

# BOULEVARD PLANNING GROUP

PO Box 1272, BOULEVARD, CA 91905

**DATE:** February 12, 2019

**TO:** PDS Project Manager, via [Bronwyn.Brown@sdcounty.ca.gov](mailto:Bronwyn.Brown@sdcounty.ca.gov) ; cc: [Diane.Jacob@sdcounty.ca.gov](mailto:Diane.Jacob@sdcounty.ca.gov)  
[Adam.Wilson@sdcounty.ca.gov](mailto:Adam.Wilson@sdcounty.ca.gov) & [Matthew.Parr@sdcounty.ca.gov](mailto:Matthew.Parr@sdcounty.ca.gov)

**FROM:** Donna Tisdale, Chair of the Boulevard Planning Group and as an individual (PO Box 1275, Boulevard, CA 91905); 619-766-4170; [tisdale.donna@gmail.com](mailto:tisdale.donna@gmail.com)

**RE: Boulder Brush Gen-Tie Line & Substation Facilities: PDS2019-MUP-19-002; ER 19-16-001**

At our regular meeting held on February 7<sup>th</sup>, our group voted 4-0-0 (3 members absent) to authorize the Chair to submit comments in opposition to Boulder Brush Gen-Tie line, Substation Facilities and height limit waiver. Our opposition was formally submitted on Form PDS-534 dated February 8<sup>th</sup>.

A full EIR is required. The Boulder Brush Gen-tie and related infrastructure are proposed to support Terra-Gen's Campo Wind turbine project and are part of a larger project that includes Torrey Wind turbines and infrastructure. Under CEQA and NEPA guidelines, they should be considered one large project, not separate projects.

Therefore, we hereby incorporate in full by reference all previous comments and/or petitions submitted to the County for Terra-Gen's Campo Wind and Torrey Wind (formerly known as San Diego Wind) and related infrastructure projects.

To date, there are unresolved complaints regarding noise, vibrations, light and electrical pollution, adverse impacts to health and quality of life, loss of use and enjoyment of property, and more related to operation of Iberdrola/Avangrid's adjacent Tule Wind project located on public BLM land and the Kumeyaay Wind project located on Campo Reservation land.

These are our initial comments based on limited information made available to the public and lack of active participation by Terra-Gen representatives during public meetings on their projects.

**PDS -367: Project approvals:**

- Page 2: If the project will use new water wells and septic on the project site on private land, especially in the event that Torrey Wind does not move forward, why are they not checked off in the Department of Environmental Health section?

**PDS-367: Project Description:**

- Page 3:

- Tule Wind, next door, had to get a take permit for Golden Eagles. Shouldn't Terra-Gen be required to do the same under Section 7? The gen-tie connects to up to 60 wind turbines up to 586 feet tall. Both turbines and power lines can cause harm.
- Water District Approval should be checked off for Jacumba Community Services District and Padre Dam Municipal Water District.
- Page 4:
  - The Campo Wind project should be named as such, unless Terra-Gen has changed the name which should be confirmed in this project description.
  - This section fails to include number or location of "existing groundwater wells" and proximity to existing off-site wells and springs that supply homes on adjacent private and tribal land.
- Figure 1: Project Location
  - The project map shows that northeastern sections actually abut the McCain Valley Recreation Area and National Cooperative Land and Wildlife Management Area—Regional Parks – located on BLM land<sup>1</sup>. This fact contradicts the PDS-346 form submitted for Terra-Gen's project where they checked the NO box related to project being within ½ mile of Regional Park.

**PDS-367: Environmental Aspects of Project:**

- Page 5:
  - Land Use: The proposed gen-tie will be the first on private land in the Ribbonwood Road neighborhood. The existing Kumeyaay Wind and Tule Wind turbines are located on federal land and the Sunrise Powerlink is located on a small section of the project site at the far northern portion of the project site. The Gen-tie and substation facilities represent a new and highly visible industrial aspect much closer to existing homes in the area. This box should be marked YES instead of NO.
  - Geological issues: The project area was severely impacted by the 7.8 Laguna Salada earthquake in 1892 where ground in the McCain Valley was seen to move in waves<sup>2</sup> and a fissure was opened up on the McCain Ranch as recorded in the Memories of Early Settlements by Ella McCain (1955) who lived there at the time. In 2014, National Geographic listed it in the top three quakes recorded in California<sup>3</sup>.
- **PDS-367 Water Resources:**
  - Page 5: Jacumba Community Service District:
    - The amount of water needed for this project must be fully disclosed.
    - Cumulative impact projects served by "existing water groundwater wells ", and /or JCSD or other groundwater sources must be fully analyzed and addressed.

<sup>1</sup> [https://www.blm.gov/sites/blm.gov/files/maps-avenza-california-eastern\\_san\\_diego\\_county\\_routes.pdf](https://www.blm.gov/sites/blm.gov/files/maps-avenza-california-eastern_san_diego_county_routes.pdf)

<sup>2</sup> [http://scec.usc.edu/eqresponse/sites/default/files/forum/2010/04/1892\\_hough\\_elliott.pdf](http://scec.usc.edu/eqresponse/sites/default/files/forum/2010/04/1892_hough_elliott.pdf)

<sup>3</sup> <https://news.nationalgeographic.com/news/2014/08/140825-earthquake-california-biggest-magnitude-history/>

- At a minimum, Torrey Wind, Campo Wind, Jacumba Valley Ranch Solar (JVR Energy Park) MUP18-022, Rugged Solar and Boulevard Solar (formerly known as Tierra Del Sol Solar) must be analyzed and addressed.
    - As of November 2018, JVR Energy Park estimated need for 112 acre feet of Construction Water Demand (Table 1-3 JVR EIR).
    - Water drawn from JCSD wells has the real potential to negatively impact off-site private wells that must be identified, analyzed, and addressed.
    - There were reports that several off-site private wells dropped during the last major project that used JCSD water sources.
  - Page 5: Padre Dam MWD letter expires on 12/11/09.
    - The Padre Dam letter includes an important disclaimer that approval for recycled water use for construction purposes is based on recycled water availability during winter months of November through March. Requests for out of District recycled water during the remainder of the year will be considered by Padre Dam MWD based on seasonal circumstances and approval on a case by case basis when surplus recycled water is available.
  - Page 6:
    - 7 known wells onsite: The depth of the existing wells along with their production and recharge rate must be documented and analyzed. The well locations and distance to adjacent domestic wells and springs must be identified and mapped to address potential well interference for off-site homes and ranches.
    - Drainage study: the boundaries of Tule Creek and the 100 year flood zone must also be determined and mapped.
- **PDS-367 Air Quality:**
  - Page 6:
    - The Boulder Brush Gen-tie and related infrastructure are proposed to support Terra-Gen’s Campo Wind turbine project and are part of a larger project that includes Torrey Wind turbines and infrastructure.
    - If so, related radiation impacts must be analyzed and addressed.
    - This section must address the increased Particulate Matter from grading and Green House Gases emissions from the use of diesel equipment, and potential to use less polluting options.
    - The gen-tie line and related facilities will generate off-gassing and electrical pollution that radiates through the air and through increased ground currents.
    - Sulfur hexafluoride (SF<sub>6</sub>)<sup>4</sup>, an extremely potent Green House Gas used in electrical equipment. What are the impacts and proposed alternatives and mitigation?
    - According to the EPA’s **Overview of SF6 Emissions Sources and Reduction Options in Electric Power Systems (2018)**<sup>5</sup>, “Potential sources of SF6 emissions occur from 1) losses through poor gas handling practices during equipment

<sup>4</sup> <http://climate.columbia.edu/files/2012/04/GNCS-SF6-Factsheet.pdf>

<sup>5</sup> [https://www.epa.gov/sites/production/files/2018-08/documents/12183\\_sf6\\_partnership\\_overview\\_v20\\_release\\_508.pdf](https://www.epa.gov/sites/production/files/2018-08/documents/12183_sf6_partnership_overview_v20_release_508.pdf)

installation, maintenance, and decommissioning and 2) leakage from SF6 - containing GIE.11 Closed-pressure equipment is the category of GIE that is the most susceptible to SF6 emissions. Emissions associated with sealed-pressure equipment mostly occur during the manufacturing process and at disposal. Below is an overview of potential sources of SF6 in transmission and distribution equipment, focusing on closed-pressure equipment. At the disposal stage, all equipment can release SF6. Therefore, proper handling, storage, and disposal procedures are critical to reduce emissions of SF6 into the atmosphere.”

- Electrical infrastructure in general produces Electromagnetic fields (EMF) electromagnetic interference (EMI) and electrical pollution in general.
- Radio Frequency Radiation will also be generated.
- There is much more research available now regarding adverse impacts related to electrical pollution generated by electrical and communications infrastructure.
- Majid Bagheri Hosseinabadi, Narges Khanjani, Mohammad Hossein Ebrahimi, Bahman Haji & Mazaher Abdolahfard (2019) **The effect of chronic exposure to extremely low-frequency electromagnetic fields on sleep quality, stress, depression and anxiety, *Electromagnetic Biology and Medicine*, 38:1, 96-101, DOI: [10.1080/15368378.2018.1545665](https://doi.org/10.1080/15368378.2018.1545665)**
  - *Abstract: (emphasis added): “Exposure to extremely low-frequency electromagnetic fields (ELF-EMF) is inevitable in some industries. There are concerns about the possible effects of this exposure. The present study aimed to investigate the effect of chronic exposure to extremely low-frequency electromagnetic fields on sleep quality, stress, depression and anxiety among power plant workers.*
  - *In this cross-sectional study, 132 power plant workers were included as the exposed group and 143 other workers were included as the unexposed group. The intensity of ELF-EMF at work stations was measured by using the IEEE Std C95.3.1 standard and then the time weighted average was calculated. Sleep quality, stress, depression and anxiety were measured by using the Pittsburgh Sleep Quality Index Questionnaire; and the Depression, Anxiety and Stress Scale.*
  - *The workers in the exposed group experienced significantly poorer sleep quality than the unexposed group. Depression was also more severe in the exposed group than the unexposed group (P = 0.039). Increased exposure to ELF-EMF had a direct and significant relation with increased stress, depression, and anxiety. Sleep quality in technicians with the highest exposure was significantly lower than the other groups.*
  - *This study suggests that long-term occupational exposure to ELF-EMF may lead to depression, stress, anxiety and poor sleep quality.”*

KEYWORDS: [Extremely low frequency electromagnetic fields](#), [sleep quality](#), [stress](#), [depression](#), [anxiety](#)
- Hanie Mahaki, Hamid Tanzadehpanah, Naghi Jabarivasal, Khosro Sardanian & Alireza Zamani (2019) **A review on the effects of extremely low frequency**

**electromagnetic field (ELF-EMF) on cytokines of innate and adaptive immunity, *Electromagnetic Biology and Medicine*, 38:1, 84-95, DOI: [10.1080/15368378.2018.1545668](https://doi.org/10.1080/15368378.2018.1545668)**

- **Abstract:** (emphasis added) *“Extremely low frequency electromagnetic field (ELF-EMF) is produced extensively in modern technologies. Numerous in vitro and in vivo studies have shown that ELF-EMF has both stimulatory and inhibitory effects on the immune system response. This review was conducted on effects of ELF-EMF on cytokines of innate and adaptive immunity. Mechanisms of ELF-EMF, which may modulate immune cell responses, were also studied. Physical and biological parameters of ELF-EMF can interact with each other to create beneficial or harmful effect on the immune cell responses by interfering with the inflammatory or anti-inflammatory cytokines. According to the studies, it is supposed that short-term (2-24 h/d up to a week) exposure of ELF-EMF with strong density may increase innate immune response due to an increase of innate immunity cytokines. Furthermore, long-term (2-24 h/d up to 8 years) exposure to low-density ELF-EMF may cause a decrease in adaptive immune response, especially in T<sub>h</sub>1 subset.”*
- **EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses**<sup>6</sup> Igor Belyae, Amy, Horst Eger, Gerhard Hubmann, Reinhold Jandrisovits, Markus Kern, Michael Kundi, Hanns Moshhammer, Piero Lercher, Kurt Müller, Gerd Oberfeld, Peter Ohnsorge, Peter Pelzmann, Claus Scheingraber, Roby Thill:
  - **Published Online:** 2016-07-25 | **DOI:** <https://doi.org/10.1515/reveh-2016-0011>: **Abstract (emphasis added):** *“Chronic diseases and illnesses associated with non-specific symptoms are on the rise. In addition to chronic stress in social and work environments, physical and chemical exposures at home, at work, and during leisure activities are causal or contributing environmental stressors that deserve attention by the general practitioner as well as by all other members of the health care community. It seems necessary now to take “new exposures” like electromagnetic fields (EMF) into account. Physicians are increasingly confronted with health problems from unidentified causes. Studies, empirical observations, and patient reports clearly indicate interactions between EMF exposure and health problems. Individual susceptibility and environmental factors are frequently neglected. New wireless technologies and applications have been introduced without any certainty about their health effects, raising new challenges for medicine and society. For instance, the issue of so-called non-thermal effects and potential long-term effects of low-dose exposure were scarcely investigated prior to the introduction of these technologies. Common electromagnetic field or EMF sources: Radio-frequency radiation (RF) (3*

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<sup>6</sup> <https://www.degruyter.com/view/j/reveh.2016.31.issue-3/reveh-2016-0011/reveh-2016-0011.xml>

MHz to 300 GHz) is emitted from radio and TV broadcast antennas, Wi-Fi access points, routers, and clients (e.g. smartphones, tablets), cordless and mobile phones including their base stations, and Bluetooth devices. Extremely low frequency electric (ELF EF) and magnetic fields (ELF MF) (3 Hz to 3 kHz) are emitted from electrical wiring, lamps, and appliances. Very low frequency electric (VLF EF) and magnetic fields (VLF MF) (3 kHz to 3 MHz) are emitted, due to harmonic voltage and current distortions, from electrical wiring, lamps (e.g. compact fluorescent lamps), and electronic devices. On the one hand, there is strong evidence that long-term exposure to certain EMFs is a risk factor for diseases such as certain cancers, Alzheimer's disease, and male infertility. On the other hand, the emerging electromagnetic hypersensitivity (EHS) is more and more recognized by health authorities, disability administrators and case workers, politicians, as well as courts of law. We recommend treating EHS clinically as part of the group of chronic multisystem illnesses (CMI), but still recognizing that the underlying cause remains the environment. In the beginning, EHS symptoms occur only occasionally, but over time they may increase in frequency and severity. Common EHS symptoms include headaches, concentration difficulties, sleep problems, depression, a lack of energy, fatigue, and flu-like symptoms. A comprehensive medical history, which should include all symptoms and their occurrences in spatial and temporal terms and in the context of EMF exposures, is the key to making the diagnosis. The EMF exposure is usually assessed by EMF measurements at home and at work. Certain types of EMF exposure can be assessed by asking about common EMF sources. It is very important to take the individual susceptibility into account. The primary method of treatment should mainly focus on the prevention or reduction of EMF exposure, that is, reducing or eliminating all sources of high EMF exposure at home and at the workplace. The reduction of EMF exposure should also be extended to public spaces such as schools, hospitals, public transport, and libraries to enable persons with EHS an unhindered use (accessibility measure). If a detrimental EMF exposure is reduced sufficiently, the body has a chance to recover and EHS symptoms will be reduced or even disappear. Many examples have shown that such measures can prove effective. To increase the effectiveness of the treatment, the broad range of other environmental factors that contribute to the total body burden should also be addressed. Anything that supports homeostasis will increase a person's resilience against disease and thus against the adverse effects of EMF exposure. There is increasing evidence that EMF exposure has a major impact on the oxidative and nitrosative regulation capacity in affected individuals. This concept also may explain why the level of susceptibility to EMF can change and why the range of symptoms reported in the context of EMF exposures is so large. Based on our

*current understanding, a treatment approach that minimizes the adverse effects of peroxynitrite – as has been increasingly used in the treatment of multisystem illnesses – works best. This EMF Guideline gives an overview of the current knowledge regarding EMF-related health risks and provides recommendations for the diagnosis, treatment and accessibility measures of EHS to improve and restore individual health outcomes as well as for the development of strategies for prevention.”*

- **Effects of Exposure to Electromagnetic Fields: 833 Studies<sup>7</sup>; Posted February 1, 2018 on Electromagnetic Radiation Safety by Joel M. Moskowitz, Ph.D. Director Center for Family and Community Health, School of Public Health University of California, Berkeley :**
  - Government and industry-linked scientists often claim that the research on the effects of exposure to electromagnetic fields (EMF) is inconsistent, and that more research is needed before precautionary warnings are issued or regulatory guidelines are strengthened.
  - Although most of the research on cell phones has focused on radio frequency radiation (RFR), these wireless devices also produce extremely low frequency electromagnetic fields (ELF EMF). The International Agency for Research on Cancer of the World Health Organization classified ELF EMF “possibly carcinogenic to humans” (Group 2B) a decade earlier than RFR.
- Dr. Henry Lai, Professor Emeritus at the University of Washington and Co-Editor-in-Chief of the journal *Electromagnetic Biology and Medicine*, has compiled summaries of several areas of the research on the biologic and health effects of exposure to RFR and ELF EMF. His sets of abstracts which cover the period from 1990 to 2017 constitute a comprehensive collection of this research.
- Dr. Lai finds that the preponderance of the research has found that exposure to RFR or ELF EMF produces oxidative stress or free radicals, and damages DNA. Moreover the preponderance of RFR studies that examined neurological outcomes has found significant effects.
- The evidence for DNA damage has been found more consistently in animal and human (*in vivo*) studies than in studies of cell samples (*in vitro*).
- The abstracts can be downloaded from the BioInitiative web site<sup>8</sup>.
- **Top Line Results Radiofrequency radiation:**
  - 90% (n=180) of 200 oxidative stress (or free radical) studies report significant effects.
  - 64% (n=49) of 76 DNA comet assay studies report significant effects.
  - 54% (n=25) of 46 *in vitro* studies report significant effects.
  - 80% (n=24) of 30 *in vivo* studies report significant effects.

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<sup>7</sup> <https://www.saferemr.com/2018/02/effects-of-exposure-to-electromagnetic.html>

<sup>8</sup> <http://bioinitiative.org/research-summaries/>



- 72% (n=235) of 325 neurological studies report significant effects.
- **Extremely low frequency electromagnetic fields:**
  - 87% (n=162) of 186 oxidative stress (or free radical) studies report significant effects.
  - 74% (n=34) of 46 DNA comet assay studies report significant effects.
  - 68% (n=21) of 31 *in vitro* studies report significant effects.
  - 87% (n=13) of 15 *in vivo* studies report significant effects.

**PDS-367: Transportation /circulation:**

- Page 6:
  - Ribbonwood Road is the sole access route for all residents on private land north of I-8 along that road. Impacts can be significant depending on the circumstances, personal needs, and emergency services.
  - During any wildfire evacuation events lots of people with livestock trailers could clog the road or be held up by construction vehicles and project components blocking the sole access route.
  - Traffic plans are of no use during the events noted above. The project needs a secondary access route that provides an alternative during emergency events.
  - Impacted residents complained that previous traffic plans for Tule Wind construction were not helpful and that they received no direct notification of when their only road would be closed for local traffic.
  - Ribbonwood Road is too narrow and has blind spots that will become even more dangerous with large construction equipment and project components are involved.
  - Numerous residents along Ribbonwood Road utilize the road and community trails for horseback riding, walking, and biking.
  - Recorded Boulevard Trails that will be impacted by Boulder Brush Gen-tie line and facilities, Torrey Wind, and Rugged Solar that could potentially all be under construction at the same time:
    - Ribbonwood Road Pathway (2.16 miles)
    - Ribbonwood Trail (4.4 miles)
    - These trails have connectivity to Trans County trails.

**PDS-367: Biological Resources:**

- Page 7:
  - We know that site contains flood zones, seasonal wetlands/marshes, Tule Creek, various seeps and springs, meadows, oak woodland and other riparian areas, chaparral, sage, buckwheat, and other habitat that supports a wide variety of biological resources that are present and / or migrate through this unique Mediterranean Mosaic transitional area between the Southern Mountains and Southern Desert Lowlands ecoregions.
  - Resources typically present are currently reduced and restricted due to extended drought conditions that are just now easing with rain events starting in late 2018.
  - There are many known listed and endangered species in the area, including Golden Eagles and the Quino Checkerspot Butterfly.



- The project is located in the long delayed Eastern San Diego County Multiple Species Conservation Plan area with Boulevard being disproportionately impacted by major energy and transmission infrastructure projects.

#### PDS-367 Hazards

- Page 8
  - Mineral oil and other lubricants and coolant are highly flammable and hazardous.
  - The project will generate waste oil/ lubricants from transformers, inverters, generators, and other equipment. It will need to be stored and transported to a licensed hazmat facility.
  - Due to the fact that the project is located within a sole source aquifer that is relied upon by residents, livestock, pets and wildlife, extreme caution must be used when storing, handling, and transporting fuel, oil, used oil, and any other hazardous materials.
  - Storage or stockpiling of discarded electrical components and related waste onsite or at any other non-licensed facility must not be allowed. A strict removal timeframe must be included in the MUP
  - It is unclear if batteries or battery storage will be included. Batteries also represent a hazard for fire, air and water pollution.

#### Increased ground currents:

- Legitimate investigations and health impact studies are warranted before any more sources are approved for already disproportionately impacted areas of predominantly low-income minority environmental justice communities.
- Along with increased electrical pollution that travels through the air, this project and connected projects will significantly increase ground currents as documented previously at homes impacted by the Kumeyaay Wind facilities where numerous stomach, brain, and kidney cancers, and tumors, have been reported, within a small population of Manzanita and Campo tribal members.
- **Ground Currents by Duane A. Dahlberg, Ph.D.<sup>9</sup>**
  - *Excerpts (emphasis added): “Early in the expansion of the electrical distribution system in rural America (during the 1930’s), the utility industry made a decision to change the originally ungrounded distribution system to a grounded system. This change allowed a portion of the neutral current to return to the substation through the earth. The neutral wire of the distribution system is connected to ground rods and/or other conducting materials in the earth (such as water pipes and systems) in order to provide a path for the current to be able to get into the earth. Grounding became a common practice in the utilities’ distribution and transmission systems.*
  - *In addition to causing some of the neutral current of the distribution system to return to the substation through the earth, the grounding of the neutral wire connected everything in and on the earth to the distribution system neutral. During the intervening years since the distribution system was first grounded, demands and loads have grown rapidly, and currents in the wires have increased beyond their designed capacity,*

<sup>9</sup> <https://www.mikeholt.com/mojonewsarchive/SV-HTML/HTML/GroundCurrents~20020918.htm>

*resulting in an ever-increasing need for the earth connection. Electric currents flow through wires, objects, and the earth according to their respective conductivities. Today the earth has a higher conductivity than the utility's neutral circuit return wires, and therefore, carries the majority of neutral current returning to the substation (Gonen 1986; Morrison 1963, Hendrickson, Michaud, Bierbaum 1995). Consequently these neutral currents in the earth are the largest contributor to ground currents*

- **CONCLUSIONS**

*The health of the environment is a determining factor in the health of all life within that environment. Under some circumstances, human ingenuity in the treatment of illnesses can delay and reasonably mitigate the effects of an unhealthy environment. Under other conditions or over time, however, the effects of an unhealthy environment may slowly or rapidly wear on the health of life in that environment. A world population of approximately 6 billion people, with no new frontiers, is extremely vulnerable to unhealthy changes in the environment. This world condition is a compelling reason for seriously monitoring changes in the environment and constantly assessing the effects of those changes.*

- *An important environmental change, and one that has escalated since its inception over a century ago, is the addition of EM energies to the environment. The extensive use of the earth to carry electric current is the most dramatic and least understood of these additions. Even though the earth has been used for all these years as a sink for electrical current, little is known about the paths of these currents or the effects of the currents on either the animate or inanimate world. In fact, shock-effect models still dominate the regulatory agencies' concept of how EM energies interact with life. Even in decisions regarding research directions, these inadequate models are still applied. Research from around the world has shown the need to recognize new models that are consistent with the electrical nature of living organisms and the complexity of our environment. Stray voltage research and the ground current connection have provided valuable insights into the relationship between exposure to EM energies and effects in humans and animals.*
- *For 50 years professionals in the dairy industry have known that electric current in the earth from a ground fault, occurring on or off a dairy farm, can seriously affect the health and production of dairy cows. Today we live with an electrical distribution system that has been designed to put electric current into the ground. The design of the electrical distribution system has created a perpetual ground fault capable of impacting all life. Perhaps it is time that we heed the warning cries of dairy operators."*

**PDS-367 Noise:**

- Page 8:
  - Industry is well aware that along with the potential for electrical pollution to move off-site through the air and ground from wind turbines and substations, there is also the potential for substation noise emissions to leave the site that can be perceived at distance.
  - In addition to homes in the area, there is also wildlife habitat, trails, campgrounds, and habitat connectivity that must be recognized and addressed.

- Cautions and recommendations from the Electrical Engineering Portal<sup>10</sup> include the following:
  - Substation Noise Sources to take into consideration:
    - Continuous audible sources
    - Continuous radio frequency (RF) sources
    - Impulse sources
    - Equipment noise levels
    - Attenuation of noise with distance
- Noise Abatement Methods to take into consideration:
  - Reduced transformer sound levels
  - Low-impulse noise equipment
  - RF noise and corona-induced audible noise control
  - Site location
  - Larger yard area
  - Equipment placement
  - Barriers, walls, or berms
  - Active noise cancellation techniques

#### **PDS-367 Utilities and Services:**

- Page 9:
  - Fire Services should be included here.
  - Cumulative impact projects that are existing and/or proposed must also be included for significantly increased fire risk in a designated Very High Fire Severity Zone<sup>11</sup>
  - Substation fires do occur for various reasons as evidenced by the photos below<sup>12</sup>



#### **Aesthetics:**

- The visual study referenced must include all the existing and proposed wind turbines and transmission facilities within the viewshed of the tribal and private homes in the area that will be impacted.

<sup>10</sup> <https://electrical-engineering-portal.com/audible-substation-noise>

<sup>11</sup> <http://www.readysandiego.org/wildfire-hazard-map/>

<sup>12</sup> <https://electrical-engineering-portal.com/risk-and-consequences-of-transformer-fire>

## Cultural Resources:

- The project site and general area is known locally for its cultural resources and long history of occupation by Native Americans.
- The area also includes historic routes of travel including Walker Express Route.

## Page 10:

- Miscellaneous:
  - There are questions as to whether the existing easements allow, authorize, or support the proposed project using roads that were never intended for such intensive commercial/industrial uses in a predominantly residential area.

## V. Off-site improvements:

- Streets:
  - The paving of the unpaved section of Ribbonwood Road should be mandated.
  - Direct contact and discussions must be held with impacted property owners.
  - Questions have been raised at Boulevard Planning Group meetings about current survey activities on private property without notification.
  - The County must ensure that impacted property owners are fully informed of what is going on what is actually proposed.
- Extension of Utility Lines:
  - How will electricity be provided for any office or shop related to the gen-tie and/or substation facilities?
  - The substation should not yet be referred to as SDG&E's substation since it has not yet been built or transferred to their ownership.

## Page 11:

- Drainage /Stormwater/Flood Control:
  - The referenced drainage study must include the significantly eroded and washed out northern section of Ribbonwood Road and related easements at the main entrance to the project location.
  - The Tule Creek flood zone is prone to significant and damaging flooding during significant rain events and when multiple wet years result in higher groundwater levels, increased spring and seep activity and more.
  - County staff did go to the site and talk to impacted residents in that area and promised to come back out for a more thorough review. That promise must be kept.
- **Paths:**
  - Terra-Gen should be required to construct and maintain the paths and trails approved by the Board of Supervisors for the Boulevard Planning Area:
    - Ribbonwood Road Pathway (2.16 miles)
    - Ribbonwood Trail (4.4 miles)

## **VII Grading:**

### **Page 11**

- The volume of cut and fill was left blank with a note to refer to Preliminary Grading Plans.
- The Grading Plans for MUP19-002 are dated as received by PDS on 01/22/19.
- In reviewing the Grading plans, cut and fill figures were not readily apparent.
- What are the cut and fill volumes for this project?
- The NO box is checked for blasting. However, blasting may be needed to improve Ribbonwood Road in areas where large boulders are located immediately next to the pavement on a blind hill just south of Opalocka Road, and elsewhere on the project site.

## **B Industrial Waste:**

### **Page 12-13:**

- The YES box should have been checked in this section.
- See comments on “Hazards” and “Air Quality” above.

## **Miscellaneous:**

### **Page 13:**

- The YES box should have been checked for Numbers 1-3 in this section.
- See comments above on “Hazards”, “Air Quality”, “Noise” and “Utilities and Services (fire) above.
- Based on construction of SDG&E’s Sunrise Powerlink, helicopters and jet fuel were used and transported and likely stored at Rough Acres Ranch, during construction.
- Mineral oil or other lubricants, coolant, diesel, gas, and other flammable and hazardous liquids will likely be used and stored during construction and operation of the proposed gen-tie line and substation facilities.

## **From PDS-399 W (Water):**

- See comments on “Water Resources” above.

## **PDS-346S: Height Exemption application per County Zoning Ordinance Section 4620:**

- Is there really no limit on the height of wind turbines under 4620-j? How can that be justified?
- The 150 foot tall steel poles will introduce new and intrusive industrial structures into the project site close to homes where no such structures currently exist.
- The existing Sunrise Powerlink is located at the far north end of the project site with towers of approximately 125 feet.
- Would FFA lighting and large colored marker balls be required on the gen-tie poles and lines in addition to lights on the turbines? They would add additional visual impacts.
- The turbines proposed by Terra-Gen for both Campo Wind (Boulder Brush Gen-tie) and Torrey Wind are at least 586 feet tall with an inexcusably dangerous setback of just 1.1 times the

turbine height –proposed far too close to homes, sensitive receptors, sensitive habitat, public recreation lands and more.

- A waiver is unconscionable due to the close proximity of existing homes and should not be allowed.

**Grading Plans (12-7-18):**

- Sheet 2 of 11: APN 611-050-05: The grading plans refer the reader to SEE TORREY Wind regarding the ‘SUBSTATION/SWITCHYARD ACCESS ROAD’
- Sheet 2 of 11: APN 611-010-02: The grading plan shows ‘GEN-TIE ROADS AND GENPTIE POLES ACCESS ROADS’.
- Both of the parcels listed above abut existing private properties with occupied homes whose sole access is Ribbonwood Road.
- Much more information should be provided to address how the Boulder Brush Gen-Tie project and the related Torrey Wind project will access their properties and how that will impact the sole ingress egress routes for residents.

**PDS 524 Notice to Property Owners:**

- Copies of the Notice to Property Owners that were provided to the Boulevard Planning Group did not include the time and date of Boulevard Planning Group meetings or contact information for the Group.
- Next time, that contact information must be included.

**Thank you for consideration of these preliminary comments.**