Comment Letter O6

From:	Donna Tisdale
To:	Harris, Susan; Koutoufidis, Nicholas
Cc:	Jacob, Dianne; Wilson, Adam
Subject:	Boulder Brush DEIR-BAD comments
Date:	Monday, February 03, 2020 1:11:01 PM
Attachments:	BPG Boulder Brush DEIR FINAL 2-3-20.pdf Campo Wind Noise Review DBF 2-3-20.pdf CadnaA-The lie behind turbine noise models 10-17-11.pdf Campo Wind DEIS 3rd party expert summaries.pdf

RE: BPG Boulder Brush Facilities-Campo Wind DEIR: PDS2019-16-001, PDS2019-MUP-19-002

Hello Susan,

Please include the attached comment letter with attachments into the public record on behalf of Backcountry Against Dumps and myself as an individual. These comments are in addition to those that have been / will be submitted by the Law Offices of Stephan C. Volker. O6-1

Regards,

Donna Tisdale, President

PO Box 1275

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619-766-4170

BOULEVARD PLANNING GROUP

PO BOX 1272, BOULEVARD, CA 91905

DATE: February 3, 2020

TO: Susan Harris, Planning & Development Services via: Susan.Harris@sdcounty.ca.gov ; cc: Nicholas.Koutoufidis@sdcounty.ca.gov; Dianne.Jacob@sdcounty.ca.gov; Adam.Wilson@sdcounty.ca.gov

FROM: Donna Tisdale, BPG Chair: 619-766-4170; tisdale.donna@gmail.com

RE: BPG Boulder Brush Facilities-Campo Wind DEIR: PDS2019-16-001, PDS2019-MUP-19-002

After public discussion at our regular meeting held on January 2nd, 2020, the Boulevard Planning Group (BPG) voted unanimously (6 Yes, 0 No, Seat 1 vacant) to authorize the Chair to submit this letter of opposition to Boulder Brush / Campo Wind project, reflecting our preferred order of alternatives plus an additional potentially viable Alterative 5 :

1. **Alternative 1:** NO PROJECT Alternative
2. **Alternative 2:** No Boulder Brush Facilities on Private Lands Alternative
3. **Alternative 4:** Underground Gen-Tie Route within Boulder Brush Boundary.
4. **Alternative 3:** Alternative Gen-Tie Route within Boulder Brush Boundary
5. **Potentially Viable Alternative 5:** Move Boulder Brush facilities to southwest corner of Campo Reservation and connect to SDG&E's existing 500kV Southwest Powerlink that crosses there, thereby keeping all project components on Campo tribal land, avoiding use of private property along with Manzanita and /or La Posta tribal lands. (*This alternative was voted on prior to the public announcement that a required number of Campo General Council members had signed a petition strongly opposing Campo Wind project that will likely lead to Campo Wind termination, similar to their 2013 vote to terminate Invenergy's Shu'luuk Wind project and previous vote to terminate the Campo Landfill*).

O6-2

We have the right to expect the County to live up to their PDS mission statement (emphasis added):

- "***Through operational excellence and attention to customer service, we strive to balance community, economic and environmental interests to ensure the highest quality of life for the public of San Diego County***"[1].
- Our rural communities deserve, but have not yet received, equal protection, balance, and the highest quality of life. We have already been disproportionately overburdened and adversely impacted and discriminated against by existing, previously approved, and proposed energy and infrastructure projects---more so than any other San Diego County communities. Enough!

O6-3

According to CEQA Guidelines, CEQA specifically addresses the potential for conflicting expert discussions and mandates that all sides of an issue are considered[2].

O6-4

[1] https://www.sandiegocounty.gov/content/sdc/pds.html
[2] http://resources.ca.gov/ceqa/guidelines/intro.html

- *No one is more of an expert on project impacts than those who are actually impacted in real life*.
- In regards to the PDS mission statement and all sides of an issue being considered; not once but twice, the assigned Project Planning Manager has left local meetings early. Once during an on-site meeting with previous Project Manager Brownyn Brown and project-impacted neighbors and again at the January 23rd DEIR meeting. He had previously promised to revisit the neighbor's property to see the impacts from their vantage point but, despite claiming that he had already done so, *he has not yet followed through on that promise*.
- During and after the January 23rd DEIR meeting, members of the public asked about whom he was and expressed concern over his perceived dismissive and disrespectful facial expressions during some public comments. They also remarked on his early departure.
- It is our expectation and desire that staff working on this Project, and others, keep an open mind and actually listen to and hear both sides, including those whose real world damaging experiences of living with turbines may conflict with personal and/or professional goals / opinions related to promoting the intrusion of massive invasive renewable energy projects into occupied neighborhoods and places of business over valid objections of adversely and disproportionately impacted residents/families/workers.
- The long-term viability and livability of our human and natural communities are truly at stake here.

O6-4 Cont.

O6-5

The following previous BPG comment letters submitted into the record for Terra-Gen's Boulder Brush Facilities NOP, Campo Wind DEIS, and Torrey Wind NOP and Scoping (connected, direct, and indirect actions under CEQA), and the County's irresponsible 2019 Public Health Position Statement: Human Health Effects of Wind Turbines, are hereby incorporated in full by reference and were all previously and timely submitted via email to the County's PDS project Manager, Bronwyn Brown, Planning Commission Secretary, JeRae Bailey, and others:

- July 10, 2018: 14-page letter: **Torrey Wind MUP** scoping letter comments; PDS2018-18-014; HAROLDPDS2018-ER-21-001
- July 22, 2018: 26-page letter: PDS2018-MUP-18-014: INITIAL COMMENTS ON **TORREY WIND**
- September 10, 2018: 14-page letter: **Torrey Wind MUP scoping letter comments; PDS2018-18-014; PDS2018-ER-21-001**
- December 20, 18: 28-page letter: **CAMPO WIND EIS SCOPING COMMENTS**; REQUEST FOR 30-45 DAY COMMENT EXTENSION & NEW SCOPING MEETING; JOINT CEQA/NEPA REVIEW IS REQUIRED OF TERRA-GEN'S CONNECTED ACTION/WHOLE OF THE PROJECT CAMPO WIND, TORREY WIND & BOULDER BRUSH GEN-TIE PROJECTS—IT IS ONE PROJECT NOT THREE
- February 12, 2019: 14-page letter: RE: **Boulder Brush** Gen-Tie Line & Substation Facilities: PDS2019-MUP-19-002; ER 19-16-001
- March 17, 2019: email: **Boulder Brush**: 15-wind turbine neighbor surveys
- March 18, 2019: 33-page letter: BPG - **Boulder Brush NOP comments** with Stezter Electric Wind Turbine EMF letter
- March 20, 2019: 14-page letter to Planning Commission: RE: MARCH 22ND PRESENTATION ON **PUBLIC HEALTH POSTION STATEMENT ON HUMAN HEALTH EFFECTS OF WIND TURBINES**

O6-6

- March 22, 2019: 31-slide PowerPoint presentation to Planning Commission: Tisdale for BPG/Backcountry Against Dumps: **Wind Turbine Health Effects** (in response to irresponsible 2019 Public Health Position Statement: Human Health Effects of Wind Turbines)
- March 25, 2019: email: **Boulder Brush - wind turbine surveys, petition & letters**
    - "Attached are the 5 Wind Turbine Neighbor Surveys, 7 petition signatures, and 8 opposition form letters (all dated 3-20-19) that Michele Strand gathered and referenced in her public comments at the March 22nd Planning Commission meeting on wind turbine health effects. There may be some duplicates from previous petitions or letters turned in. I have not double checked. The residents in this batch of documents all live in the Ribbonwood Road or Tierra Heights neighborhoods in Boulevard, with chronic exposure to existing wind turbine impacts."
- March 25, 2018: email: **Boulder Brush Gen-Tie facilities & Campo Wind PDS2019-MUP-19-002; PDS2019-ER-16-001**
    - Here are the 8 Boulder Brush /Campo Wind opposition letters that should have been attached to my previous message.
- April 25, 2019 email: 18-page **letter to Planning Commissioners & PDS Director** (4-24-19) with 5 attachments requesting revocation of the 2019 Public Health Position Statement on Human Health Effects from Wind Turbines (Statement).
- June 24, 2019: 21-page letter: RE: Comments on Terra-Gen's **Campo Wind & Boulder Brush** Gen-Tie Scoping Letter (5-24-19); PDS2019-MUP-19-002; PDS2019-ER-19-16-001
- June 24, 2019: email: **Comments on Terra-Gen's Campo Wind & Boulder Brush Gen-Tie Scoping Letter (5-24-19); PDS2019-MUP-19-002; PDS2019-ER-19-16-001**
    - "The 38 wind turbine neighbor surveys are attached as the 3rd attachment for the Boulevard Planning Group's letter submitted moments ago. The impacts are real and can't be ignored".
- July 8, 2019: 33-page letter : RE: **BOULDER BRUSH GEN-TIE LINE AND SWITCHYARD FACILITIES FOR CAMPO WIND PROJECT**: PDS2019-MUP-19-002; PDS2019E-ER-19-16-001: NOTICE OF PREPARATION & INITIAL STUDY
- July 8, 2019: 48-page letter: RE: **CAMPO WIND / BOULDER BRUSH DEIS COMMENTS** / REQUEST FOR RECIRCULATED OR SUPPLEMENTAL DEIS

For the record, it is noted that of the numerous comment letters listed above, only the March 18th BPG comment letter was included in record of the current Boulder Brush Facilities DEIR as evidenced by Appendix A – public comments[3].

O6-6 Cont.

FORMAL REQUEST FOR REVISED AND RECIRCULATED DEIR—*if the Boulder Brush-Campo Wind Project actually moves forward*:

- **SIGNIFICANT NEW INFORMATION THAT CHANGES THE PROJECT'S RELEVANCE, related to the valid Campo Wind opposition petition signed by 65 General Council members, more than the required number of voting Campo General Council Members to terminate that project,** according to their constitution /bylaws, as stated in the petition. Twice the number now

O6-7

[3] https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/BoulderBrush/DEIR/Apx%20A%20-%20Notice%20of%20Preparation%2c%20Initial%20Study%2c%20Comment%20Letters.pdf

opposes the project as the 32 who voted for it during an allegedly illegal vote on April 3, 2018 at a reportedly improperly noticed 'information only' meeting.

- The tribal petition was publicly announced by tribal members at the January 23rd DEIR meeting in Boulevard and submitted to Susan Harris via email on January 24th for inclusion into the public record. That petition is hereby incorporated in full by reference.
- Campo Tribal leadership reportedly has 30 days to call a special meeting for a new vote and any internal disputes are to be resolved by the Secretary of Interior, according to tribal members and their constitution/bylaws.

O6-7 Cont.

- **Lead agency must ask the threshold question whether the CEQA review for the old project "remains relevant" and continues to have "informational value."** *If the project were so changed as to render the previous CEQA review "wholly irrelevant," the statutory criteria in CEQA Section 21166 for supplemental review of a previous project would not be reached*[4].

O6-8

- **Improper Project Segmenting / Piecemealing[5] related to failure to include Terra-Gen's reasonably foreseeable Torrey Wind project and "future NICAD footprint" for battery storage components in Boulder Brush DEIR**.

O6-9

  - New information: NICAD Battery storage is planned for, as documented in Project Control Building Details at sheet 26 of 27 in Boulder Brush Facilities Substation Detail Plot Plans (dated 12/05/19), while battery storage is not apparently disclosed, analyzed, or mitigated in the DEIR or Fire Protection Plan Appendix I.

O6-10

  - See more under comments below on section 1.2 PROJECT DESCRIPTION.

O6-11

  - Terra-Gen's 30-turbine Torrey Wind project should be included in this DEIR as a 'reasonably foreseeable' project as identified at page 9 of 34 in Terra-Gen Development Company LLC's Shadow Flicker Analysis –DEIR Appendix O: **"**Scenario 3 (Baseline + Project + Cumulative): includes the operational wind projects in Scenario 1, 76 Project turbines, and the reasonably foreseeable future Torrey Wind Project (30 proposed turbines)."

O6-12

- **Terra-Gen's Shadow Flicker Analysis documents that they used 3.83 MW "representative turbine" for analysis when it has already been documented in the BIA's DEIS that they were using 4.2 MW turbines that stand 586' tall**. See further discussion below.
  - The Project Description in this DEIR also admits to a 252 MW project and the use of 60 turbines up to 4.2 MW each.
  - 252 MW divided by 60= 4.2 MW NOT 3.83 MW
  - Taller 4.2 MW turbines should have been used for more accurate analysis of real world impacts of shadow flicker.

O6-13

- **This is the second time Terra-Gen / Dudek has been caught out on their noise analysis:**
  - Formal DEIS comments submitted by Both Wilson Ihrig and dBF Associates, Inc documented that in the DEIS for Campo Wind, Dudek originally used noise monitoring equipment that could not record rural ambient levels as low and quiet as most of Boulevard's levels. They had to redo their measurements and still can't get it right.

O6-14

[4] https://www.pillsburylaw.com/en/news-and-insights/california-supreme-court-sets-new-deferential-standard-for.html
[5] https://ceqaportal.org/tp/Project%20Description%2003-23-161.pdf

- **They are still unprofessionally, unethically, and intentionally using the highest measurements, ignoring professional third party analysis and criticism from Wilson Ihrig and dBF Associates, Inc**
- **They lost critical monitoring data, and failed to reconduct the monitoring, thereby giving Terra-Gen an unfair advantage over impacted locals.**
- Is it negligence or intended misrepresentation /obfuscation to benefit Terra-Gen?

O6-14 Cont.

- **The use of eminent domain by SDG&E to expand Ribbonwood Road into private property was not disclosed in the DEIR** and was only learned through staff's response to impacted property owner at the Jan 23rd DEIR public meeting in Boulevard.

O6-15

- Terra-Gen used turbines for the Noise Analysis when 4.2 MW wind turbines have been repeatedly disclosed in the DEIR and DEIS documents as the proposed turbines.
- Draft Acoustical Analysis Report (AAR) for the Campo Wind Project with Boulder Brush Facilities. Dudek (December 2019): Section 6.1.3.1 indicates the modeling methodology uses sound level data from General Electric (GE) 2.X-127 60 Hz model wind turbines, that produce between 2.0 and 2.9 MW. **The AAR failed to use should use sound level data associated with the proposed much larger and noisier turbines.**

O6-16

- The DEIR's Executive Summary confirms that along with the Boulevard Planning Area, the Campo/Lake Morena, Pine Valley and Mt. Empire Planning Areas are also impacted by the Project**. Were all the relevant community planning groups formally and timely noticed of the Project, release of the DEIR and related comment deadline?** If not, the DEIR should be revised and recirculated, if the project goes forward.

O6-17

- **The County can and should make recommendations for Terra-Gen to move or eliminate the most offending Campo Wind turbines sites and O& M facilities proposed closest to off-reservation County residents** who would be subjected to the highest and most damaging levels of both audible and inaudible acoustic pressure waves, shadow-flicker, flashing red night lights, and in your face proximity. Some homes would be exposed to over 100 hours per year and more of shadow flicker where reportedly no local, state, or federal laws exist. A list with dozens of new wind turbine setback and noise restrictions (from Jan 1, 2010-Jan 13-2020) is posted with links to the related documents[6].

O6-18

SIGNIFICANT EFFECTS

- **We appreciate recognition of the 14 Significant and Unavoidable Effects listed in Table ES-1 related to aesthetics, biological resources, and noise.** However, those effects and others can all be mitigated to zero with selection of NO PROJECT Alternative 1 or further reduced by recommending repositioning or elimination of the most offending Campo Wind turbines related to noise, shadow flicker, and setback from private non-participating properties**.**

O6-19

- **Wildfire Hazards and Environmental Justice and many more impacts are ignored, dismissed, or not fully recognized, analyzed or allegedly mitigated**, including increased fire risk and adverse economic impacts to local property owners in predominantly low-income communities who are already disproportionately and adversely overburdened with large-scale wind, solar and related electrical infrastructure with reduced or no access to affordable fire insurance.

O6-20

[6] http://kirbymtn.blogspot.com/2014/10/wind-turbine-setback-and-noise.html

- **Wind turbine project-related spot fires that could have sparked wildfires, and actual project-related raging wildfires up to 30 square miles are documented within this comment letter**.
- Allowing potentially fire-sparking industrial wind turbines, high-voltage power lines, substations and switchyards with all related transformers, future NICAD or other type of battery storage, and other potentially explosive equipment during red flag high wind Public Power Safety Shutoffs, while the disproportionately impacted and predominantly low-income communities/ neighborhoods, are purposely shut off from power smacks of negligence, discrimination, and more.
- ***Massive fires have also been started by high voltage lines such as the 2019 Kincaid Fire allegedly sparked by PG&E's 230 kV lines[7].*** *It burned almost 78,000 acres and destroyed 74 homes and injured 4 firefighters.*
- ***PG&E's high voltage lines also allegedly sparked the 150,000 plus acre Camp Fire in November 2018, the most devastating in California history with 85 civilian fatalities.[8],[9]***

O6-21

- **Under 15065. Mandatory Findings of Significance (4), The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly**[10].
    - "(e) Economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment. Where a physical change is caused by economic or social effects of a project, the physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project. Alternatively, economic and social effects of a physical change may be used to determine that the physical change is a significant effect on the environment. If the physical change causes adverse economic or social effects on people, those adverse effects may be used as a factor in determining whether the physical change is significant. For example, if a project would cause overcrowding of a public facility and the overcrowding causes an adverse effect on people, the overcrowding would be regarded as a significant effect"

O6-22

- **Boulder Brush facilities growth inducing as they would / could serve additional industrial scale wind and / or solar projects thereby increasing energy sprawl** that would further alter and degrade local landscapes, soundscapes, biological, visual, cultural resources and more, along with related adverse impacts to public health and safety, property values, quality of life.

O6-23

- **Boulder Brush DEIR comments submitted to Susan Harris by Joel & Jodi Crow, via email on January 18, 2020**, list the following two properties that they wanted to purchase but pulled out upon learning of the proposed Torrey Wind and Campo Wind turbine projects:
    - 39544 Clements St., Boulevard, CA 91905
    - 1263 Calle Loreto, Campo, CA 91906

O6-24

- **Adverse economic impacts must be considered as adverse effects on human beings, either directly or indirectly, and the related emotional and physical stress caused by economic stress.**

O6-25

[7] https://www.sfchronicle.com/california-wildfires/article/PG-E-says-high-voltage-lines-were-still-on-when-14560113.php
[8] https://www.sfchronicle.com/california-wildfires/article/Regulators-PG-E-could-have-prevented-Camp-Fire-14877131.php
[9] https://www.fire.ca.gov/media/5121/campfire_cause.pdf
[10] http://resources.ca.gov/ceqa/guidelines/art5.html

- Related Statements of Overriding Consideration, attempting to dismiss the damages / detrimental effects outright without any compensation or actual mitigation for impacted non-participating neighbors , are detrimental to those impacted and unjustly benefit wealthy developers and participating private landowners over predominantly low—middle income non-participating property owners whose live savings are potentially at risk.
- ***If a project is approved, the developers should be required to offer to buyout impacted neighbors within a designated radius of their facilities. It is the simply right thing to do.***
- ***Unfortunately, circumstances are much more complicated for impacted tribal members whose homes are or may be impacted or future home sites denied due to proximity to turbines.***

O6-25 Cont.

7-LIST OF PROJECT DESIGN FEATURES, MITIGATION MEASURES, AND ENVIRONMENTAL DESIGN CONSIDERATIONS:

- No amount of alleged mitigation measures can reduce the numerous significant and cumulatively significant effects to make the Campo Wind and Boulder Brush facilities palatable or acceptable. They are basically meant to make decision makers feel better about further destroying our ruggedly beautiful area, public health and safety, community character, quality of life, and more.
- **Chapter 2.5: Definitions: § 21061.1. Feasible**: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.
  http://resources.ca.gov/ceqa/stat/chap2_5.html
- Only the NO PROJECT Alternative 1 can eliminate all the Project related effects.

O6-26

DEJA VUE-*all over again*:

- Terra-Gen's high-voltage Boulder Brush Substation Facilities and gen-tie components are proposed on private land, under County jurisdiction, to support Terra-Gen's Campo Wind project on tribal land under federal jurisdiction and Torrey Wind on private lands.
- The County approved the Tule Wind substation on private land allowing the current 57-2.3 MW turbines to operate on federal BLM land where the County has no jurisdiction. They have already resulted in significant nuisances that impact the use and enjoyment of their properties:
  - Adverse acoustic, light pollution, cell phone /electrical interference, health impacts, property values, among other complaints for impacted neighbors, pets, livestock, and wildlife.
- Tule Wind curtly denies/rejects these impacts without submitting any post-operation on-site field studies or documentation to support their false claims, most recently in a letter to BLM, dated 5/30/19.
- ***Iberdrola's/Tule Wind's denials ring even more hollow after they confidentially settled litigation with 68 property owners impacted by their 37-turbine Hardscrabble Wind in Herkimer County New York***. The original complaint, filed by attorneys Melody Scalfone and Jeff D. DeFrancisco, included the following information:

O6-27

- *"The 60 Plaintiffs have suffered various damages and injuries as it relates to the placement of the subject wind turbines being in close proximity to their home as more fully set forth herein*. …

- "Upon information and belief, in addition to the aforesaid, all Plaintiffs are entitled to damages related to the diminution of their property values; compensatory damages for the destruction of their homes and lifestyle; loss of use and enjoyment of their properties; damages in the form of relocations costs and lost time spent relocating their homes; mental anguish; destruction of scenic countryside; physical pain and suffering; difficulty sleeping; nuisance; trespass; interference with electrical functioning of their homes such as satellites, telephone and televisions; loss of business profits; special damages that include anxiety, stress, worry and inconvenience; some Plaintiffs may have a need for future medical monitoring and/or medical care; and the effects of the lights and noise the wind turbines have on the Plaintiffs' properties; among other injuries. … Upon information and belief, as a result of the conduct of Defendants, the Plaintiffs have suffered and continue to suffer the damages as set forth herein."

- ***The website for Melody (Scalfone) Westfall's firm[11], attorney for the Hardscrabble plaintiffs, includes the following statement:***

  - ***Represented 68 plaintiffs in a successful nuisance lawsuit against a wind-turbine developer***

- ***Countering Iberdrola's/Tule Wind's false claims, acoustic professional firms, Wilson Ihrig and dBF Associates, Inc have both documented the fact that Tule Wind's turbines and others do generate noise and acoustic pressure waves at impacted homes, based on actual field studies. Those reports have already been submitted to the County and the BIA.***

- In both Tule Wind and Campo Wind projects, the non-participating private property owners are/will be adversely impacted by wind turbine projects located on federal land, outside County jurisdiction, through County approval / proposed approval of related high-voltage substations, switchyards and/or gen-tie lines.
- ***San Diego County should completely bow out of Boulder Brush Facilities and related liabilities by approving Alternative 1: NO Project; Alternative 2: No Boulder Brush Facilities on private land.***

O6-27 Cont.

ENVIRONMENTAL JUSTICE (EJ): was not listed as an Area of Controversy of Significant Impact. *It is an issue and must be fully analyzed and mitigated*. San Diego Gas & Electric previously identified the Boulevard area as an EJ disadvantaged community when applying for approval for new battery storage at their Boulevard Substation*, when it suited their purpose*.

O6-28

- **EJ ISSUES & CONCERNS WERE RAISED IN OUR BOULDER BRUSH NOP COMMENTS SUMBITED ON MARCH 18, 2019.**
- **From the Office of Attorney General's site:[12]**

[11] https://www.westfalllaw.com/practice-areas/environmental/

- **SB1000:**
  - "Environmental justice" is defined in California law as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. (Cal. Gov. Code, § 65040.12, subd. (e).)
  - Health in all Policies:
    - Executive Order S-04-10

- **From CPUC Disadvantaged Communities page**[13]:
  - "Environmental and social justice seeks to come to terms with, and remedy, a history of unfair treatment of communities, predominantly communities of people of color and/or low-income residents. These communities have been subjected to disproportionate impacts from one or more environmental hazards, socio-economic burdens, or both. Residents have been excluded in policy setting or decision-making processes and have lacked protections and benefits afforded to other communities by the implementation of environmental and other regulations, such as those enacted to control polluting activities.:
  - **ESJ communities include, but are not limited to:**
    - Disadvantaged communities
    - All Tribal lands; (i.e.Campo)
    - Low-income households (Household incomes below 80 percent of the area median income); and
    - Low-income census tracts (Census tracts where aggregated household incomes are less than 80 percent of area or state median income)
  - **Environmental Justice at the Local and Regional Level Legal Background Fact Sheet:**[14] **(excerpts)**
    - (Gov. Code, § 65040.12, subd. (e).) Fairness in this context means that the benefits of a healthy environment should be available to everyone, and the burdens of pollution should not be focused on sensitive populations or on communities that already are experiencing its adverse effects.
    - **CEQA's Purposes**
      - The importance of a healthy environment for all of California's residents is reflected in CEQA's purposes. In passing CEQA, the Legislature determined:
      - "The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." (Pub. Res. Code, § 21000, subd. (a).)
      - We must "identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds from being reached." (Id. at subd. (d).)
        1 To support a finding that such concentration will not occur, the local government likely will need to identity candidate communities and

O6-28 Cont.

[12] https://oag.ca.gov/environment/ceqa/planning
[13] https://www.cpuc.ca.gov/discom/
[14] https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf

assess their current burdens. 2 The CEQA Guidelines (Cal. Code Regs., tit. 14, §§ 15000, et seq.) are available at http://ceres.ca.gov/ceqa/.

- "[M]ajor consideration [must be] given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian." (Id. at subd. (g).)
- We must "[t]ake all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise." (Pub. Res. Code, § 21001, subd. (b).)
- Specific provisions of CEQA and its Guidelines require that local lead agencies consider how the environmental and public health burdens of a project might specially affect certain communities…"

- **Transparency in Statements of Overriding Consideration**
  - Under CEQA, a local government is charged with the important task of "determining whether and how a project should be approved," and must exercise its own best judgment to "balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian." (CEQA Guidelines, § 15021, subd. (d).) A local agency has discretion to approve a project even where, after application of all feasible mitigation, the project will have unavoidable adverse environmental impacts. (Id. at § 15093.) When the agency does so, however, it must be clear and transparent about the balance it has struck.
  - To satisfy CEQA's public information and informed decision making purposes, in making a statement of overriding considerations, the agency should clearly state not only the "specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits" that, in its view, warrant approval of the project, but also the project's "unavoidable adverse environmental effects[.]" (Id. at subd. (a).) If, for example, the benefits of the project will be enjoyed widely, but the environmental burdens of a project will be felt particularly by the neighboring communities, this should be set out plainly in the statement of overriding considerations.

O6-28 Cont.

What some enlightened jurisdictions are doing to protect their impacted residents from wind turbines:

- **December 18, 2019: After marathon meetings, supervisors vote 4-1 to deny Terra-Gen's wind energy project: Hundreds spoke over two days, many in opposition to plan | By Shomik Mukherjee | Redwood Times | December 17, 2019 |** www.redwoodtimes.com[15] ~~(excerpt)

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[15] https://www.redwoodtimes.com/2019/12/17/supervisors-deny-terra-gens-appeal-for-wind-energy-project/

- "The Humboldt County Board of Supervisors on Tuesday voted 4-1 to deny the Terra-Gen wind energy project, rejecting a widely controversial plan to build wind turbines on the Bear River and Monument ridges above Scotia"**.**
- **"...**After the meeting, Terra-Gen officials declined to immediately comment on the vote's outcome. The company had agreed not to bring a lawsuit against Humboldt County in the event of a denial**."**

- **<u>December 17, 2019:</u> Omaha World Harold: Nebraska county rejects wind towers, calls for more research on potential health effects: By Jeff Bahr / World-Herald News Service[16] (excerpt):**
  - "AURORA, Neb. – By a unanimous vote Monday, the Hamilton County Board rejected a plan for a wind power generation facility in the county.

    All five board members voted to deny a conditional-use permit for the project. The permit was sought by Hamilton County Wind, which is a wholly owned subsidiary of Bluestem Energy Solutions.

    Hamilton County Wind proposed building four GE 2.82 megawatt towers, which together would have produced a total of 11.28 megawatts.

    Each tower would have been 292 feet tall. From the ground to the tip of the blade, the total height of each structure would have been 497 feet. "That's pretty tall," County Commission Chairman Rich Nelson said after Monday's meeting.

    The wind farm would have been built south and west of the Interstate 80-Highway 14 interchange.

    As part of the motion that passed, the board created a moratorium on the building of wind turbines until county staff members can research the impact of wind farms on people's health.

    Board member Roger Nunnenkamp said he felt the burden was on Bluestem to show the wind farm wouldn't be harmful to people's health. "And I did not feel that they met the burden," Nunnenkamp said after the meeting".

- **<u>December 17, 2019:</u> Pennsylvania: Hegins Twp. Zoning board denies wind variance:** ***Credit:*** **Vicki Terwilliger | Republican Herald | [17] (excerpt)**

  - "VALLEY VIEW – The Hegins Township Zoning Hearing Board on Monday unanimously denied the use variance for a Waverly energy developer wanting to erect wind turbines in the township.

  - Meanwhile, Clean Air Generation LLC is unsure if it will appeal the board's decision, according to the firm's attorney.

O6-29 Cont.

[16] https://www.omaha.com/news/state_and_regional/nebraska-county-rejects-wind-towers-calls-for-more-research-on/article_79538816-7939-5fa0-a042-68b0ce33a358.html
[17] https://www.republicanherald.com/news/hegins-twp-zoning-board-denies-wind-variance-1.2572311

- Board chairman, Larry Umholtz; member, Todd Bixler; and alternate member, Steve Klinger, voted to deny the use variance CAG had requested in a continuance from the board's Nov. 21 public hearing.

- The company has proposed building a wind energy farm, with a maximum of 75 to 80 wind turbines total; up to 40 possible in Hegins Township and the remaining in Porter, Tremont and Frailey townships.

- Hegins Township has its own zoning hearing board, while Schuylkill County oversees the zoning for the other townships.

- CAG wants to erect the proposed turbines on the ridge tops in the Bear Mountain area on approximately 12,672 acres that CAG acquired through a land lease and wind easement agreement with Rausch Creek Land LP, Valley View.

- Nicholas Cohen, CAG principal, and the firm's attorney, Charles B. Haws, of Reading, told the board they had nothing else to add, other than the memorandums already submitted.

- Umholtz said the board considered the memos submitted by all of the attorneys in the case. That included solicitor Donald G. Karpowich, Drums, representing Hegins Township supervisors; Bruce Anders, of Wilkes-Barre, representing Kris Wetzel and Rocky Slope Inc., objectors with adjacent property; and attorney Martin J. Cerullo, of Pottsville, representing the Schuylkill County Airport Authority. Anders said CAG had not met its burden of proof and showed no hardship.

- The board Monday also recognized an attorney representing the state Department of Military and Veterans Affairs.

- DMVA representatives commented Nov. 21 about the negative impact the proposed turbines could have on training. They are within the northern training area for Army aviators from all 50 states, who fly between Muir Airfield at Fort Indiantown Gap and Schuylkill County Joe Zerbey Airport, Mount Pleasant, according to the DMVA."

O6-29 Cont.

- ***Attached is a long list with dozens of various County and Township decisions / regulations made between 2010 and January 13, 2020[18], related to wind turbine height, set-backs, noise and other restrictions gathered by Kirby Mountain blogspot.***

O6-30

- ***<u>Here is one example where Terra-Gen actually listened to the impacted community and pulled out over public outcry and Supervisor weighing in for overburdened area:</u>***
  - ***June 29, 2011:* Terra Gen pulls the plug on Pahnamid project**
  - **By Carin Enovijas, News Editor tehachapinews.com (excerpt)**

O6-31

[18] http://kirbymtn.blogspot.com/2014/10/wind-turbine-setback-and-noise.html

- "Terra-Gen Power announced last week that it is withdrawing its rezoning application for the controversial 7,106-acre Pahnamid Wind Energy project in the Tehachapi Mountains. Kern County issued a Notice of Preparation for the project on April 6, and opposition to the proposed project spread like the wind throughout the mountain communities."After consulting with Supervisor Scrivner, the County Planning Department, and relevant agencies, Terra-Gen is withdrawing the rezoning application for Pahnamid," a statement issued June 23 by Randy Hoyle, Vice President and head of wind development, from the San Diego office of Terra-Gen Power, LLC."

O6-31 Cont.

ES.1.2 Project objectives:

O6-32

- **Objectives 1-7 are self-serving and basically void due to expected termination of Campo Wind by Campo General Council members, according to their petition submitted into the DEIR record on January 24th.**

  - **Project Objectives and responses:**

O6-33

1. Develop approximately 252 megawatts (MW) of renewable wind energy that can offset the need for additional energy production from fossil fuels and assist the state in meeting its air quality goals and reduce greenhouse gas (GHG) emissions in conformance with Assembly Bill 32 and Senate Bill 32.

   - ✓ **Response:** There are other 'alternative energy' sources and carbon reduction /sequestration projects beyond fossil fuels that could support displacement of carbon dioxide without further overburdening our already disproportionately impacted and predominantly low-income EJ Disadvantaged Communities.

O6-34

2. Develop a wind energy project that can meet the criteria to achieve the maximum federal tax credit requiring placement into operation by December 31, 2020, which is intended to decrease the cost of renewable energy generation and delivery, promote the diversity of energy supply, and decrease dependence of the United States on foreign energy supplies.

   - ✓ **Response:** This is an outdated objective. It has already been announced that the US is basically energy independent and federal tax credits are paid for with increased rates for taxpayers that negates any alleged reduction of energy cost which has not yet shown up on local utility bills despite hundreds of wind turbines and thousands of solar panels installed in our general area.
   - ✓ January 24, 2019: EIA forecasts U.S. energy independent by 2020, as oil production rises through mid-2020s[19]

3. Assist in achieving the state's goal of delivering 100% zero carbon energy by 2045.

O6-35

[19] https://www.houstonchronicle.com/business/energy/article/EIA-forecasts-US-oil-production-to-rise-through-13557936.php

- ✓ There are other options that do not disproportionately impact EJ Communities that are already overburdened with an unfair share of large-scale wind, solar and infrastructure projects.

O6-35 Cont.

4. Develop a wind energy facility as near as possible to existing transmission infrastructure.

- ✓ **Response:** SDG&E's existing Southwest Powerlink (SWPL) crosses the entire southern section of the Campo Reservation and is actually closer to the majority of Campo Wind turbines proposed for the Project. Connecting to the grid at SWPL at their Southwest corner would potentially eliminate the need for the Boulder Brush gen-tie to cross Old Hwy 80, Hwy 94, and I-8 and would eliminate the need to use private land for Boulder Brush Facilities or for SDG&E to benefit from imminent domain to expand Ribbonwood Road onto multiple private properties.

O6-36

5. Develop a wind energy facility within the Reservation, enhancing their economy by creating short- and long-term employment opportunities and providing long-term revenue.

- ✓ **Response:** *This objective is now void based on the more than the required number of Campo General Council's voting members who signed the petition strongly opposing Campo Wind that was publicly announced by tribal members at the County's staff presentation on the Project's DEIR on January 23rd, and emailed to Susan Harris on January 24th.They don't want it and are expected to formally terminate it just as they voted to terminate SDG&E's and Invenergy's Shu'luuk Wind in June 2013 and the Campo Landfill on May 27, 2010.*

O6-37

6. Support an economically feasible wind energy project that would be developed through commercially available financing.

- ✓ **Response:** The economic feasibility is questionable at best and serves to further enrich already wealthy developers Terra-Gen and GM Gabrych at the expense of the public health and safety and economic well-being of EJ communities on the Campo Reservation, La Posta Reservation, Manzanita Reservation, and off-reservation neighborhoods in the Boulevard, Pine Valley, Campo and even Jacumba Planning Areas.
- ✓ Commercial financing may not become available when internal dispute and significant tribal opposition is publicized.

O6-38

7. Support displacement of approximately 58,000 tons of carbon dioxide (CO2, a GHG) emissions per year that would otherwise be required to generate the same amount of electricity as generated by the Project.

- ✓ **Response:** This objective is basically the same as # 1: There are other alternative energy sources and carbon reduction /sequestration projects beyond fossil fuels that could support displacement of carbon dioxide without further overburdening our predominantly low-income EJ Disadvantaged Communities.

O6-39

1.2 PROJECT DESCRIPTION

The Project Description does not disclose 'future NICAD' battery storage:

1.2.1 –A: BOULDER BRUSH FACILITIES: 1, 2 & 3:

- **BOULDER BRUSH FACILITIES' PLOT PLANS FOR THE SUBSTATION'S "CONTROL BUILDING DETAILS" (12-5-19)[20] INCLUDE REFERENCES TO NUMEROUS FUTURE NICAD BATTERY STORAGE COMPONENTS LOCATED ON BOTH THE EAST AND THE WEST ENDS OF THE SUBSTATION AS PART OF BOULDER BRUSH FACILITIES**:
  - The **nickel–cadmium battery** (**NiCd battery** or **NiCad battery**) is a type of rechargeable battery using nickel oxide hydroxide and metallic cadmium as electrodes. The abbreviation *NiCd* is derived from the chemical symbols of nickel (Ni) and cadmium (Cd): the abbreviation *NiCad* is a registered trademark of SAFT Corporation, although this brand name is commonly used to describe all Ni–Cd batteries[21].
  - Sheet #26 of 27 includes the following references related to future battery storage:
    - Two locations #601 & 602: "Future NICAD footprint". NICAD is the term used for Nickel Cadmium batteries
    - Two locations #603: "Battery Charger"
    - Two locations #605: "Best Battery Selector"
    - Two locations #608: "BATTERY MAIN FUSED DISCONNECT"
    - Two locations # 611: "OUTDOOR BATTERY CART CONNECTION"
    - Two locations #627: BATTERY EXHAUST FAN TIMER"
    - There may be more battery related equipment/references that are unclear and not as easily identified as such.
  - The Project Description does mention that the Boulder Brush Switchyard facilities, constructed by SDG&E, would be under the jurisdiction of the CPUC, out of County jurisdiction and not included in the Project's Major Use Permit.
  - Regardless, SDG&E still must comply with CEQA and the "future NICAD" battery systems for the Project should be included, fully disclosed, analyzed, and mitigated in the DEIR.
  - If the Project Description is in error on that count then the DEIR is inadequate, negligent at best, and an apparently deceptive and underhanded violation of CEQA at worst.
  - **The Project Description also references Terra-Gen's connected action project, Torrey Wind** that should have been included as a reasonably foreseeable 30-turbine wind project along with all its cumulative adverse impacts in an already highly disproportionately impacted area.
  - **See attached page 26 with highlighted NICAD battery related components that are easily recognized. There may be more involved.**

O6-40

O6-41

O6-42

O6-43

O6-44

TECHNICAL APX – I: BOULDER BRUSH FACILITIES FIRE PROTECTION PLAN: PLANS DON'T ACTUALLY STOP FIRES. PROJECT COMPONENTS ACTUALLY INCREASE FIRE RISK IN A HIGH FIRE SEVERITY ZONE.

O6-45

[20] https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/BoulderBrush/DEIR/20191205_BoulderBrushPlotPlans.pdf

[21] https://en.wikipedia.org/wiki/Nickel%E2%80%93cadmium_battery

- **1.1.3 Boulder Brush Facilities Description: <u>The Project's "Future NICAD" battery storage is not included in the Project Description</u>**
    - **3 DETERMINATION OF FACILITIES EFFECTS@ page 22:** This section includes the following excerpt (emphasis added):
    - "The Boulder Brush Corridor has slopes, prevailing Santa Ana winds, combustible vegetation, and historical fires that create a potentially significant risk for exacerbating wildfire risks. Typically, the highest fire danger is produced by the high-pressure systems that occur in the Great Basin, which result in the Santa Ana winds of Southern California. Sustained wind speeds recorded during recent major fires in San Diego County exceeded 30 miles per hour and may exceed 50 miles per hour during extreme conditions. As discussed below in Chapter 4, a model was run to determine possible fire behaviors within and immediately surrounding the perimeter of the Boulder Brush Boundary. ***Based on the fire behavior modeling results presented herein, the maximum flame lengths anticipated in untreated, chaparral fuels could reach 63.6 feet in height with rapid rates of spread (14.3 mph) under extreme weather conditions, represented by Santa Ana winds blowing at maximum winds of 56 mph. Embers could be generated from a surface fire resulting in ignition of receptive fuel beds 3.4 miles downwind***".

O6-46

O6-47

4.4 Boulder Brush Boundary Fire Assessment @ page 28: includes the following excerpt (emphasis added)

- "…***the Boulder Brush Facilities are expected to be vulnerable to recurring wildfire ignition and spread and may be subject to nearby wildfire that could, under worst case conditions, spread through the site. Wildland fire from the north, south, west, and east is possible given the existence of open space lands and ignition sources.*** Currently, the most significant wildfire threat is considered to be during Santa Ana conditions with wind-driven wildfire from the northeast/east. This type of fire would also have the potential to produce embers and is subject to unstable wind a pattern, resulting in eddies and wind/terrain assisted fire runs up side canyons and "chimneys"."

O6-48

FPP 8 CONCLUSION:

- <u>(Excerpt-emphasis added):</u> "In addition, the Boulder Brush Developer will participate in a Fire Service Developer Agreement, which provides resources in this portion of eastern San Diego County by requiring projects to provide funding toward fire department assets (stations, apparatus, equipment, personnel). Ultimately, it is the intent of this FPP to guide, through code and fire mitigating requirements, the construction of energy generation and transmission facilities that are defensible from wildfire and, in turn, do not represent significant threats of ignition sources for the adjacent native habitat. It must be noted that during extreme fire conditions, there are no guarantees that a given structure will not burn. **Precautions and design *features identified in this FPP are designed to reduce the likelihood that fire would impinge upon Boulder Brush Facilities. There are no guarantees that fire would not occur in the area, nor would fire not damage property or cause harm to persons or their property. Implementation of the required enhanced construction features provided by the applicable***

O6-49

codes and the fuel modification requirements provided in this FPP will accomplish the goal of this FPP to assist firefighters in their efforts to defend the Boulder Brush Facilities"

- (excerpt-emphasis added): "Boulder Brush Developer will participate in a Fire Service Developer Agreement, which provides resources in this portion of eastern San Diego County by requiring projects to provide funding toward fire department assets (stations, apparatus, equipment, personnel)"
- ***The Fire Service Developer Agreement should be made available now during the DEIR public comment period to allow for review and related recommendations or exposure of errors and omissions.***
- ***The funding should be made mandatory for the life of the project with specialized equipment and trained personnel to remain stationed at the Boulevard Fire Station and not transferred to other stations that are located out of the area—NOT LIMITED FUNDED AT THE FRONT END TO GARNER SUPPORT FROM FIRE AGENCIES WHO DON'T HAVE TO LIVE WITH THE LONG-TERM IMPACTS/ INCREASED RISK/ INCREASED OR CANCELLED FIRE INSURANCE COVERAGE.***

FPP 9 REFERENCES CITED (Including References Cited in Appendices):

- ***No references were cited that related to battery fires or the resulting toxic emissions, hazmat situations or impacts to ground water resources.***

FPP Apx A: Boulder Brush Facilities Construction Fire Prevention Plan

- **6 SITE AND FACILITIES DESCRIPTION**: ***Does not include batteries***.

APPENDICES E-1 AND E-2 Project Facility Availability Forms - Water (Jacumba CSD and Padre Dam WMD):

- Why are the Project Facility Availability Forms from both Jacumba CSD and Padre Dam MWD made out in two different GM Gabrych family entity names and not under Boulder Brush LLC or other Project entity?
- Where is the Project Facility Availability Form for use of Campo Reservation water resources?

APPENDIX A - Common Fire Ignition Sources and Fire Prevention Measures:

- ***Fails to include batteries and the necessary special Class D fire-fighting measures, equipment, and ongoing training for rotating firefighters.***

NICAD BATTERY SAFETY SHEET & HAZARDS FROM STORAGE BATTERY SYSTEMS LLC[22] (excerpts):

- **CLASSIFICATION OF DANGEROUS SUBSTANCES CONTAINED INTO THE PRODUCT (In charged condition).** SUBSTANCES CLASSIFICATION Name Chemical EINECS Number CAS Number Letter Identification of danger Special risk (1) Safety advise-2 Nickel Oxy Hydroxide Ni OOH 86676-91-7 C Not classified Cadmium Cd 231-152-8 7440-43-9 Xn Harmful R45/26 R48/23/25 R50/53

O6-49 Cont.

O6-50

O6-51

O6-52

O6-53

O6-54

O6-55

O6-56

[22] https://www.sbsbattery.com/media/PDFs/SDS-nickel-cadmium-pp-containers.pdf

R62/63/68 S2, S60, S61 Potassium Hydroxide KOH 215-181-3 1310-58-3 C Xi Corrosive Irritant R35, R22 R36/37 S 1/2,S26, S36/37/39, S45 Lithium Hydroxide LiOH 215-183-4 1310-65-2 C Not classified R35 Not classified

- Possibility of Hazardous decomposition products In the event of misuse of a battery gases like, oxygen or hydrogen accumulates in the cell and these gases may be emitted through the gas release vent. These gases may ignite if in the proximity of a naked flame or source of ignition. Hazardous decomposition products: Acrid or harmful gas is emitted during fire.
- Nickel Hydroxide LD50 / oral / rat : 1600 mg / kg* Cadmium Hydroxide No data available Potassium Hydroxide LD50 / oral / rat : 365 mg / kg* Lithium Hydroxide No data available Cadmium oxide LD50 / oral / rat : 1.3 mg / m3 (30 minutes) Cadmium oxide LD50 / oral / mouse : 0.7 mg / m3 (30 minutes) *(INRS data)
- ***FIRE-FIGHTING MEASURES 5.1 Extinguishing media Suitable: Class D-Dry chemical, Carbon dioxide (CO2), Carbon dioxide blanket, Sand, foam. Not to be used: Water*** *(*Water sprinklers can be used for fire safety for the cells stored without connecting the inter cell connectors (As individual cells) in plywood boxes).

O6-56 Cont.

Spill Containment Systems High Density Polyethylene Pans and Neutralizing Pillows[23]

- According to Storage Battery Systems LLC: The Uniform Fire Code (UFC) Article 64, Section 104.d and 104.e requires lead acid battery installations with more than 100 gallons of electrolyte be equipped with a "liquid-tight" spill-control barrier system. It also requires an approved method, capable of neutralizing a spill from the largest lead acid battery. In response to these new requirements, SBS offers a spill containment system solution. SBS's system is quick and easy to install with new battery racks

O6-57

Fire-sparking wind turbine facilities are inexplicably and negligently allowed to operate during dangerous red flag high wind Public Safety Power Shut-Off (PSPS) events when local neighborhoods are shut off to allegedly prevent fires. San Diego Gas & Electric says it is not their call. San Diego County needs to step up and make sure we are protected by mandating these fire-ignition sources be shut-off during PSPS events.

O6-58

- **Jan 19, 2020 Wind turbine bursts into flames near Germany's Bodenwerder**: [24]Credit: Timo Schriegel via Storyful uk.news.yahoo.com ~~

  A fire in a wind turbine in Germany's Lower Saxony on January 18 prompted warnings from local authorities to keep windows and doors closed in nearby areas while authorities tackled the blaze. A photo (below) released by local police shows the blaze 100 meters up at the top of the tower supporting the turbine near Bodenwerder.

O6-59

[23] https://www.sbsbattery.com/media/PDFs/SBSBattery-Spill-Containment.pdf
[24] https://www.wind-watch.org/news/2020/01/20/wind-turbine-bursts-into-flames-near-germanys-bodenwerder/

Wind turbines and related infrastructure / construction have been documented as the ignition source for substantial wildfires covering up to 30 square miles, destroying properties, and killing hundreds of domestic livestock:

Here are a few examples:

- **8/26 2019: (Texas) Taylor Co. wind turbine fire sparks bigger blaze,** By Joey Hollingsworth | KTAB/KRBC | Posted: Aug 26, 2019 ~~Several fire crews are working to contain and extinguish a large fire in Taylor County. According to a Facebook post made by the View Volunteer Fire Department, (VVFD), Mulberry Canyon VFD, Ecca VFD, Blackwell VFD, Merkel VFD, Nolan VFD, and the Texas Forest Service are all on hand fighting the fire that was sparked from a wind turbine fire earlier Monday. The Texas Forest Service says the fire is estimated at 100 acres and is currently 10% contained, according to a social media post. Many of the volunteers went straight to the fire from work, and are in need of food and water donations, which can be made at Elm Valley Volunteer Fire Department near Highway 277 and FM 89. They can be reached at (325) 572-3980. https://www.bigcountryhomepage.com/news/taylor-co-wind-turbine-fire-sparks-bigger-blaze/

O6-60

Flames from the Rhodes Ranch 3 Fire burn near wind turbines on Monday. (Photo: Courtesy Texas A&M Forest Service)

- **7/21/19: KEPRTV: Witnesses say broken wind turbine caused several hundred acre fire** by Megan Magensky: (excerpt): KLICKITAT COUNTY, Wash. — KLICKITAT COUNTY, Wash[25]. — "The fire is mostly burning in the Pine Creek Drainage area south of Bickleton, WA. As of Sunday evening, the fire has burned 242 acres.39 structures are threatened by the fire but no structures have burned. The Pine Creek Drainage area is under a level three evacuation…"

- **4/1/19: Wind turbine catches fire in Huron County (below)** By ABC12 News Team | WJRT | www.abc12.com (excerpt) ~~ "**A wind turbine in Huron County caught fire and dropped flaming debris to the ground Monday afternoon[26]**. The fire was reported around 5:30 p.m. on Elkton Road near Berne Road in Oliver Township. The wind turbine involved is located about a half mile off the road, so a witness said fire crews are having trouble accessing it".

[27]

O6-60 Cont.

[25] https://keprtv.com/news/local/witnesses-say-broken-wind-turbine-caused-several-hundred-acre-fire
[26] https://www.wind-watch.org/news/2019/04/02/wind-turbine-catches-fire-in-huron-county/
[27] https://www.eastoregonian.com/news/local/wind-turbine-sparks-grass-fire/article_c8471827-bf9b-5a07-9f40-d4c2f540b8fd.html

- **<u>8/13/18: (Above):</u> East Oregonian reported: Wind turbine sparks grass fire near Arlington that burned about 2,000 acres**[28].

- **<u>7/24/18:</u> Massive Ontario (Canada) Parry Sound 33 fire sparked by wind farm construction, workers allege, during extreme fire ban. Fire spread to almost 30 square miles**, forcing many to evacuate (photo below)[29]

The Parry Sound 33 forest fire began at a massive wind farm construction site on the northeastern shore of Georgian Bay on July 18. The blaze burned out of control until late August. (Warren Wright)

- **<u>9/10/17:</u> Fox 13 Salt Lake City: Cowboy Fire sparked by wind turbine burning on 1,592 acres near Evanston, WY**[30]:

- **<u>1/17/17:</u> The Currandooley Bushfire ripped across the southern Tablelands of New South Wales (NSW) Australia**. The blaze started at Infigen's Capital Wind Farm off Taylors Creek Road, near Tarago on the morning of January 17**. It tore through 3384ha (8,400 acres),** fanned by strong winds and fuelled by high heat and dry conditions. It destroyed a house at Mount Fairy, 80ha of crops, eight sheds, 10.5km of windbreaks, cattle yards, stock water tanks and over 150km of fencing, Local Land Service figures revealed. A total 230 animals died and 110 were destroyed on welfare grounds. A NSW Rural Fire Service investigation found that a bird struck a high-voltage power line transferring electricity from Infigen's Woodlawn wind farm to a substation at the Capital wind farm. The bird caught fire, dropped to the ground, sparking the blaze[31]. In January 2017, Infigen reported that they had reached a settlement in the related class action lawsuit, filed by 33 impacted property owners, was settled[32]**.**

O6-60 Cont.

[28] https://www.eastoregonian.com/news/local/wind-turbine-sparks-grass-fire/article_c8471827-bf9b-5a07-9f40-d4c2f540b8fd.html

[29] https://www.cbc.ca/news/canada/ontario-forest-fire-wind-farm-construction-1.4758864; https://www.wind-watch.org/news/2018/12/05/this-could-have-been-avoided-wind-farm-work-sparked-blazes-before-parry-sound-33-wildfire/

[30] https://fox13now.com/2017/09/10/cowboy-fire-sparked-by-wind-turbine-burning-on-1592-acres-near-evanston/

[31] https://www.goulburnpost.com.au/story/4637807/firm-launches-class-action-over-currandooley-fire/

[32] https://www.infigenenergy.com/about-us/news/currandooley-bushfire/

Mount Fairy grazier Fred Kuhn was devastated by the loss of some of his stock in the Currandooly Bushfire. Photo: Karleen Minney

- **<u>12/13/13:</u> Kumeyaay Wind turbine fire in Boulevard, CA, sparked a small brush fire (below)**. Luckily, the fire occurred just one day after a Santa Ana wind event. See 3 photos below.

O6-60
Cont.

- **8/27/13: Texas: Wind turbine north of Hamby catches fire, starts grass fire (below):** *Credit:* By Maggie Contreras | KTXS | August 27, 2013 | www.ktxs.com ~~HAMBY, Texas – A wind turbine north of Hamby sparked a small grass fire after going up in flames. Firefighters estimate the grass fire to be six to eight acres[33].

- **8/20/12: (below) Report on wind turbine fire sparking grass fire in Tehachapi area, included the photo below(taken by Donna Moran)[34]** :

- **6/17/12: Cal Fire Incident Report #12-CARRU 059775: 367 acre wildland fire sparked by 'windmills on fire' off I-10 in San Bernardino[35]**:

O6-60 Cont.

2014 report: Overview of Problems and Solutions in Fire Protection Engineering of Wind Turbines[36]: FIRE SAFETY SCIENCE-PROCEEDINGS OF THE ELEVENTH INTERNATIONAL SYMPOSIUM pp. 983-995 COPYRIGHT © 2014 INTERNATIONAL ASSOCIATION FOR FIRE SAFETY SCIENCE/ DOI: 10.3801/IAFSS.FSS.11-983

O6-61

[33] https://www.wind-watch.org/news/2013/08/27/wind-turbine-north-of-hamby-catches-fire-starts-grass-fire/
[34] https://www.eastcountymagazine.org/node/10602
[35] https://www.eastcountymagazine.org/sites/eastcountymagazine.org/files/2012/July/ViewFire%20report.pdf

[36] http://www.iafss.org/publications/fss/11/983/view/fss_11-983.pdf

- (excerpt pages 984-5/ emphasis added) " ***The fire problem in wind turbines arises as a result of large amounts of highly flammable materials (hydraulic oil and lubricants, composite materials, insulation, and polymers) contained within the nacelle of the wind turbine and packed in close proximity to potential ignition sources such as overheated mechanical components (hot surfaces) and electrical connections that could fail*** [8-12]. Once a fire is ignited in a wind turbine, the situation rapidly escalates because the high wind favoured by turbine locations enhances the supply of oxygen and, hence, the fire growth. In over 90% of wind turbine fires reported, a total loss of the wind turbine, or at least, a severe structural failure of the major components (blades, nacelle, mechanical or electrical components) has been reported [8]. Moreover, even in the case of rapid detection, the fire brigade cannot intervene because of the turbine height [9, 10, 12], and for offshore wind turbines it is impractical to send response teams to fight the fire [9]. ***Under high wind conditions, burning debris from the turbine may fall on nearby vegetation and start forest fires or cause serious damage to property*** (see Fig. 4) [10]."
- (Excerpt page 987): "Ardrossan, Ayrshire, UK, 2011 ***On 8th December 2011, a wind turbine caught fire during a heavy storm in North Ayshire despite being non-operational. The wind turbine was completely burnt out and burning debris were scattered across a long distances due to the strong wind*** (see Fig. 5).

- "Fig. 5. Wind turbine fire at Ardrossan wind farm [17]. The cause of the fire was said to have been a lightning strike to the turbine. The turbine was completely destroyed. ***Secondary ignition of nearby vegetation and property was avoided due to timely fire service intervention***. The wind farm lost about 1,210 MWh of energy in the weeks after the fire due to downtime. This fire got a lot of attention and received some strong criticism especially from those who were already against wind energy, one of which was Sir Bernard Ingham, secretary of the Supporters of Nuclear Energy group, who said: "They are no good when the wind doesn't blow and they are no good when the wind does blow" [18]."

- ***"This article has highlighted the unique nature of the fire problem faced by the wind energy industry, as well as the paucity of available information about such fires in the public or scientific domains***. There are numerous examples of accidents reported in the popular press, all

O6-61
Cont.

of which highlight the significant impact and ensuing downtime due to fires. These fires result in financial loss, power loss (which is especially Fire Conversion of energy Thermal energy Radia5on UV Visible Flame detectors IR Convec5on Laminar flow Turbulent flow Heat detectors Conversion of maAer Residual Suspension Gaseous Gas combus5on detectors Aerosol Invisible Visible Smoke detectors problematic in remote locations where the wind turbines are a major source for electricity), as well as secondary damage, for example through road closures or ignition of wild fires in rural areas. ***There is however very little scientific information available publically from which to evaluate the problem critically, since much of this information is proprietary. What is known and apparent, however, is that because of the nature of wind turbines, fire-fighting is difficult***. The nacelles are significantly elevated above ground level, beyond the reach of most fire-fighting appliances. Turbines are often located in remote rural areas, increasing response time. Yet the environment inside of a wind turbine nacelle may lead to increased likelihood of ignition because of the choice or design of the components, and to increased difficulty in detection or suppression since the favoured environment requires high flow of air around the nacelle and through it in the case of some designs. ***Therefore, where fires do occur there is - in the majority of cases - a 100% loss of the turbine structure and the only recourse of fire-fighters is often to attempt to limit the spread of the fire to other areas***."

Jan 2020 Turbine transformer fire at ground level:

O6-61 Cont.

- **January 16, 2020: Wind turbine transformer fire at InvEnergy project located southwest of Collison Illinois. See photo below[37]:**

Appendix O: Shadow Flicker Analysis[38]:

O6-62

[37] https://edgarcountywatchdogs.com/2020/01/wind-turbine-transformer-caught-fire/
[38] https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/BoulderBrush/DEIR/Apx%20O%20-%20Shadow%20Flicker%20Analysis.pdf

- ***This DEIR Shadow Flicker Analysis readily admits that there are no federal or state or local regulations to protect human receptors from shadow flicker and yet the powers that be keep approving these monster turbines far too close to homes and families and then negligently deny the impacts are real or harmful to people, pets, livestock and wildlife.***
- **The Campo Wind Project Description in the BIA's Draft EIS includes the following information under Appendix B Project Description Details 1.1.A Wind Turbines**[39]: (emphasis added)
    - Sixty wind turbines, rated approximately 4.2 MW in nameplate capacity per turbine • Multiple tubular steel tower sections forming the towers • Rotor diameter – up to 460 feet (approximately 230-foot-long blades) • Foundation pedestal – approximately 20 feet in diameter and 6 inches above grade • ***Hub height – up to approximately 374 feet*** • ***Total height of turbine (highest point) – up to approximately 586 feet***
- ***Appx O- Figure C2, despite not including any impacted tribal homes, shows many homes located within shadow flicker impact zones of more than 100 and 200 hours per year!***
- ***Looking closer, Table 4.1: Specifications for Modeled Facilities & Figure C@ uses "representative turbine" GE 3.83-137 (110 m HH) model turbine to analyze shadow flicker impacts for Campo Wind. 110 m= 360.89 ft***
- And yet it has been formally announced in the DEIS, as documented above, that Campo Wind proposes to use 4.2 MW turbines with a hub height (HH) of 374 ft, rotors up to 230 ft that stand a total of 586 ft (178.6 m) to tip of rotor in upright position.
- ***That means that the so-called professional analysis used "representative turbines" that were over 13 feet shorter than the turbines that Terra-Gen has already documented that they will use for Campo Wind and likely for Torrey Wind, too. 13' x 15 = at least 195 extra feet of shadow flicker that will impact non-participating properties/receptors***.
- ***The 4.2MW Campo Wind turbines have rotors up to 460 ft diameter x 15 = 6,900 ft NOT 6,750 ft based on 450 ft rotor diameter used in Appx O Table 4.1. Table 4.1: Specifications for Modeled Facilities***
- **How professional is that? It should be redone and recirculated in a revised DEIR.**

O6-62 Cont.

O6-63

Representative Example: Wind Turbine Noise and Shadow Flicker

- (Fond du Lac County, Wis.; 8 min.) This video is available via You Tube. It was made by Larry Wunsch of Byron, Fond du Lac County, Wisconsin: [40].

Here are several video clips showing noise and shadow flicker:

- **Disturbing Noise of Turbine in Aberdeenshire** (Scotland) (2 min.)**:** https://www.wind-watch.org/video-aberdeenshire.php

O6-64

[39] http://www.campowind.com/
[40] https://www.wind-watch.org/video-wisconsin.php

- **Shadow Flicker and Noise (Freedom Maine):** https://www.wind-watch.org/video-freedom-maine.php
- **Testimony: Wind Turbine Noise (Vermont):** These are short videos of people who live near – particularly downwind from – industrial wind turbines erected on the ridgelines of Sheffield, Lowell, and Georgia, Vermont. They spoke to the Vermont Public Service Board at the second sound standard investigation in Morrisville, May 13, 2014. The PSB set up a sound standard investigation because of so many complaints from neighbors of wind projects. The videos are here via You Tube by courtesy of Vermonters for a Clean Environment: https://www.wind-watch.org/video-vermont.php
- **Flashing red night lights video clip at Ocotillo Wind facility:** https://www.facebook.com/OcotilloWindTurbineDestruction/videos/vb.422340074490464/1537636189627508/?type=2&theater
- **Ocotillo Wind turbine noise and whistling blade video clip:** https://www.facebook.com/OcotilloWindTurbineDestruction/videos/vb.422340074490464/370029317185419/?type=2&theater

O6-64 Cont.

Blanket waiver of liability and release that raises questions (Excerpt):

- **"Campo Wind Project with Boulder Brush Facilities Page ii/xxxiv Ref. No.: 19-01368 Issue: D Status: Final Terra-Gen Development Company, LLC 13 November 2019:**
  - "NOTICE TO THIRD PARTIES: This report was prepared by AWS Truepower, LLC, a UL company ("UL") and is based on information not within the control of UL. UL has assumed the information provided by others, both verbal and written, is complete and correct. While it is believed the information, data, and opinions contained herein will be reliable under the conditions and subject to the limitations set forth herein, UL does not guarantee the accuracy thereof. Use of this report or any information contained therein by any party other than the intended recipient or its affiliates, shall constitute a waiver and release by such third party of UL from and against all claims and liability, including, but not limited to, liability for special, incidental, indirect, or consequential damages in connection with such use. In addition, use of this report or any information contained herein by any party other than the intended recipient or its affiliates, shall constitute agreement by such third party to defend and indemnify UL from and against any claims and liability, including, but not limited to, liability for special, incidental, indirect, or consequential damages in connection with such use. To the fullest extent permitted by law, such waiver and release and indemnification shall apply notwithstanding the negligence, strict liability, fault, breach of warranty, or breach of contract of UL. The benefit of such releases, waivers, or limitations of liability shall extend to the related companies and subcontractors of any tier of UL, and the directors, officers, partners, employees, and agents of all released or indemnified parties".
  - **757 off-Reservation receptors are only identified by numbers.**

O6-65

- **Scenario 3 (Baseline + Project + Cumulative**): "includes the operational wind projects in Scenario 1, 76 Project turbines, and the reasonably foreseeable future Torrey Wind Project (30 proposed turbines).

    - ***Approximately 34 Off-Reservations receptors may experience shadow flicker for more than 30 minutes in a given day and approximately 101 Off-Reservations receptors may experience shadow flicker for more than 30 hours in a given year.***
    - ***Approximately 72 On-Reservations receptors may experience shadow flicker for more than 30 minutes in a given day and approximately 64 On-Reservations receptors may experience shadow flicker for more than 30 hours in a given year".***

O6-65 Cont.

ELECTROMAGNETIC RADIATION:

- Electrical interference is a common complaint related to wind turbines and we know that they discharge electricity into the ground to protect their own electronics.
- **1-8-20: 'Nordex aids stargazers with low-electromagnetic wind turbines'**[41]
    - The manufacturer wins 172MW Dutch order for wind farm close to sensitive radio antenna array 8 January 2020 8:48 GMT *UPDATED 8 January 2020 9:27 GMT*
    - By Bernd Radowitz in Berlin
        - "Wind turbine OEM Nordex has won an order to supply 44 of its N131/3900 turbines to a wind farm in the North of the Netherlands consisting of three projects located close to an array of radio-astronomy antennas that are highly sensitive to electromagnetic radiation. Nordex for the Drentse Monden en Oostermoer (DMO) projects southeast of the city of Groningen has developed an extremely low-radiation version of its N131 turbine, which it installed on a test site last summer.
        - The low radiation of the turbine was confirmed by the Dutch Institute for Radio Astronomy (ASTRON), via a highly complex measuring procedure using low-frequency array (LOFAR) antennas and their own technology, Nordex said.
        - That enabled the 172MW order for the DMO wind farm in the close vicinity of the central antenna field of LOFAR – a Europe-wide network of thousands of highly sensitive radio antennas researching the universe.
        - "We are pleased to have been awarded the contract for this challenging project. At the customer's request we have successfully implemented a new technological solution," Nordex chief sales officer Patxi Landa said.
        - "Now we can offer our N131 turbines for other projects with similarly demanding requirements regarding minimal electromagnetic radiation."

O6-66

[41] https://www.rechargenews.com/wind/nordex-aids-stargazers-with-low-electromagnetic-wind-turbines/2-1-733954

- The order for the three customers Duurzame Energieproductie Exloermond, Raedthuys DDM and Windpark Oostermoer Exploitatie comes with a 25-year service agreement."

- ***This article suggests that most wind turbines result in electromagnetic radiation over which we have repeatedly raised concerns that have been dismissed outright by developers and decision makers—at our expense.***
- In addition, the San Diego Astronomy Association's Tierra Del Sol observatory is located just beyond the alleged shadow flicker zone for Campo Wind.
- **Expert opinions / reports have previously been submitted into the County and are hereby incorporated here in full:**
  - Samuel Milham, MD, MPH, who wrote "**Dirty Electricity**" [42] warning of adverse health effects from electrical pollution and potential mitigation.
  - Environmental Assay Inc's '**Assessment of Power Quality and Electromagnetic Field (EMF) Exposure at Campo and Manzanita Reservation Residences near the Kumeyaay Wind Turbines, And Ocotillo-Area Residences near the Ocotillo Wind Energy Facility Wind Turbine Electric Generator Installation'** after conducting on-site field studies in 2012, before additional turbines were installed.
- Both Dr. Milham and Environmental Assay found evidence of unusual and dangerous levels of electrical pollution at the homes tested that was attributed to the operation of industrial wind turbines.
- One local tribal member spoke out at January 23rd DEIR meeting expressing concerns over adverse health and safety issues related to the existing local wind turbines, including numerous suspicious cancer cases at tribal homes that stand out due to small populations on local tribal lands.

O6-66 Cont.

- **Even cardiologists are speaking out:**
  - **Wind Crisis: Iowa cardiologist shares health concerns over wind turbines**[43]

> ***Credit:*** Tommie Clark, Reporter | KCCI | Jan 30, 2020 | www.kcci.com ~~
>
> WINTERSET, Iowa —An Iowa cardiologist is worried about wind turbines he says are too close to homes. A discussion is underway in Madison County to get regulations in place before more turbines go up.
>
> Dr. Ben Johnson believes there are true, real health affects related to industrial wind turbines. Johnson not only has a medical professional perspective, but he's also a landowner near wind projects in Madison County.
>
> As a physician, he says he's seen rhythm disorders, which are often associated with sleep disorders. He's worried environmental noise from the turbines could impact people's sleep.

[42] http://www.sammilham.com/
[43] https://www.wind-watch.org/news/2020/01/30/wind-crisis-iowa-cardiologist-shares-health-concerns-over-wind-turbines/

He says turbines should be placed 1.25 to 1.5 miles from property lines, saying only then will people be protected against adverse health effects. Right now, turbines are much closer to homes in his county.

KCCI's Tommie Clark asked Johnson why he's so passionate about this.

"It's so obvious to me. And people. Don't. Get it. We just need to have an epiphany of understanding what the dimensions are," Johnson said.

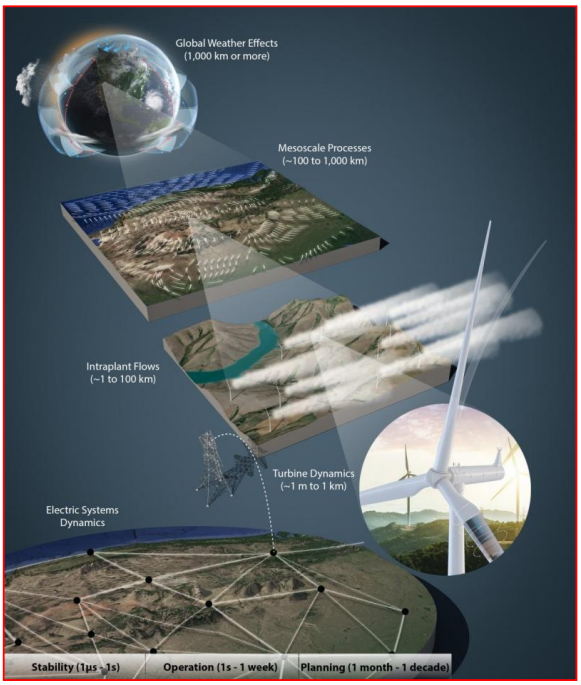
KCCI reached out to James McCalley, a professor at Iowa State. He leads the University's graduate program in wind energy.

We asked if he believes wind turbines can adversely affect health.

"No, not with sufficient setback," McCalley said. "I don't see that wind turbines pose a significant health impact in any way, as long as noise and shadow flicker are addressed."

O6-66 Cont.

12-19-19: Department of Energy's Office of Energy Efficiency & Renewable Energy: Addressing Wind Energy Innovation Challenges[44] (excerpts-emphasis added) (*<u>This report raises questions of safety, reliability and more for what are not the 'largest flexible, rotating machines in the world'</u>*)



O6-67

[44] https://www.energy.gov/eere/articles/addressing-wind-energy-innovation-challenges; https://science.sciencemag.org/content/366/6464/eaau2027

- "A recent *Science* article, written by a team of wind energy researchers led by the U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory (NREL), invited the scientific community to address three grand challenges in the physical sciences that will drive the innovation needed for wind to continue to contribute to the electricity grid as a low cost energy source."

  1. Improving the understanding of the wind resource and flow in the region of the atmosphere where wind power plants operate.

  As wind turbines increase in size and height to capture more energy, and as wind power plants with many turbines spread out over greater areas and longer distances, there is a need to understand the dynamics of moving air mass and its interactions with the land and turbines at these heights and scales. Major gaps exist in our knowledge of wind flows in complex terrain and varying atmospheric conditions. We need to model these conditions more accurately, so that the operation of large-scale wind power plants can be most productive, cost-effective, and controllable.

  2. Addressing the structural and system dynamics of the largest rotating machines in the world.

  Wind turbines are now the largest flexible, rotating machines in the world. Blade lengths routinely exceed 80 meters and towers rise well above 100 meters. As these machines continue to get larger, heavier, and operate under increasing structural loads, new materials and manufacturing processes are needed to address emerging issues of scalability, transportation, structural integrity, and end-of-useful-life recycling of materials.

  3. Designing and operating wind power plants to support and foster grid reliability and resiliency.

  The electric power grid of the future is likely to be profoundly different than that of today. It is expected to see high levels of variable wind and solar power. Maintaining a functional, efficient and reliable grid will require such power providers to be predictable, controllable, and able to provide, not just power, but essential and stabilizing grid services. The path to the future requires integrated system research at the intersections of atmospheric physics, wind turbine dynamics, plant control, and grid operation.

  While progress in the physical sciences is essential to drive innovation, lower costs, and achieve smooth integration with grid, environmental factors must also be taken into consideration for wind power expansion. To be successful, wind expansion must be accomplished responsibly and minimize its intrusion on the ecological landscape. We believe that investments in science and interdisciplinary research in these areas will reveal pathways to acceptable solutions.

  Accordingly, WETO invests in projects that address siting and environmental issues. Such projects include those that seek to characterize and understand the impact of wind on wildlife. Others support scientific research that enables innovation and development of cost-effective technologies to minimize wildlife impacts at land-based and offshore wind plants.

  Other projects supported by WETO include research, development, and information dissemination activities aimed at understanding how wind energy can be

O6-67 Cont.

sited to minimize local impact, while providing economic benefit to the communities in which they operate and to the nation overall.

By investing in science, research, and technology development, and rallying the scientific communities around the physical and environmental, and developmental challenges, WETO hopes for wind to reach its full potential as an environmentally sustainable source of power in the United States."

O6-67 Cont.

Questions: ***Why are the powers that be just now studying these major issues while still allowing massive wind turbines to be installed and to operate far too close to occupied homes, schools, businesses, sensitive habitat and more—without doing actual field studies instead of less than accurate literature reviews ? Isn't that unethical and considered putting the cart before the horse? Where is the legitimate research with actual on-site field studies conducted on human health effects of allowing ever larger wind turbines to be installed and operate closer and closer to homes??***

O6-68

SUSPICIOUS BIAS AND MISREPRESENTIONS IN DEPT OF ENERGY FUNDED SO-CALLED STUDIES / SURVEYS ON WIND TURBINE IMPACTS

- A vast majority of the scientific literature that excludes, downplays, or outright dismisses the very real adverse impacts related to the exposure to noise/acoustic pressure waves, electrical and light pollution, and other nuisances generated by industrial wind turbines is biased towards the wind industry and their supporters at the expense of communities. This alarming trend is fully supported and funded by our own government agencies and most decision makers at all levels, especially the Dept of Energy that is at the heart of the problem.

O6-69

CALIFORNIA ENERGY COMMMISSION (CEC) PUBLIC HEALTH RESEARCH:

- **Previous study cited in formal presentation by Dr. Wooten and Staff during the Planning Commission meetings (March 22 & April 26, 2019) on the County's industry-biased 2019 Public Health Position Statement: Human Health Effects of Wind Turbines included the following critical information that *was excluded and not referenced* in the formal presentation and in responses to the Commission by either Dr. Wooten or Staff:**
    - **November 2017 | CEC-500-2017-035 Energy Research and Development Division; Public Health Research Roadmap on Emerging Electricity Systems[45].**
    - **See 4.9 Research Needs @ page 55 (excerpt-emphasis added):**

        1. Conduct life cycle hazard assessment of turbine technologies, including rare-earth magnets
        2. Improve infrasound exposure and impact assessment
            a. Exposure assessment at various turbine-receptor distances

O6-70

[45] https://ww2.energy.ca.gov/2017publications/CEC-500-2017-035/CEC-500-2017-035.pdf

b. Epidemiological research on sleep disruption and annoyance from larger turbine design, controlling when possible for known confounders.

- Our follow up Public Records Act Request (8-12-19) to determine if the California Energy Commission (CEC) had actually conducted any follow-up on research recommended by their own researchers, concluded that the CEC failed to follow up on the Research Needs stated in the Public Health Research Roadmap on Emerging Electricity Systems.
- The CEC's formal response to the Public Records Act Request (8-22-19) from Ralph Lee Senior Attorney, Office of the Chief Counsel, California Energy Commission included the following statement:
    - "Note that the California Energy Commission research division develops its research investment plan based on its organizational objectives and inputs spanning a range of sources (e.g., subject matter experts, members of the public), formats (e.g., consultant reports, stakeholder workshops), and topics (including health and safety). All research recommendations adopted in the EPIC investment plan are publicly vetted. Based on its investment plans, the research division makes independent decisions to fund specific research activities"

O6-70 Cont.

<u>Bottom line:</u> The CEC's organizational objectives do not currently include funding the recommended research into the real world impacts of the industrial wind turbines they are promoting and supporting regardless of the significant adverse impacts they inflict on impacted residents, communities, public health and safety, quality of life, life-time investments in properties, environmental resources, community character, and much more. And yet, wind turbines keep getting bigger and bigger and approved closer and closer to homes and families.

O6-71

Does this section apply to "noise emissions" that impact off-reservation subjects: 15277. Projects Located Outside California[46]

- CEQA does not apply to any project or portion thereof located outside of California which will be subject to environmental impact review pursuant to the National Environmental Policy Act of 1969 or pursuant to a law of that state requiring preparation of a document containing essentially the same points of analysis as in an Environmental Impact Statement prepared under the National Environmental Policy Act of 1969. Any emissions or discharges that would have a significant effect on the environment in the State of California are subject to CEQA where a California public agency has authority over the emissions or discharges.
- **Note:** Authority cited: Section 21083, Public Resources Code; Reference: Section 21080(b)(15), Public Resources Code; 58 Opinions of the California Attorney General 614 (S.O. 75/50).
- **Discussion:** The section identifies and interprets the exemption that applies to projects located in another state. The section repeats part of the statutory language and provides further explanation.

O6-72

Wind turbine blade failure, collapse & other safety issues:

O6-73

[46] http://resources.ca.gov/ceqa/guidelines/art18.html

- **9-13-19: Recharge News: Top GE engineer lifts lid on wind turbine collapse probe findings[47]: (excerpt from article regarding collapse/failures of 4 GE wind turbines like those operating in Tule Wind)**
  - "Two of the incidents involved blades coming apart during the operation of the turbine in high wind speeds, but resulting from different contributing factors," Hall said.
  - "The other two incidents of the first four appear to be related to how our control systems responded to a sequence of events in the field.
  - "It does not appear that a single, systemic issue that affects the whole fleet is at play here. We've got separate areas that we need to investigate and resolve."
  - Hall confirmed that unusually high wind speeds occurred before several of the collapses.
  - "That is correct. The reason [high winds] are important is that the higher the wind the more energy content is available in the operation of the machine. Just having that high energy content increases the potential for something to happen."
  - The investigations and subsequent response have seen Hall and his colleagues reach out to experts in GE's Power, Aviation and Research businesses, as they worked to understand the incidents that have made their turbines the subject of intense industry focus.

O6-73 Cont.

<u>Wind turbine blade disposal issues that have already arrived in San Diego County</u> with Kumeyaay Wind turbine blades discarded /stored on-site and at Jacumba Garage on Old Hwy 80 that is a total mess. Where will the currently unrecyclable discarded blades be disposed of? Is there room? At what cost? How will this comply with the County's new requirement for recycling more construction debris?

- **Casper Regional Landfill begins burying turbine blades**[48]

A semi-truck hauls a turbine blade to the Casper Regional Landfill to be disposed of.

By Kody Allen | Posted: Wed 3:06 PM, Sep 18, 2019

O6-74

[47] https://www.rechargenews.com/wind/top-ge-engineer-lifts-lid-on-wind-turbine-collapse-probe-findings/2-1-671923

[48] https://www.wyomingnewsnow.tv/content/news/Casper-Regional-Landfill-begins-burying-560707701.html

- **“CASPER, Wyo. (Wyoming News Now)** One wind farm in Glenrock and two from the Saratoga area have partnered with the Casper Regional Landfill to dispose of their old wind turbine blades.

  More than 900 blades will be brought to the landfill beginning now until the end of next spring.

  The Casper Solid Waste Manager, Cynthia Langston, said that though most turbine blades can be reused, there are some that are simply un-recyclable.

  "Ninety percent of the turbines are completely reclaimed, recycled, and reused, but there is ten percent that is fiberglass, so those are coming to us from three different farms in the state."

  Langston said that though the motor houses can be crushed, the blades are too strong.

  To save space, they cut each blade into three separate parts before transporting them, then stack them on each other to be buried.

  Langston said that Casper was the only facility in the region that could handle such a project.

  "So Casper happens to be, I think it is, the biggest landfill facility in the state of Wyoming. These blades are really big, and they take up a lot of airspace, and our unlined area is very, very large, and it's going to last hundreds of years…"

O6-74
Cont.

Discarded wind turbine blades

Discarded wind turbine blades (non-recyclable fiberglass), to be buried in the landfill in Casper, Wyoming[49]

[49] https://www.wind-watch.org/pix/displayimage.php?pid=910

Graveyard of broken wind turbine blades near Roscoe, Texas[50]

O6-74 Cont.

APPENDIX F-2 Phase I ESA Memo and Phase I ESA: Appendix B[51] ***is all about "Target Project: Torrey Wind Project", not Boulder Brush.***

O6-75

A few of the potentially many Errors & Omissions:

O6-76

- **Table 1-4 Cumulative – Reasonably Foreseeable, Approved, and Pending Projects**
  - **RUGGED SOLAR:** Major Use Permit Modification MUP-12-007W1, MUP-12-007TE; MUP for the construction and operation of a 74 MW solar energy system on an approximately 765-acre site is listed as UC, Under Construction when in fact the MUP Modification review has not been completed for change from Soitec Solar's dual tracking concentrated solar to regular PV.
- **Appendix B visual Resources:**
  - **Under "preparer" on the Cover sheet,** Josh Saunders' employer DUDEK (605 Third Street, Encinitas) was omitted. On other documents prepared by Saunders', DUDEK's name is included[52].

O6-77

  - **Figure 28 Cumulative Projects:** This figure shows the 30 proposed Torrey Wind turbine locations but fails to show the 60 proposed Campo Wind turbine locations, even though 60-76 sites proposed were provided in the Campo Wind DEIS document. Figure 2.8-1 does include the Campo Wind turbine locations.

O6-78

  - **Where does this section disclose what size wind turbines were used to generate the visual simulations?** We know that Dudek used smaller turbines than those proposed for the Shadow Flicker analysis. Did they use smaller "representative" turbines for the visual analysis, too?

O6-79

These comments, their content, formatting, and editing are restricted by time constraints and lack of ability to hire independent experts to better review and respond to the DEIR in full. Thank you for your consideration…

O6-80

Attachments:

1. Boulder Brush Substation plot plan page 26 with NICAD components

[50] https://www.wind-watch.org/pix/displayimage.php?album=1&pid=905#top_display_media
[51] https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/BoulderBrush/DEIR/Apx%20F-2%20-%20Phase%20I%20ESA%20Memo%20and%20Phase%20I%20ESA%20Boulder%20Brush_w_ESA.pdf
[52] http://www.sbcounty.gov/uploads/LUS/Environmental/Ord_Mountain_Solar_Energy_Storage_Project_DEIRDOCS/Visual_Resources_Ord%20Mountain%20Solar%20DRAFT%20EIR%20APPX.pdf

dBF

3129 Tiger Run Court, Suite 202
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.

O6-81

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.

   O6-82

   O6-83

   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.

   O6-84

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. O6-85

   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. O6-86

   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. O6-87

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. O6-88

   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. O6-89

   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. O6-90

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. O6-91

4. GPS coordinates of ambient noise level measurements were added to the current AAR; however, site photographs were not included. O6-92

   At several locations, the microphone positions were not representative of ambient noise levels near NSLUs. O6-93

   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. O6-94

   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. O6-95

   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. O6-96

   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. O6-97

   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. O6-98

   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. O6-99

   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. O6-100

   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. O6-101

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. O6-102

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. O6-103

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. O6-104

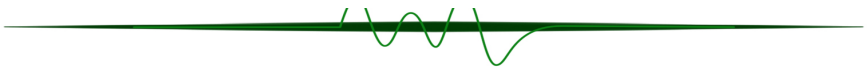
   This concern was noted in our Campo Wind DEIS comments dated July 2019, and has not been addressed.

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. O6-105

   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. O6-106

   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.

   O6-107

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.

   O6-108

   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.

   O6-109

   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.

   O6-110

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

   O6-111

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

O6-112

This concludes our review. Should you have any questions regarding the information provided, please contact me at (619) 609-0712 ×102.

Steven Fiedler, INCE
Principal

Editorial

The lie behind turbine noise models

Lisa Linowes - October 17, 2011
Impact on People Noise

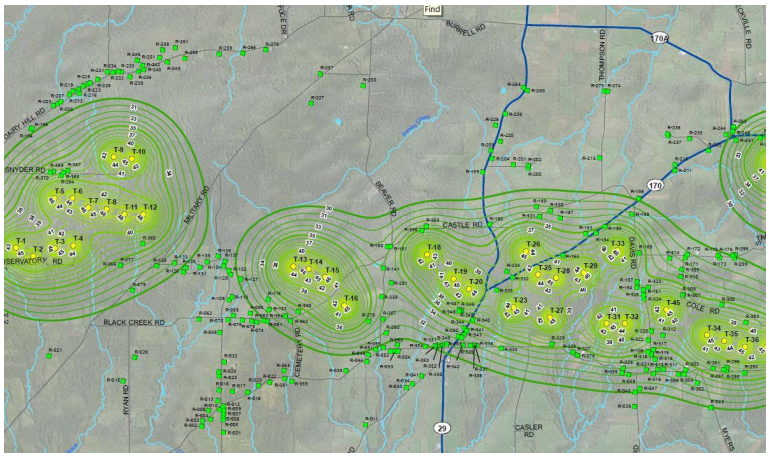
Herkimer County, New York is the latest location to register wind turbine noise complaints. The source? Iberdrola's Hardscrabble wind facility (37 turbines) that went online earlier this year. Studies are underway to determine if the project is operating outside legal sound limits, but the larger question is 'Why?'. Why, with over 1,300 megawatts of wind installed in New York today and an extensive body of evidence showing turbine noise is causing deleterious impacts on people living near the towers, was Herkimer County fooled into thinking it would be spared?

The answer is simple: *Herkimer County residents were lied to.*

Yes, we could use softer words to explain the situation. But given what sound experts already know about turbine noise, the time for niceties has past.

Predicted turbine noise at Hardscrabble

Prior to erecting a wind facility, project owners usually engage acoustic engineers to prepare models that predict sound level increases a community can expect from an operating project at certain reference points. These engineers rely on the CADNA/A[1] software tool for their models. CADNA/A is based on ISO 9613-2, the international standard developed for sound prediction.



The CADNA/A tool generates predicted sound levels at various distances from the turbines. Developers present the sound levels as contour lines overlaid around the turbine sites. Each contour shows a sound level in decibels with the lines closest to the turbines having higher decibel levels.

The sound predictions developed for Hardscrabble showed that during periods of low wind conditions, non-participating residents closest to the turbines could expect to experience noise increases of less than 6 dBA over the presumed existing level of 35 dBA. During high

O6-113

wind conditions, modeled data showed property owners would experience slightly higher levels but most increases would still be under 6 dBA[2].

Prior to construction, Iberdrola insisted the facility would meet the New York state noise guidelines for most situations and would be in full compliance with local regulations that limited noise to 50 dBA.

O6-113 Cont.

CADNA/A and the ISO 9613-2 standard

Acousticians hired by the wind industry insist the ISO standard is an appropriate method for modeling wind turbine sound provided the correct input parameters are used. But what they do not admit is that the ISO 9613-2 standard, on which CADNA/A is based, *was never* validated for wind turbine noise. In fact, the standard is mainly applicable to situations concerning road or rail traffic, industrial noise sources, construction activities, and many ground-based noise sources. It does not apply to sound from aircraft in flight, to blast waves from mining, military, or other similar operations. And it was not designed to predict turbine noise.

The ISO Standard limits use of its methods to noise sources that are close to the ground (approximately 30 meter difference between the source and receiver height) and within 1 kilometer of the receiving location. A wind turbine with a hub height of 80+ meters exceeds the ISO height limit by 50 meters. Meteorological conditions are also limited to wind speeds of approximately 1 meter/second and 5 meters/second when measured at a height of 3 meters to 11 meters above the ground.

Only when all of these constraints are met by the situation being modeled can the predicted noise levels be assumed to be accurate within a +/- 3 dB range.

O6-114

The constraints placed on the ISO standard having to do with wind speed, direction and weather conditions indicate just how limited the models are for anything other than simple weather conditions -- NOT the types of conditions that wind turbines need to operate.

The way sound spreads outdoors can be affected by temperature differences in different layers of the wind that cause sound waves to bend up or down at the boundaries just like water bends light. If a noise source is above a boundary then sound that would have gone down to the ground surface might bend up and dissipate. If the noise source is below a boundary layer then sound that might have dissipated upwards is bent down and added to the sounds that would normally be directed downwards. The current science of meteorology does not have precise ways to know what is happening right near any particular turbine.

Heinrich A. Metzen of DataKustik GmbH[3], maker of CADNA/A confirmed this fact in an e-mail where he stated:

"long range propagation including atmospheric refraction is not part of the standards used for (normal, "standard") noise calculations. It is known that atmospheric refraction may cause sound to be refracted downwards again and contributing strongly to the level at long distances. The atmosphere in the standards existing is just homogeneous above height."

Since there are no accepted algorithms to predict these refractions, sound propagation models cannot evaluate conditions that have vertical or horizontal turbulence even though we know they can add significant sound at the receiving location when present. As a result, predicted sound levels are understated.

Countries in the European Union are developing their own models for predicting turbine noise propagation because of their concerns with limitations of the ISO standard. Unlike the ISO 9613-2 standard, these newer models have been validated for turbine noise by peer-reviewed independent studies.

Iberdrola knows better

The first post-construction sound study in Herkimer revealed noise levels reaching 60 to 65 decibels, *nearly 20 decibels above* what was predicted for homes in the area.
Iberdrola's Paul Copleman told the press the excessive noise levels were largely due to the wind rustling leaves and cannot be "attributable to the wind farm."

Seriously? Any guesses on the number of complaints filed over noisy leaves before the turbines were sited?

Use of a model that understates real-world operational sound levels is very likely the root cause of the problem at the Hardscrabble facility.

Acoustic experts who work for the wind industry, including Iberdrola, are well aware of the limitations of the ISO modeling. They are well aware that the standard is intended for ground-based sound sources and has never been validated for predicting wind turbine noise. They also know that literature on turbine noise dating back nearly a decade has shown that these models underestimate wind turbine noise levels. But here in the U.S., wind industry acousticians still use the CADNA/A tool without qualification.

Herkimer County residents are now suffering the consequences. And as stated above, the explanation is simple. *Herkimer County residents were lied to.*

O6-114
Cont.

[1] The CADNA/A software tool is written and sold by DataKustik GmbH of Munich, Germany.

[2] The 6 dBA figure comes from New York's published guidance which states "In non-industrial settings the [Sound Pressure Level] should probably not exceed ambient noise by more than 6 dB(A) at the receptor. An increase of 6 dB(A) may cause complaints."

[3] Email from H. Metzen, DataKustik GmbH, manufacturer of CADNA/A software, Nov. 16, 2006.

SOURCE: http://www.windaction.org/posts/32217-the-lie-behind-turbine-noise-models#.XjSzLmhKiUk

***THIRD PARTY EXPERTS HIRED BY LOCAL NON-PROFIT BACKCOUNTRY AGAINST DUMPS* TO REVIEW CAMPO WIND –BOULDER BRUSH DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) RELEASED BY THE BUREAU OF INDIAN FOR PUBLIC COMMENT IN SUMMER OF 2019:**

- **Law Offices of Stephan C. Volker's 13-page comment with eleven exhibits included the following:**
  - The DEIS Unlawfully Segments the Analysis of Connected Actions
  - The DEIS Fails to Consider All Cumulative Projects
  - The DEIS Fails to Evaluate a Reasonable Range of Project Alternatives
  - BIA Failed to Take a Hard Look at the Project's Impacts in the DEIS
    - Biological –Golden Eagles and other birds
    - Noise Impacts
    - Water Resources
    - Shadow Flicker

O6-115

- **Scott Snyder PG 7356, CHG 748, QSD/P 445 Principal Hydrologist, Snyder Geologic, Inc, was hired to review the Bureau of Indian Affairs' Campo Wind / Boulder Brush Draft Environmental Impact Statement (DEIS) and related groundwater data to produce a Third Party Opinion: His professional opinion concludes as follows**:
  - "No groundwater protections were proposed as part of this project because the GRE stated there would be no groundwater impact. Given the data provided and assumptions made in this report, it is premature to make such a statement. Until actual groundwater investigations can be undertaken and more conservative assumptions can be made with regard to groundwater in storage and off-site impacts, it should be assumed that the project will have negative, unacceptable, and avoidable impacts. Along with the investigation and re-analysis of data, groundwater protections including well extraction rate caps and intensive off-site well monitoring should be included in any approval for the project, if it were to move forward. These protections would be necessary to ensure that nearby private well owners would continue to have sufficient groundwater resources to meet their consumptive needs, as the basin is their only resource for a water supply."

O6-116

- **Richard A. Carman, Ph.D., P.E. Principal Emeritus, with Wilson Ihrig was hired to review the Bureau of Indian Affairs' Campo Wind / Boulder Brush DEIS noise analysis and related noise data to produce a Third Party Opinion. Dr. Carmen had previously been hired to conduct two local field studies (2013 & 2018) to document the acoustic impacts related to local wind turbines. Dr. Carman's professional opinion on the Campo Wind DEIS includes the following conclusions:**
  - The DEIS noise analysis is deficient in many respects.

O6-117

- The DEIS fails to consider the potential noise impacts from significant increases in ambient noise as addressed by the FTA guidelines. O6-118
- The DEIS fails to address the potential impacts on sleep from wind turbine noise that contains substantial continuous low-frequency components. O6-119
- The DEIS fails to accurately characterize the existing ambient noise conditions as a result of the noise measuring instrument(s) used and the inadequacy of measuring for only one 24-hour period. O6-120
- The DEIS fails to accurately predict Project noise levels by using a computer program based on formulas that have specified limitations and have not been validated for wind turbine noise prediction for wind turbines of the size to be constructed for the Project. O6-121
- The DEIS minimizes the Project noise impacts by using inaccurate data while applying only the County noise ordinance criteria and ignoring substantial increases in ambient noise caused by the Project. O6-122
- The DEIS not only uses CadnaA, with the program's inherent limitations, to model low frequency noise, it also treats noise emission at all frequencies (in particular at low frequencies) to be omni-directional. Consequently, the DEIS low frequency predictions are inaccurate. O6-123
- The DEIS fails in the assessment of Project noise to accurately address amplitude modulation noise and its potential for sleep disturbance. O6-124
- The DEIS fails to adequately assess infrasound and its potential for physiologic impacts on the local population especially sleep disturbance. O6-125
- **According to Dr. Carman's DEIS review, improper equipment was used, which resulted in artificially high the levels that changes the impacts of increased noise, and more.** O6-126

- **dBF Associates, Inc:** ***San Diego-based CEQA-certified acoustic expert***
  - **dBFreported in July 2019 that:**
    - At five locations, the measured Ldn ambient sound levels were 6-23 dBA lower than those presented in the Dudek report. At four locations, the measured average L90 sound levels were 9-14 dBA lower than those presented in the Dudek report.
  - This means that Terra-gen's so-called noise experts used the wrong equipment to measure our generally low ambient noise levels. Their equipment would not measure that low. That would give them an unfair advantage when it comes to increased noise violations.
  - This issue was allegedly corrected without admitting their negligence in using wrong equipment.

O6-127

# # #