019 survey found that the noise levels at LT-9 and LT-11 were 13 dBA higher than in 2018. However, both of these deployments experienced technical difficulties. Given this large discrepancy and the circumstances, this data should be discarded and the measurements repeated.

4. GPS coordinates of ambient noise level measurements were added to the current AAR; however, site photographs were not included.

At several locations, the microphone positions were not representative of ambient noise levels near NSLUs.

- a. At LT-1, the meter was placed approximately 50 feet from BIA Route 10, one of the two primary on-reservation roadways used by residents and border patrol agents. Homes in this area are generally over 500 feet from roadways.
- b. At LT-2, the meter was placed less than 25 feet from a long driveway road, and approximately 130 feet from a rail line.
- c. At LT-3, the meter was placed less than 10 feet from BIA Route 15, one of the two primary on-reservation roadways used by residents and border patrol agents. Homes in this area are over 200 feet from roadways, and often over 500 feet away.
- d. At LT-6, the meter was placed less than 15 feet from Miller Valley Road, the sole access road for at least nine homes. Homes in this area are generally over 250 feet from roadways.
- e. At LT-7, the meter was placed approximately 55 feet from the centerline of Old Highway 80, a 55-mph major thoroughfare in the area. There are several NSLUs in the area at a similar distance from this roadway, but many more are much further.
- f. At LT-8, the meter was placed less than 15 feet from Tusil Road (BIA Route 12). Homes in this area are generally more than 100 feet from roadways.
- g. At LT-11, the meter was placed approximately 55 feet from BIA Route 10 (Church Road), one of the two primary on-reservation roadways used by residents and border patrol agents. Homes in this area are generally over 250 feet from roadways, and often over 500 feet away.
- h. At LT-12, the meter was placed approximately 25 feet from Manzanita Road. Homes in this area are generally over 500 feet from roadways.



- i. At LT-13, the meter was placed less than 5 feet from Tierra Del Sol Road, a roadway utilized by several residents and border patrol agents. Homes in this area are generally over 100 feet from roadways.

These microphone placements overstate the ambient noise environment and consequently underreport project noise impacts. The AAR should repeat these measurements at locations acoustically equivalent to NSLUs, and sufficiently removed from known transportation noise sources.

5. AAR Section 6.1.3 states “Comparison of predicted results between the CadnaA models and these Excel-based techniques at many geographic locations around and within the Project site exhibit differences of less than +/-3 dB, which is barely a perceptible difference.”

Underprediction of project noise levels by 3 dB, while barely perceptible, is meaningful. Project noise levels that are higher than predicted by 3 dB would result in impacts during several more conditions than reported in the AAR. The AAR should utilize multiple CadnaA models rather than spreadsheets, or the AAR should provide the spreadsheets as an appendix.

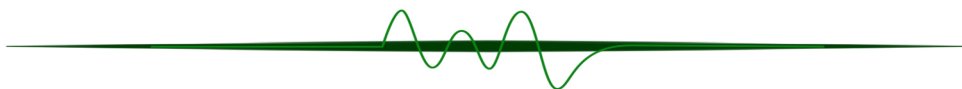
This concern was noted in our Campo Wind DEIS comments dated July 2019, and has not been addressed.

6. AAR Section 6.2.2 presents wind turbine sound levels as a function of wind speed. The AAR does not discuss the wind turbine noise frequency spectrum consistency over the range of wind speeds. GE provides acoustical specifications in technical documentation for some wind turbine generator systems; these specifications show that their wind turbine noise frequency spectrums vary as a function of wind speed. The AAR modeling should use wind turbine noise frequency spectrums for each wind speed condition.

This concern was noted in our Campo Wind DEIS comments dated July 2019, and has not been addressed.

7. AAR Section 6.3 and 6.4 find that impacts based on exceedances are expected during certain wind conditions. However, the AAR does not express the amounts or percentages of time that impacts would occur. The AAR should report, in unambiguous terms, how often impacts would occur.

This concern was noted in our Campo Wind DEIS comments dated July 2019, and has not been addressed.



8. AAR Section 6.3.2 states “As locations of On-Reservation NSLU locations cannot be confirmed...”

Locations of most or all on-reservation residences and any other NSLU should be readily available from tribal documentation. Alternatively, most on-reservation structures are clearly identifiable on publicly available aerial photography maps.

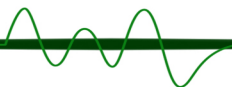
In addition, the representative locations used to evaluate impacts do not indicate or approximate the number of represented NSLUs.

The AAR should identify the quantity and locations of On-Reservation NSLUs.

This concern was noted in our [Campo Wind DEIS](#) comments dated July 2019, and has not been adequately addressed. This omission potentially under-represents the scope of potential impacts.

9. Some measurement positions are not appropriate for use as impact evaluation locations.
- a. There is at least one home near LT-3 that is markedly closer to the proposed turbines than the measurement position.
  - b. There are at least six homes or other structures near LT-4 that are markedly closer to the proposed turbines than the measurement position.
  - c. There are at least four homes near LT-6 that are markedly closer to the proposed turbines than the measurement position.
  - d. There are dozens of homes near LT-7 that are markedly closer to the proposed turbines than the measurement position. In particular, there are approximately six homes north of Hi Pass Road, on off-reservation land, that are poorly represented by LT-7. Further, there is a large congregation of NSLUs in the Live Oak Springs area; this is not properly evaluated.
  - e. There are at least two homes near LT-8 that are markedly closer to the proposed turbines than the measurement position.
  - f. There are at least eleven homes near LR-11 that are markedly closer to the proposed turbines than the measurement position.

The analysis should evaluate the project noise levels at the closest potential NSLU(s).





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In its current form, the analysis underpredicts project noise levels at NSLUs and underreports the severity and quantity of project noise impacts.

This concludes our review. Should you have any questions regarding the information provided, please contact me at (619) 609-0712 x102.

A handwritten signature in black ink, appearing to read "Steven Fiedler", is written over a horizontal line. The signature is stylized and cursive.

Steven Fiedler, INCE  
Principal

