

# BOULEVARD PLANNING GROUP

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February 25, 2013

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**RE: Shu'luuk Wind DEIS comments: Invenergy's 160-250 MW and solar project should be rejected outright or placed on indefinite hold until Manzanita Health Impact Assessment is complete and links to Kumeyaay Wind turbines and adverse health impacts are studied:**

Dear Supervisor Jacob, Director Wardlaw, and Superintendent Eben,

Invenergy is well aware that adversely impacted homes have been abandoned near their High Sheldon Wind, and Forward Wind projects, and many other wind turbine projects.

*Shu'luuk Wind will be no different, with a woefully inadequate 1,320 foot setback, (and possible waiver for less from Muht-Hei, Inc) and turbines proposed as close as 500 feet from private properties with homes, represents a reasonably foreseeable threat to the health safety and well-being of residents and a wide variety of resources-- based on our community's firsthand experience with adverse impacts generated within at least a 3-mile radius Infigen's 50 MW Kumeyaay Wind and the author's direct contact with others suffering, or helping those with, similar impacts near turbines in the US, Canada, Australia, Europe, and Mexico.*

At our regular Boulevard Planning Group (BPG) meeting, held on February 7<sup>th</sup>, after a lengthy public discussion on issues of concern, a unanimous vote was taken authorizing the submission of comments in strong opposition to the Shu'luuk Wind project and the woefully inadequate Draft EIS. Regardless of which alternative is selected, Shu'luuk Wind and solar and related new transmission lines and substations, represents significant direct, indirect and cumulatively considerable adverse impacts.

Timely e-mail notification was provided to Invenergy's Bo Alley, Campo EPA, and the BIA that the Shu'luuk Wind project was on our February 7<sup>th</sup> agenda with an opportunity to make a presentation and to answer questions. A preliminary copy of our meeting agenda was provided. The response was that no one from Invenergy, the tribe, or the BIA, would be participating. Similarly, our request for a personal

meeting with Campo Chairman Goff, was initially agreed to, but attempts to follow up to set a date have not been responded to. At the recent Alpine DEIS hearing, Chairman Goff was non-committal when a meeting date was requested face-to-face.

These comments are by no means complete or properly edited due to the number, size and complexity of Shu'luuk Wind DEIS and numerous cumulative impact large-scale projects that are currently in the review process or preparing to commence construction. The DEIS is not supported by the most recent and emerging science and field tests at homes adversely impacted, and/or abandoned near industrial scale wind turbine projects around the world. The proposed project is not in the best interest of the short and long-term health safety or the well being of Campo tribal members and resources and/or that of their off-reservation neighbors on all four sides of this project.

**A Supplemental DEIS is required to address new information including the following:**

1. **Peer reviewed and Published: Nissenbaum MA, Aramini JJ, Hanning CD. Effects of industrial wind turbine noise on sleep and health<sup>1</sup>.** Noise Health 2012 [cited 2013 Feb 19];14:237-43. Documenting sleep disruption and adverse health effects within 1.4 km (and more) of industrial wind turbines.
2. **New independent preliminary report by Sal La Duca, Environmental Assay, documenting unsafe levels of electrical pollution** at adversely impacted homes near Infigen's Kumeyaay Wind turbines. Provided to BIA and others in a separate e-mail on February 25<sup>th</sup>.
3. **Independent Electrical pollution testing conducted by Samuel Miham, MD MPH, author of Dirty Electricity,** documenting unsafe levels both inside and outside Manzanita tribal offices and participating homes—in the air, in the ground, in electrical wires (Milham's Shu'luuk Wind DEIS comment letter dated 1-19-13)
4. **Manzanita Health Impact Assessment<sup>2</sup>** –February 2013 Alpine Sun interview with lead researcher reporting 68% of participants report chronic sleep disruption and emerging respiratory problems that are associated with wind turbine syndrome.
5. **A Cooperative Measurement Survey and Analysis of Low Frequency and Infrasound at the Shirley Wind Farm in Brown County, Wisconsin: Report Number 122412-1** Issued: December 24, 2012 Revised<sup>3</sup>: Tests by 4 acoustic firms were conducted around several homes that had been abandoned within 1,100 to 11,000 feet of industrial wind turbines Several quotes from that report are copied here (emphasis added):
  - i. *"The four investigating firms are of the opinion that enough evidence and hypotheses have been given herein to classify LFN and infrasound as a serious issue, possibly affecting the future of the industry. It should be addressed beyond the present practice of showing that wind turbine levels are magnitudes below the threshold of hearing at low frequencies."*
  - ii. "The C-weighted sound level is often used as a measure of low frequency noise; most commonly in gas turbine applications. If the C minus A level difference of a source is 15 to 20 dB, further investigation of the source is recommended by some test standards, since that apparent imbalance may be an indicator of excessive low frequency content

<sup>1</sup> <http://www.noiseandhealth.org/text.asp?2012/14/60/237/102961>

<sup>2</sup> <http://www.thealpinenews.com/article/manzanita-health-study>

<sup>3</sup> <https://www.wind-watch.org/documents/cooperative-measurement-survey-and-analysis-of-low-frequency-and-infrasound-at-the-shirley-wind-farm/>



in the sound. In this instance, the C-A level difference for the wind turbine is only 11 dB compared to 25 dB for the gas turbine, so this metric does not appear to work for wind turbines.”

- iii. “In general, enough was learned by these investigators, all with quite different past experiences, that it can be mutually agreed that infrasound from wind turbines is an important issue that needs to be resolved in a more conclusive manner by appropriate study, as recommended in the cover report.”:

6. **Southern Australia's EPA will start research investigating low-frequency and infrasound testing (down to .25 hertz) around several wind turbine projects** where 20 or more homes have been abandoned due to adverse impacts. Independent tests have been conducted by private parties documenting the presence of low-frequencies and infrasound. Some chickens laying yolkless eggs: <http://www.windaction.org/videos/37232>
7. **Feb 14 2013 Nevada Supreme Court ruling supports injunction for proposed wind turbine a nuisance**: impacts include noise, visual, property values, enjoyment of property, residents moved there for peace and quiet: <http://www.nevadajudiciary.us/images/advanceopinions/129nevadvopno9.pdf>
8. **Tribal Energy and Environmental Information Clearinghouse (DOE Office of Tribal Energy and Economic Development): Impacts of industrial wind and solar projects** including EMF, low frequency noise, EJ and more: <http://teeic.anl.gov/er/wind/impact/op/index.cfm>
9. **Peer Review of Acoustic Assessment of Infigen's Flyers Creek Wind Farm (&Capital Wind)**  
Australia: 41.4063.R1A.ZSC (12-15-12)  
: <http://www.planning.nsw.gov.au/LinkClick.aspx?fileticket=YLfMeRzXkhs%3D&tabid=205&mid=1081&language=en-US>
10. **60 neighbors of Iberdola's Hardscrabble Wind in New York state are suing Iberdrola and their noise expert** for negligence, professional negligence, failing to properly assess the site, intentional misrepresentation of the facts, adverse impacts to people, livestock, water quality, property values and more: <http://madisonmatters.org/2012/11/02/hardscrabble-wind-farm-lawsuit/>
11. **Homes abandoned near Invenergy's Forward Wind<sup>4</sup>, High Sheldon Wind<sup>5</sup>** and other turbine projects across the globe.
12. **Peer-review of Infigen's Cherry Tree Wind<sup>6</sup>** (Australia) acoustic report saying they “ignored the acoustic characteristics that residents will actually receive as a result of the Cherry Tree Farm. They have not addressed the actual acoustic impact of the wind farm on the community”.
13. **Peer-review study found Infigen's Capital Wind Farm<sup>7</sup>** is “generating audible noise significantly above predicted levels and above levels prescribed by its consent at the residential site tested. These noise levels validate complaints of significant adverse impacts” and “short of its responsibility to the community as required by the Code of Ethics of the Australian Acoustical Society and the Code of Conduct of the AAAC”.

<sup>4</sup> <http://preservelenoxmountain.org/blog/2012/04/07/direct-impact-talking-with-victims-of-iwt-neil-anderson-barb-ashbee-richard-braithwaite-and-gerry-meyer-sun-april-8th-7pm-et/>

<sup>5</sup> <http://www.windaction.org/stories/20234?theme=print>

<sup>6</sup> <http://docs.wind-watch.org/Cooper-Cherry-Tree-Peer-Review-of-Environmental-Noise-Assessment.pdf> ; <http://docs.wind-watch.org/Cooper-Cherry-Tree-Appendices-CV.pdf>

<sup>7</sup> <http://www.planning.nsw.gov.au/LinkClick.aspx?fileticket=YLfMeRzXkhs%3D&tabid=205&mid=1081&language=en-US>



14. **Tule Wind developer, Iberdrola, is dealing with the state agencies on numerous complaints on noise, sleep disruption, and adverse health and property value impacts** from neighbors of newly operational Hoosac Wind in Massachusetts<sup>8</sup>:
15. **Peer-review of acoustic assessment found that approval of Infigen's Flyers Creek Wind Farm**<sup>9</sup> proposal would expose the surrounding community to intrusive and offensive noise and would leave the approval authority; land owners and the proponent open to litigation and complaint accordingly.
16. **Need to verify and determine the validity and status of alleged ongoing IRS/ FBI investigations into several current and/or former Campo tribal leaders for embezzlement, credit card fraud** and/or other allegedly criminal behavior. If verified, federal agencies need to determine if any of those named have current influence over, involvement with, Invenergy or the Shu'luuk Wind project through their position or employment with the tribe, affiliated entity, consulting, or otherwise.

### **Consistency Failures & Failures to comply**

1. **Failure to comply with the federal Indian trust responsibility**<sup>10</sup>, "*a legally enforceable fiduciary obligation on the part of the United States to protect tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes and villages.*"—including the protection of health and safety.
2. **Failure to comply with the Bureau of Indian Affairs' mission statement**<sup>11</sup> "*to enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes and Alaska Natives*"
3. **Failure to comply with NEPA requirements** to 'take a hard look' at environmental impacts and to provide a 'full and fair discussion' of those impacts.
4. **Failure to comply with Campo Land Use Plan**<sup>12</sup>
  - a. **(1.1) Land Use Plan and Authority:** "...development does not threaten the environmental and cultural resources of the Reservation or surrounding communities. Its purpose is to create and preserve a functional, healthful, decent, and efficient place in which to live."
  - b. **(2.3) Water Resources:** "Preservation of groundwater will be an important concern in evaluating all land use proposals for the Reservation."
  - c. **(2.5) Biological Resources:** "Rare, threatened and endangered plants and threatened and sensitive wildlife will be afforded the necessary protection and preservation required."
  - d. **(2.7.1) Campo EPA:** "CEPA was formed to protect the health safety and welfare of the Campo people and surrounding communities."
  - e. **(3.3.1) Policies:** "The Campo Band also recognizes that some economic activities may threaten the environment, particularly groundwater and air, and might require special attention."
  - f. **(5.1) Tribally Controlled Development:** "The specific intent of the Campo Band is that all development projects on the Reservation shall be under the total and complete control of the Campo Band."
  - g. **(6) Industrial:** "The Campo Band and MHI, and/or CEPA may develop regulations for industrial activities which may potentially have an adverse impact on the environment."

<sup>8</sup> <http://www.iberkshires.com/story/43241/Hoosac-Wind-Neighbors-Complain-of-Turbine-Noise.html>

Nuisance <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=civ&group=03001-04000&file=3479-3486>

<sup>9</sup> [http://docs.wind-watch.org/Cooper\\_S\\_Flyers\\_Ck.pdf](http://docs.wind-watch.org/Cooper_S_Flyers_Ck.pdf)

<sup>10</sup> <http://www.bia.gov/FAQs/index.htm>

<sup>11</sup> <http://www.bia.gov/WhoWeAre/BIA/index.htm>

<sup>12</sup> Campo Land Use Plan: <http://www.shuluukwind.com/documents/LandUsePlanFinal2010.pdf>



- h. (7) Campo Renewable Energy Zones (CREZ): 2 (b) "Impact to Receptor Analysis. The CREZ must include an analysis of the impacts to receptors (homes, businesses, offices, clinics, etc) for safety, noise and visual impacts prior to permanent development..."
  - i. (7.1.2) Objectives: (1) "The maintenance and improvement of the quality of life of tribal members, the protection of the public health, safety, and welfare, and the protection of the environment. (2) the retention as open space of those lands containing important...such as scenic beauty."
  - j. 7.1.4 Land Use Determination System: (7) "The CEPA review shall disclose all beneficial and adverse impacts on the physical environment expected to result from the proposed land use sufficient for informed decision-making by MHI and the General Council."
  - k. (7.51) Aesthetic and Visual Element Issues: "The scenic and visual qualities of the Reservation are considered and protected as a resource of importance to tribal members and the general public. The enhancement of aesthetic resources for tribal members and visitors plays a significant role in promoting tourism."
  - l. (7.5.2) Objectives: (1) "Encourage the preservation and protection of the scenic and visual qualities of the Reservation (3) Encourage project design to preserve unobstructed broad views of the Reservation except where project visibility cannot be mitigated. In that case setbacks and visual screening should be emphasized (5) Require that commercial and industrial development be shielded from residential sites and roadways through the placement of drought tolerant landscaping when feasible."
  - m. (7.5.3) Program: "The Campo Band will pursue a policy of encouraging developers to design projects that are compatible with the surrounding environment and enhance the visual aesthetic qualities of the Reservation."
  - n. (7.5.4.1) Scenic Resources Preservation: "Outstanding scenic vistas and visual features shall be preserved and protected for the enjoyment of the Campo Band and public."
  - o. (7.6.2) Noise Element: "Objectives: (1) Ensure that noise issues are effectively considered in the planning process by establishing and adhering to protective noise policies (2) Protect noise sensitive land uses from high levels of noise by restricting noise producing land uses from these areas (3) Develop and maintain a noise database for tribal lands."
  - p. (7.6.3) Programs: "CEPA will continue to monitor and update noise database materials for use by prospective developers for tribal lands."
  - q. (7.6.4) Land Use Standards: (2) "The following uses shall be considered noise sensitive and shall be discouraged in areas in excess of 65 CNEL (dBA): single and multiple family residential, group homes, businesses and professional offices, and parks and open space lands where quiet is a basis for use. (4) Proposed projects which are noise producers shall work with the Campo Band to either mitigate excessive noise or choose another Reservation site that does not affect any sensitive receptors."
5. **Failure to comply with Campo Land Use Code<sup>13</sup> to protect public health and safety, residents, resources and the environment:**
- a. Title II (201) Purpose of Land Use Plan: "...is to create and preserve a functional, healthy, decent, and efficient place in which to live...in harmony toward creating a desirable community."
  - b. Title II (30) Authority of MHI: ...B 1) "promoting the health, safety, and general welfare of reservation residents...14) protecting aesthetic and visual resources; and 15) controlling noise"
  - c. (305) Variances: D) "Financial gain or loss shall not be the determining factor in deciding whether a variance should be granted."

<sup>13</sup> Campo Land Use Code: [http://www.shuluukwind.com/documents/Campo\\_Land\\_Use\\_Code\\_Final\\_06-2011.pdf](http://www.shuluukwind.com/documents/Campo_Land_Use_Code_Final_06-2011.pdf)



- d. (404) Building Permits: A) "To Control the orderly development of the Reservation and to avoid architectural designs and construction that may be detrimental to the health safety, aesthetic, values or general welfare of the residents of the Reservation."
  - e. (405) Construction Permits: B.6) "in CEPA's discretion, a sworn statement that the construction will not be detrimental to the public or the health, safety, aesthetic values, or general welfare of the public;"
  - f. Title V (601): A) "Every person must maintain his or her property in such a condition as to protect the health, safety, and welfare of persons coming onto or near such a property."
  - g. **(B): "Any person who allows his or her property to become a public nuisance shall be subject to a nuisance action** by MHI, CEPA, the Campo Band, and /or the person(s) whose health, safety, or general welfare is threatened by such a nuisance."  
\*Campo Land Use Code Title I ( X) 'Public Nuisance' means any condition of real property that threatens the environmental quality of the Reservation, threatens to or injures the property of the Campo Band or any resident of the Reservation, or threatens the safety, health, or welfare of any person;"
6. **Failure to include/ provide the Campo Renewable Energy Zone (CREZ)overlay map** referenced in the DEIS and Campo Land Use Code
  7. **Failure to include/ provide the CREZ Impact Analysis as required**
  8. **Failure to comply with the Noise Control Act<sup>14</sup> 42 U.S.C. §4901 et seq. (1972) findings and policy<sup>15</sup>:** "The Congress declares that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare and EPA's definition of Noise Pollution: **"The traditional definition of noise is "unwanted or disturbing sound"**. Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one's quality of life" **and** recognition of Noise Pollution **Health Effects** "Noise pollution adversely affects the lives of millions of people. Studies have shown that there are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity. Noise Induced Hearing Loss (NIHL) is the most common and often discussed health effect, but research has shown that exposure to constant or high levels of noise can cause countless adverse health effects."

### **Muht-Hei, Inc (MHI) compliance & oversight concerns:**

1. Repeated failure to keep MHI registration (entity # C1879924) current with State of California, currently and previously listed as "forfeited"<sup>16</sup>
2. DEIS Appendix G lists close to 100 citations at Campo Materials, including hydrocarbons solvents, waste oil and mixed oil with reference to FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE.
3. Muht-Hei is listed under "Control Name" on all listed Campo Materials citations.
4. This raises concerns that Muht-Hei will have oversight and control over Shu'luuk Wind.

### **DEIS Failure to include or reference The Tribal Environment and Economic Information**

#### **Clearinghouse (TEEIC)<sup>17</sup> that lists the adverse impacts of wind and solar projects:** The U.S.

Department of the Interior is funding the development of the TEEIC through the Assistant Secretary of

<sup>14</sup> <http://www.epa.gov/regulations/laws/nca.html>

<sup>15</sup> [http://www.gsa.gov/graphics/pbs/Noise Control Act of 1972.pdf](http://www.gsa.gov/graphics/pbs/Noise%20Control%20Act%20of%201972.pdf)

<sup>16</sup> <http://kepler.sos.ca.gov/>

<sup>17</sup> <http://teeic.anl.gov/er/wind/impact/op/index.cfm>



Indian Affairs' [Office of Indian Energy and Economic Development](#): (selected excerpts below were taken from the TEEIC website)

- a. **Wind Energy Operations Impacts:** Operations activities that may cause environmental impacts include turbine operation, power generation, and associated maintenance activities. Does include some "potential impacts" of industrial scale wind energy including the following selected excerpts:
  - b. **Possible impacts to health and safety during operations** include exposures to [electromagnetic fields \(EMF\)](#); turbines obstructing aircraft; interference with electromagnetic signals including radar, radio communication, television and microwave transmission; low-frequency sound; and [shadow flicker](#). (Shadow Flicker is the visual, strobe-like effect that occurs when the rotating blades of wind turbines cast shadows). (**Electromagnetic interference (EMI)** Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electrical equipment. It is caused by the presence of electromagnetic radiation).
  - c. **Acoustics (Noise):** Sources of noise during operations would be mechanical and aerodynamic noise from wind turbines; [transformer](#) and switchgear noise from [substations](#); [corona noise](#) from [transmission lines](#); vehicular traffic noise; and maintenance facility noise.
  - d. **Possible environmental justice impacts** during operation include the alteration of scenic quality in areas of traditional or cultural significance to minority or low-income populations. Noise impacts and health and safety impacts are also possible sources of disproportionate effects.
  - e. **Hazardous Materials:** Improper handling or storage of Industrial and sanitary wastes are generated during routine operations (e.g., lubricating oils, hydraulic fluids, coolants, solvents, cleaning agents, sanitary [wastewaters](#)).
  - f. **Socio economics:** Wind energy development activities could also potentially affect property values, either positively from increased employment effects or image of "clean energy," or negatively from proximity to the wind farm and any associated or perceived environmental effects (noise, visual, etc.).
  - g. **Visual Impacts:** Wind energy development projects would be highly visible in rural or natural landscapes, many of which have few other comparable structures. The artificial appearance of wind turbines may have visually incongruous "industrial" associations for some, particularly in a predominantly natural landscape; however, other viewers may find wind turbines visually pleasing, and consider them a positive visual impact. Visual evidence of wind turbines cannot easily be avoided, reduced, or concealed, owing to their size and exposed location; therefore, effective mitigation is often limited
  - h. (visual) Infrequent outages, disassembly, and repair of equipment may occur, producing the appearance of idle or missing rotors, "headless" towers (when nacelles are removed), and lowered towers. Negative visual perceptions of "lost benefits" (e.g., loss of wind power) and "bone yards" (for storage) may result.
  - i. **Land Use:** activities centered on solitude and scenic beauty could be affected (see Impacts to [Visual Resources](#) below). Military operations and aviation could be affected by radar interference associated with the operating turbines, and low-altitude activities could be affected by the presence of turbines over 200 feet high.
  - j. **Surface and Groundwater**
2. **TEEIC Impacts of solar:**



- a. **Acoustics (Noise)** Sources of noise during operations would be mechanical and aerodynamic noise from the power block (depending on the solar technology used—such as from steam [turbine generators](#), pumps, cooling towers), solar tracking devices, solar dish engines, [transformer](#) and switchgear noise from [substations](#), [corona noise](#), from [transmission lines](#), vehicular traffic noise, and maintenance facility noise
- b. **Socioeconomics:** The number of project personnel required during the operation and maintenance phase would be about an order of magnitude fewer than during construction. *Therefore, socioeconomic impacts related directly to jobs would be minimal.*
- c. **Environmental Justice:** Possible [environmental justice](#) impacts during operation include the alteration of scenic quality in areas of traditional or cultural significance to minority or low-income populations and disruption of access to those areas. Noise impacts and health and safety impacts are also possible sources of disproportionate effect.
- d. **Human Health and Safety:** Possible impacts to health and safety during operations include exposures to [electromagnetic fields \(EMF\)](#) and accidental injury or death to workers during operation and maintenance activities.
- e. **Hazardous Materials and Waste Management:** Industrial wastes are generated during routine operations (dielectric fluids, cleaning agents, and solvents). These wastes typically would be put in containers, characterized and labeled, possibly stored briefly, and transported by a licensed hauler to an appropriate [permitted off-site disposal facility](#) as a standard practice. Unique to photovoltaic (PV) technologies, some high-performance solar cells may contain small amounts of cadmium, selenium, and arsenic, and are only hazardous if the solar cell is broken. Damaged cells would need to be characterized and managed as [hazardous waste](#). Concentrating solar power (CSP) technologies (parabolic trough and power tower) may also generate substantial amounts of heat transfer fluids (HTFs) and industrial [solid wastes](#), such as lubricating oils, [compressor](#) oils, and hydraulic fluids. Impacts could result if these wastes were not properly handled and were released to the environment.
- f. **Land Use:** [Land use](#) impacts during the operation of the solar facility would be an extension of those that occurred during the [construction phase](#). No alternate land use would be available during the operation of the solar facility, with the possible exception of [directional drilling](#) for oil and gas resources.
- g. **Ecological Resources:** During operation, adverse ecological effects could occur from (1) disturbance of wildlife by equipment noise and human activity; (2) site maintenance (e.g., washing solar collectors and vegetation control); (3) exposure of [biota](#) to contaminants; and (4) mortality of birds from colliding with the project facilities, being burned by concentrated solar rays (primarily for power tower projects, and collisions with and/or electrocution by transmission lines. During operation of a solar energy facility, wildlife could still be affected by habitat fragmentation due to the presence of the fenced solar energy facility, utility [rights-of-way \(ROWs\)](#), and access roads. In addition, the presence of a solar energy development project and its associated access roads and ROWs may increase human use of surrounding areas, which in turn could impact ecological resources in the surrounding areas through: (1) Introduction and spread of invasive vegetation, (2) Disturbance, (3) Mortality of wildlife from vehicles, (4) Increase in hunting (including poaching), and (5) Increased potential for fire. The presence of a solar energy project could also interfere with migratory and other behaviors of some wildlife



- h. **Visual Resources:** Solar energy development projects would be highly visible in rural or natural landscapes. The disturbed area would continue to contrast with the natural form, line, color, and texture of the surrounding landscape. Visual evidence of a solar field cannot easily be avoided, reduced, or concealed, owing to its size and exposed location; therefore, effective mitigation is often limited. Additional issues of concern are specular reflection from the solar collector arrays resulting in glint or glare (except for PV arrays); visual contrasts from support facilities, and light pollution from the lighting on facilities. Additional visual impacts would occur during maintenance from vehicular traffic.
- i. **Water Resources (Surface Water and Groundwater):** Withdrawals of surface water and/or [groundwater](#) are expected to continue during the operations phase. The amount of water needed depends on the solar technology employed. Impacts to water resources during the operation and maintenance phase would also include possible degradation of water quality resulting from vehicular traffic and machinery operations during maintenance (e.g., erosion and sedimentation) and [wastewater](#) disposal

### **Electrical pollution:**

1. **HEALTH EMF EFFECTS COULD BE EXPLAINED BY CIRCADIAN RHYTHYM DISRUPTION** "Broad-spectrum, ubiquitously-acting antioxidant and anti-cancer agent also reduces growth of human myeloid leukemia cells and whose disruption by light-at-night is associated with increased cancer risk".<sup>18</sup> (excerpt from presentation made by UK EMF expert, Dennis Henshaw PhD)
2. **Evidence for Stress Response (Stress Proteins) Health Risk of Electromagnetic Fields: Research on the Stress Response**<sup>19</sup>: Martin Blank, PhD, Department of Physiology and Cellular Biophysics, College of Physicians and Surgeons Columbia University: (excerpt/ emphasis added) X.  
*Summary: "It is generally agreed that EMF safety standards should be based on science, yet recent EMF research has shown that a basic assumption used to determine EMF safety is not valid. The safety standard assumes that EMF causes biological damage only by heating, but cell damage occurs in the absence of heating and well below the safety limits. This has been shown in the many studies, including the cellular stress response where cells synthesize stress proteins in reaction to potentially harmful stimuli in the environment, including EMF. The stress response to both the power (ELF) and radio (RF) frequency ranges shows the inadequacy of the thermal (SAR) standard. The same mechanism is stimulated in both ranges, but in the ELF range, where no heating occurs, the energy input rate is over a billion times lower than in the RF range. The stress response is a natural defense mechanism activated by molecular damage caused by environmental forces. The response involves activation of DNA, i.e., stimulating stress genes as well as genes that sense and repair damage to DNA and proteins. Scientific research has identified specific segments of DNA that respond to EMF and it has been possible to move these specific segments of DNA and transfer the sensitivity to EMF. At high EMF intensities, the interaction with DNA can lead to DNA strand breaks that could result in mutation, an initiating step in the development of cancer. Scientific research has shown that ELF/RF interact with DNA to stimulate protein synthesis, and at higher intensities to cause DNA damage. The biological thresholds (field strength, duration) are well below current safety limits. To be in line with EMF*

<sup>18</sup> Henshaw presentation 10-2012@slide 18: [http://www.electric-fields.bris.ac.uk/Henshaw\\_ITIS\\_OCT\\_2012.pdf](http://www.electric-fields.bris.ac.uk/Henshaw_ITIS_OCT_2012.pdf)

<sup>19</sup> [http://www.bioinitiative.org/report/wp-content/uploads/pdfs/sec07\\_2007\\_Evidence\\_for\\_Stress\\_Response.pdf](http://www.bioinitiative.org/report/wp-content/uploads/pdfs/sec07_2007_Evidence_for_Stress_Response.pdf)



research, a biological standard must replace the thermal (SAR) standard, which is fundamentally flawed. EMF research also indicates a need for protection against the cumulative biological effects stimulated by EMF across the EM spectrum”.

3. **Denis L Henshaw School of Physics University of Bristol: 2011 The interaction of magnetic fields with biological systems – trying to understand the diversity of reported health effects<sup>20</sup>**  
(*excerpts from power point presentation provided as an attachment*)

- a. Many life forms evolved to detect MFs and use them for navigation; acute adverse health effects are associated with GM storms – all below some levels from the electricity supply.
- b. Both magnetite clusters and the RPM can transduce power frequency MFs at common public exposure levels
- c. The demonstration that human cryptochromes are magneto-receptive, has implications for circadian rhythm disruption in humans and one possible model to explain health effects associated with ELF MF exposure
- d. **IARC 98 (2010) has classified night-shift work as a Class 2A Probable carcinogen**  
Sleep disruption suppresses immune system and generates stress that adversely impact health

**The Department of Energy has demonstrated blatant and unjust bias by favoring the wind industry with billions in funding with virtually no investment into the real impacts and damages that host communities and impacted residents are subjected to:**

1. DOE’s one-sided bias pits its taxpayer funded political interests and agendas squarely against disproportionately impacted non-participating low-income rural communities, their long-range community planning goals, and places human and natural resources at grave risk.
3. The DOE and other federal and state agencies spends billions of dollars per year in researching, promoting, funding, and giving tax-breaks to industrial wind energy.
4. Tax payer funded Production Tax Credits<sup>21</sup>, accelerated depreciation, renewable energy credits, and other lucrative and disproportionate incentives<sup>22</sup> and waivers—totaling in the tens of billions of dollars.
2. \$5,490,324 DOE 2010 grant DE-EE0002496<sup>23</sup> to the Campo Band of Mission Indians for Kumeyaay Wind II Project Development and Demonstration from July 2010 through January 2013 ( some of this is believed to be Invenergy matching funds)
5. Wind Powering America promotes the wind industry<sup>24</sup>. In the Wind Energy Myth Pamphlet our own government falsely claim Noise Issues are a myth<sup>25</sup>
6. DOE Tribal Energy program<sup>26</sup>
7. The Strategic Technical Assistance Response Team (START)<sup>27</sup> Program is part of the DOE Office of Indian Energy effort to assist in the development of tribal renewable energy projects.

<sup>20</sup> [http://apps1.eere.energy.gov/tribalenergy/pdfs/0911review\\_lachappa.pdf](http://apps1.eere.energy.gov/tribalenergy/pdfs/0911review_lachappa.pdf)

<sup>21</sup> [http://dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US13F](http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F)

<sup>22</sup> <http://www.dsireusa.org/incentives/index.cfm?EE=1&RE=1&SPV=0&ST=0&technology=Wind&sh=1>

<sup>23</sup> \$5,490,324 DOE pre-development grant to Campo Band for Kumeyaay Wind II  
[http://apps1.eere.energy.gov/tribalenergy/projects\\_detail.cfm/project\\_id=136#status](http://apps1.eere.energy.gov/tribalenergy/projects_detail.cfm/project_id=136#status)

<sup>24</sup> <http://www.eere.energy.gov/topics/wind.html>

<sup>25</sup> Wind Energy Myths: <http://www.nrel.gov/docs/fy05osti/37657.pdf>

<sup>26</sup> DOE Tribal Energy Program [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US07E](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US07E)



Through START, Tribes in the 48 contiguous states and Alaska can apply for and are selected to receive technical assistance from DOE and national laboratory experts to move projects closer to implementation.

8. DOE produced and /or funded documents that glorify wind energy as clean and green and deny or downplay any adverse impacts to people, wildlife, or property values<sup>28</sup>
9. Wind Powering America<sup>29</sup>: “Works to enable rapid expansion of clean, affordable, reliable, domestic wind power to promote national security, economic vitality, and environmental quality”
10. Other than limited information on the TEEIC website, there is no evidence that any research, field studies, or inquiries into the real world adverse impacts of placing industrial wind turbines in close proximity to homes, offices, education and child care facilities, health clinics, and other sensitive receptors, that justifies or supports the false claims that adverse impacts are less than significant.

**The Bureau of Indian Affairs (BIA) has violated their mission statement and trust responsibilities by promoting and streamlining the leasing process for industrial wind developers—without due diligence into adverse impacts:**

1. BIA Mission Statement<sup>30</sup>: The Bureau of Indian Affairs’ mission is to enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes and Alaska Natives
1. BIA Division of Human Services Mission Statement<sup>31</sup>: “To promote the safety, financial security and social health of Indian communities and individual Indian people.”
2. Trust and fiduciary responsibility<sup>32</sup>: “The federal Indian trust responsibility is also a legally enforceable fiduciary obligation on the part of the United States to protect tribal treaty rights, lands, assets, and resources, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes and villages.”
3. John Rydzik, BIA Resource, was personally informed by Manzanita tribal leadership of documentation of electrical pollution in the air, ground and wires, inside and outside their homes and offices; their concerns with significant adverse health effects and the proximity to existing high-voltage Kumeyaay Wind and proposed Tule Wind turbines.
4. BIA has finalized revisions to 25 CFR 162, streamlined the leasing process for industrial wind and solar projects on 56 million acres of tribal lands without researching the adverse impacts to American Indians or their neighbors, the safety of their homes and other occupied structures, or the sustainability of their resources<sup>33</sup>:

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<sup>27</sup> START program <http://energy.gov/indianenergy/resources/start-program>

<sup>28</sup> [http://www.windpoweringamerica.gov/wpa\\_program\\_areas.asp](http://www.windpoweringamerica.gov/wpa_program_areas.asp)

<sup>29</sup> <http://www.eere.energy.gov/topics/wind.html>

<sup>30</sup> <http://www.bia.gov/WhoWeAre/BIA/index.htm>

<sup>31</sup> <http://www.bia.gov/WhoWeAre/BIA/OIS/HumanServices/index.htm>

<sup>32</sup> <http://www.bia.gov/FAQs/index.htm>

<sup>33</sup> <http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&pageid=332122>

**Failure to comply with Indian Health Services'<sup>34</sup> mission and position as principal federal health care provider and advocate for Indian People (excerpts from IHS website):**

1. *Our Mission...* to raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level.
2. *Our Goal...* to assure that comprehensive, culturally acceptable personal and public health services are available and accessible to American Indian and Alaska Native people.
3. *Our Foundation...* to uphold the Federal Government's obligation to promote healthy American Indian and Alaska Native people, communities, and cultures and to honor and protect the inherent sovereign rights of Tribes.
4. The IHS is the principal federal health care provider and health advocate for Indian people, and its goal is to raise their health status to the highest possible level.
5. Through shared decision making and sound public health measures, the IHS EHS program strives to enhance the health and quality of life for American Indians and Alaska Natives by eliminating environmentally related diseases and injuries. The IHS works closely with Tribes and other partners to identify priorities and develop actions plans to address environmental health issues such as food safety, children's environment (schools, foster care, day care facilities, etc.), vector-borne and communicable diseases, safe drinking water, and healthy homes.

**Office of Native American Programs & HUD Indian Housing Block Grants are for 'safe, decent, and affordable housing'—in direct contradiction to allowing both the Kumeyaay Wind and Shu'luuk Wind turbines too close to homes without due diligence.**

1. *HUD's mission is to create strong, sustainable, inclusive communities and quality affordable homes for all. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes; utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business.*
2. Office of Native American Programs<sup>35</sup>: "ONAP ensures that safe, decent and affordable housing is available to Native American families and creates economic opportunities for Tribes and Indian housing residents."
3. Will the taxpayer investments in tribal homes (listed below) be wasted when they become uninhabitable as foreseen by Manzanita Tribal Chairman Leroy Elliott in his letter to San Diego County Planning Commission seeking a delay in the Tule Wind project pending completion of their Health Impact Assessment?
4. Feb 8, 2012: IHBG were announced<sup>36</sup>: Campo: \$668,255; Manzanita: \$50,399; La Posta: \$50,399 August 2009
5. IHBG ARRA funded development of 10 homes on Manzanita Reservation: Manzanita: \$1,965,662

<sup>34</sup> Indian Health Services: <http://www.ihs.gov/index.cfm?module=ihsIntro>

<sup>35</sup> ONAP: [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/public\\_indian\\_housing/ih](http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih)

<sup>36</sup> IHBG: <http://portal.hud.gov/hudportal/HUD?src=/states/california/news/HUDNo.2012-02-08>



6. March 2009 IHBG ARRA rehab and renovate member housing to enhance energy efficiency:  
\$20,881: La Posta: \$20,881; Campo \$286,764
7. July 2009: Campo Band: \$286, 764 for Modernization, rehab, Planning & Administration

### **US Economic Development Agency's taxpayer funds supporting Shu'luuk Wind:**

1. \$200,000 to the Campo Band of Mission Indians of Campo, Calif., to fund a local economic development strategy and development plan for an existing renewable energy zone on the Campo Reservation. As part of the project, the applicant will procure a Tribal Energy Resource Agreement (TERA) with the U.S. Department of the Interior.
2. "The wind project and the CREZ (Campo Renewable Energy Zone) will attract new commercial activities related to renewable energy development and operations and spur economic growth on the Reservation," said Monique La Chappa, Tribal Chairwoman, Campo Band of Mission Indians.
3. Tribal Economic Development Bond?

### **The Department of Treasury's spends billions in support for industrial wind development:**

1. \$29 million Dept of Treasury loan guarantee for the Campo Band. *Has this expired?*
2. \$16 billion in Section 1603 was distributed as of December 2012<sup>37</sup>: 30% cash grants for wind and solar—*nothing for public health and safety related to these lavish giveaways.*

### **SDG&E & Shu'luuk Connected Project:**

1. On June 11, 2009 SDG&E issued a press release jointly announcing their MOU with Invenergy and the Campo Band of Mission Indians of the Kumeyaay Nation for the development of a wind energy project capable of generating up to 160 megawatts<sup>38</sup>.
2. SDG&E's Shu'luuk Wind new 5.4 mile 138 kV Gen-tie is a rate case undergoing CPUC review as Application<sup>39</sup>.
3. SDG&E has requested an expedited approval with no public hearings
4. It requires a new 100' ROW over 29 private properties to reach SDG&E's new \$400 plus million Boulevard Substation rebuild next to existing homes, 14miles of new 138 kV line through private and BLM land to new 85-acre ECO Substation and loop-in to SDG&E's Southwest Powerlink.
5. The Gen-tie will use at least gallons of water from unidentified local ground water sources, some of which may be located within the federally designated Campo-Cottonwood Creek Sole Source Aquifer
6. The Boulevard /ECO Substation use at least 30 million gallons of local groundwater

### **Misinformation / Misrepresentation/False Claims posted on Invenergy's Shu'luuk Wind project website<sup>40</sup>, none of which will withstand legal scrutiny:**

<sup>37</sup> \$16 billion Section 1603 grants: <http://www.governorswindenergycoalition.org/?p=4870>

<sup>38</sup> <http://www.sdge.com/newsroom/press-releases/2009-06-11/campo-band-mission-indians-kumeyaay-nation-invenergy-and-sdge>

<sup>39</sup> <http://www.sdge.com/regulatory-filing/3968/sdge%E2%80%99s-application-permit-construct-tl-6931-fire-hardeningwind-interconnect>



1. Wind energy generates no emissions and displaces carbon dioxide and other greenhouse gasses that would otherwise be emitted by fossil fuel-powered electric generation sources.
2. The project is subject to a rigorous, independent and objective analysis to ensure compliance with National Environmental Policy Act (NEPA) requirements and Campo tribal law.
3. Shu'luuk Wind will be in compliance with all applicable noise regulations. People have been living near wind turbines for more than 30 years in both the U.S. and in Europe. And over the past decade, due to advances in technology – such as rotor placement, aerodynamic design, and sound-dampening buffer pads - noise produced by wind turbines has diminished significantly. Today, modern wind turbines operate quietly.
4. In 2009 the Lawrence Berkeley National Laboratory, a U.S. Department of Energy Office of Science national lab, issued a [report](#) that found no consistent, measurable, or significant effect on the selling prices of homes located within ten miles of wind facilities.
5. Turbines are not a problem for Golden Eagles
6. Numerous studies have found no evidence of adverse health effects from sound emitted by wind turbines.

### **A Supplemental EIS is required to correct following**

1. The DEIS/Applicant/consultants and lead agency, BIA, have not met their Burden of proof to demonstrate that project will comply with codes, and protect the public Health, Safety & Welfare
2. Discriminatory and biased nature of current federal, state, and local wind energy policies, where funding, research, and incentives, in the tens of billions, favor industry over community with virtually no pre-operation turbine or solar product safety tests to protect impacted residents and consumers, or valid research to determine and investigate a growing alarm over evident adverse health and environmental impacts generated by existing projects.
1. Glaring information gaps big enough to drive an 80 ton wind turbine crane through with room to spare.
2. Misinformation, inadequate, manipulated, omitted, and/or information suppression used to support such an unjustified level of increased risk.
3. 55 dbA is far too high for rural areas, especially at night.
4. The DEIS misrepresents the true low ambient noise levels of our rural area by monitoring near roadways and other busy areas.
5. DEIS ambient noise levels recorded in the southeastern section are too high.
6. In the BIA's 1992 FEIS for the Campo Solid Waste Management project Figure 3.10-1 and Table 3.10-2 documented ambient noise levels at location E at 25 at 3:25 PM ( at NW corner of Tisdale property abutting BIA Rt. 10)
7. Location E is identified as Location 1 in the Shu'luuk Wind DEIS that shows a low of 29.1 and high of 48. Residents know that the ambient noise levels have not changed that much.
8. Major information gaps that prevent informed public participation and decision making
9. Errors, omissions, inadequate and/or manipulated information and /or surveys
10. Failure to uphold fiduciary responsibilities, due diligence, and overall trust responsibilities

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<sup>40</sup> <http://shuluuk.invenenergyllc.com/faq.htm>



11. Non-compliance/lack of consistency with federal, tribal and other applicable requirements
12. Willful misrepresentation of facts and/or suppression of information
13. Discrepancies between project maps and text regarding turbine setbacks from private properties which appears to be less than 500 feet when using scales included with those maps including Figure 2-9 Project Components for Alternative 1 & 2-10 for Alternative 3
14. Belated posting of the Campo Land Use Plan and Land Use Code referenced in the DEIS *only after public complaints* for failure to provide these documents for review and comment -- as previously promised by the tribal chair at the 2011 DEIS Scoping hearings.
15. Failure to include any maps or identification of the Campo Renewable Energy Zone Overlays that are referenced in the DEIS, the Campo Land Use Plan and Land Use Code.
16. Inadequate DEIS maps, most of which do not identify key landmarks, town centers, or neighborhoods. Even when zoomed in it is difficult to read the names of the roads that are included.
17. Failure to disclose that the project CALISO grid queue connection # 106 A is for 160 M W only – not for 250 MW or any other capacity in between<sup>41</sup>. Due to grid congestion, a significant number of wind and solar projects already approved and pending in Imperial Valley, with SDG&E Power Purchase Agreements, and a significant number of projects that recently dropped out of the queue, only the 160 MW alternative should be under review in the current DEIS.
18. Failure to address lack of need for project; the intermittent and unreliable nature of wind
19. Failure to include Green House Gas emissions / impacts from gas-fired backup generation needed to keep the grid balanced.
20. Failure to include necessary solar project details, including water use and source, location of solar substation, amount of blasting and soil to be removed from 310 acres located on a ridge top less than 500 feet from adjacent private property, homes and domestic wells.
21. Failure to address significant new and emerging information related to public health and safety, science based field documentation of the presence of noise, low-frequency, infrasound, and /or electrical pollution inside and outside homes and other occupied structures near industrial scale wind and solar installations and related infrastructure.
22. Failure to include basic necessary details on 40 MW solar project included as part of Alternative 2 or Shu'luuk Wind Phase II; No information provided on amount of soil to be removed from the top of the ridgeline, less than 500 feet from abutting private properties, how much water will be consumed during construction and operation, or the source of that water.
23. Failure to fully identify on-site and off-site water sources and valid documentation of estimated source capacity /sustainability, and potential for non-participating well interference for each source.
24. Where is Tribal Energy Resource Agreement between Campo and the DOI/BIA? It looks like \$200,000 of taxpayers' funds paid for it<sup>41</sup>.
25. Failure to include adjacent non-participating private properties in Key Observation Points that are less than 500 feet from proposed solar project, with turbines locations that appear to be less than 500 feet from some properties and 1,700 feet from others in the southeastern, southwestern and northwestern portion of the project including homes in the Tierra Del Sol Rd, Tierra Real Rd , Vista Del Cielo Rd, Shasta Way, Ribbonwood Road, McCain Valley areas

<sup>41</sup> EDA \$200k CREZ grant: <http://www.nativetimes.com/news/federal/5131-us-eda-invests-to-support-native-american-tribes-job-growth-efforts?type=raw&tmpl=component&print=1&page=>



26. BIA/DOI Failure to independently determine cause of 2009 catastrophic failure at Infigen's Kumeyaay Wind<sup>42</sup>, with Infigen v Gamesa \$48 million or so litigation<sup>43</sup>
27. Failure to address all project and cumulative project impacts on air and ground borne vibrations on ground dwelling species. Wind turbines were inexplicably left out of the vibration section of the DEIS
28. Project maps do not identify impacted neighborhoods such as Manzanita and La Posta tribal neighborhoods, Boulevard, Live Oak Springs, Ribbonwood, Crestwood, Tierra Del Sol, Miller Valley, Shockey Truck Trail.
29. Failure to identify and address potential for adverse transboundary impacts in the Jardines Del Rincon and Teachers Rock area of Mexico, located in the Tecate municipal area.
30. Most DEIS map legends cover much of the Tierra Del Sol area blocking evidence of the number of homes in that impacted off-reservation neighborhood<sup>44</sup>.
31. Failure to comply with Environmental Justice requirements to reduce cumulative adverse impacts on disproportionately impacted low-income and minority communities.<sup>45</sup>
32. Failure to provide documentation of product safety for industrial wind turbines or even the make and model of wind turbine, inverters, transformers and other equipment proposed for use.
33. Failure to appropriately or fully assess the site and adjacent impact areas
34. Failure to include the most up-to-date peer-reviewed, published, and other readily available information documenting the presence of wind/solar/substation generated low-frequency noise and infrasound (0-20hz)<sup>46</sup>, electrical pollution<sup>47</sup>, or the and significant adverse impacts to people, pets, livestock, and wildlife.
35. Placing wind turbines far too close to residential properties and other sensitive receptors, when new peer-reviewed published studies show a minimum setback of 1.25 miles and generally much more is needed to protect public health, safety, and well being.
36. Failing to differentiate the impacts and zone of influence between 2MW and 3 MW turbines, when larger turbines represent even more low-frequency and infrasound impacts
37. Failing to adequately or honestly represent what effects the turbines will have on the community, including homes, businesses, recreation areas, pets, livestock, and wildlife
38. Greenwashing, suppressing and/or misrepresenting material facts and/or information on adverse health other impacts.
39. Potential to cause permanent and irreparable harm and damage to impacted properties, residents, and resources
40. Failure to provide procedure for complaint/conflict resolution for adverse impacts similar to the complaint resolution procedure proposed for Invenergy's Stony Creek Wind Farm in Wyoming County, New York<sup>48</sup>. 'Legitimate complaints' include *"those related to noise, shadow flicker,*

<sup>42</sup> <http://www.windpowermonthly.com/article/983937/Turbine-blade-split-ignites-row-Gamesa-Infigen-Energy>;  
<sup>43</sup> Kumeyay Wind Dispute: Infigen 2012 report page 100: <http://infigen2012.reportonline.com.au/files/assets/basic-html/page100.html>

<sup>44</sup> Figure 2-9 Project Components Alternative 1 (one example of many)

<sup>45</sup> <http://www.thealpinesun.com/article/manzanita-health-study>

<sup>46</sup> [www.docs.wind-watch.org/committee\\_acoustical\\_breakdown.doc](http://www.docs.wind-watch.org/committee_acoustical_breakdown.doc)

<sup>47</sup> [www.bioinitiative.com](http://www.bioinitiative.com)

<sup>48</sup> Invenergy Stony Creek Wind Farm Complaint resolution procedure:

[http://www.invenergyllc.com/stonycreek/pdf/1/03\\_DEIS/DEIS\\_Appendices/I\\_2\\_Complaint\\_Resolution\\_Procedure.pdf](http://www.invenergyllc.com/stonycreek/pdf/1/03_DEIS/DEIS_Appendices/I_2_Complaint_Resolution_Procedure.pdf)



*dust, well interruption, interruption with television/broadcast reception, and other impacts to Town residents and businesses not specifically identified herein.” (emphasis added)*

41. Failure to adequately address and recognize the presence of Golden Eagles, and other significant wildlife resources as documented by resident sightings and letters declaring such sightings:
42. Failure of federal agencies to fully and fairly include the public in the ongoing wind industry driven assault on protects for Golden Eagles, including controversial closed door meetings with industry and co-opted big environ groups<sup>49</sup>
43. Failure to require the Kumeyaay Wind project to track and document their bird and bat kills which may be substantial based on eye-witness account from Don Bonfiglio as reported to BIA and others during Tule Wind and Shu’luuk Wind during public comment letters.

#### **6.1.2 Public Involvement:**

1. Failure to include all public scoping comments made in writing and /or to the court reporter present at the 2011 Shu’luuk Wind DEIS scoping hearings.
2. The BIA/AECOM public hearing format was vastly inadequate and neutered any real public participation and the expected Q & A. Virtually no real questions were answered.
3. While one large yet vague project map was displayed<sup>50</sup>, no detailed DEIS maps were publicly displayed in a large format showing locations and proximity of up to 85-515’ 2-3 MW wind turbines, the 310 acre 40 MW tracking solar PV installation, 2 new substations, 26 miles of new roads, miles of new overhead and underground cables, over 5 miles of SDG&E’s new connected 138kV gen-tie with new 100’ ROW across 29 private properties, with another 13 miles of new roads, over 60 acres of off-site construction yards and helicopter landing zones and an additional 2 million gallons of water from unidentified or quantified local groundwater sources.

#### **DEIS Appendix A: Groundwater:**

1. We refer to, and incorporate by reference, Dr. V.M. Ponce’s review of the Shu’luuk Wind groundwater posted here: <http://shuluuk.sdsu.edu>, and his previous reports on the Campo Landfill, Tierra Del Sol Watershed, Groundwater Sustainability
  - Lawsuit filed against Iberdrola’s Hardscrabble Wind includes complaint (#174 @page 32) from neighbor Holly Ashley that she has had sediment in her drinking water since turbines were installed in here neighborhood.
  - Ivenergy’s Complaint Resolution Procedure for Stony Creek Wind Farm, Wyoming County, York: legitimate complaints include’ well interruption’<sup>51</sup>:
- 2 Appendix A @ page 14 admits that 50 % of construction water in first 3 months may need to come from alternate sources so they are required to identify and analyze those sources.
- 3 Appendix A does not, but must, specifically identify all off-site water sources and provide up-to-date Source Capacity Studies and water quality tests and list cumulative impact projects that have also identified those same water sources:

<sup>49</sup> <http://www.kcet.org/news/rewire/wildlife/groups-slam-fish-and-wildlife-over-undemocratic-eagle-policy.html>

<sup>50</sup> [http://www.shuluukwind.com/documents/Shuluuk\\_Project\\_Study\\_Area.pdf](http://www.shuluukwind.com/documents/Shuluuk_Project_Study_Area.pdf)

<sup>51</sup> [http://www.inveneryllc.com/stonycreek/pdf/1/03\\_DEIS/DEIS\\_Appendices/I\\_2\\_Complaint\\_Resolution\\_Procedure.pdf](http://www.inveneryllc.com/stonycreek/pdf/1/03_DEIS/DEIS_Appendices/I_2_Complaint_Resolution_Procedure.pdf)

- Potential sources include Campo Materials, Pine Valley, Jacumba, and—all groundwater dependent.
  - Live Oak Springs was not specifically mentioned but does sell water and should be included.
  - At page 5, it incorrectly states that Campo Materials is a privately owned facility outside the purview of the study.
- 4 The Kumeyaay Nation website shows Campo Materials is under Muht-Hei, Inc that is identified as the same tribal economic development arm that includes Kumeyaay Wind and the Golden Acorn Casino (with planned expansion and increased water use), so the use of that groundwater resource must be included and analyzed<sup>52</sup>:
  - 5 Green House Gas emissions studies may be needed to address any round-trip long-hauling of imported water from Pine Valley or Jacumba.

#### **Appendix B: Air Quality Impact:**

1. Where are local GHG and other data collected from tribal air quality monitoring stations that have received public funds<sup>53</sup>?
2. Electrical pollution/ radiation is a significant and harmful form of air pollution/emissions that must be addressed

#### **Appendix C: Biological Technical Report:**

1. Inadequate or manipulated biological surveys.
2. Failure to include Shu'luuk Wind and cumulative impact Noise impacts on wildlife<sup>54</sup>
3. Failure to include EMF/RFR effects on wildlife U.S. Fish & Wildlife Service Concerns Over Potential Radiation Impacts of Cellular Communication Towers on Migratory Birds and Other Wildlife – Research Opportunities Albert M. Manville, II, PhD<sup>55</sup>. Senior Wildlife Biologist Division of Migratory Bird Management, USFWS 4401 N. Fairfax Dr. MBSP-4107 Arlington, VA 22203 (o) 703/358-1963 May 10, 2007, “Congressional Staff Briefing on the Environmental and Human Health Effects of Radiofrequency (RF) Radiation,” House Capitol 5, Washington, DC
4. Failure to include turbine and other project generated vibrations on ground dwelling species as documented in USGS paper: Assessing the state of knowledge of utility-scale wind energy development and operation on non-volant terrestrial and marine wildlife Jeffrey E. Lovich, Joshua R. Ennen U.S. Geological Survey, Southwest Biological Science Center<sup>56</sup>, 2255 North Gemini Drive, MS-9394, Flagstaff, AZ 86001, USA

#### **Appendix D: Traffic Impact Analysis:**

<sup>52</sup> <http://www.campo-nsn.gov/materials.html>

<sup>53</sup> La Chappa 2011 power point @page 3: [http://apps1.eere.energy.gov/tribalenergy/pdfs/0911review\\_lachappa.pdf](http://apps1.eere.energy.gov/tribalenergy/pdfs/0911review_lachappa.pdf)

<sup>54</sup> <http://aeinews.org/archives/573>

<sup>55</sup> USFWS (wind Turbine) Noise Effects on Wildlife: <http://www.fws.gov/windenergy/docs/Noise.pdf> ;[www.hese-project.org/hese-uk/en/.../manville\\_wildlife\\_towers.pdf](http://www.hese-project.org/hese-uk/en/.../manville_wildlife_towers.pdf) ;

<sup>56</sup> USGS wind turbine vibration impacts:  
[http://profile.usgs.gov/myscience/upload\\_folder/ci2012Dec1411215633446Wind%20energy%20and%20wildlife%20Lovich%20and%20Ennen.pdf](http://profile.usgs.gov/myscience/upload_folder/ci2012Dec1411215633446Wind%20energy%20and%20wildlife%20Lovich%20and%20Ennen.pdf)



2. Previous questions and concerns have not been addressed regarding expansion, upgrades, of existing roads that were never designed for such heavy truck traffic and large wind turbine components.
3. Residents do not have many options to avoid construction traffic on our limited number of paved roads.
4. Cumulative impacts from numerous large-scale construction projects ongoing at the same time.

#### **Appendix E: Noise Impact Report:**

1. We incorporate by reference the professional review by Rick James of E-Coustic Solutions, Inc of the Shu'luuk Wind Noise Impact Report
2. We also incorporate Rick James 3-2011review of the impacts as described in the joint EIR/EIS ECO Substation, Tule Wind, and Energia Sierra Juarez<sup>57</sup>
3. Please see list of our reference documents listed below and provided as footnote links

#### **Appendix F: Visual Impact Assessment: INADEQUATE:**

1. Key Observation Points<sup>58</sup> do not fully or adequately address views from the off-reservation properties, public roads, trails, public lands in the following areas and more:
  - a. Western boundaries: residential areas accessed Miller Valley Road, Shockey Truck Trail, Hwy 94, Old Hwy 80 (Historic Route 80), Campo Valley area, La Posta Circle
  - b. North /western boundaries: residential areas accessed by La Posta Truck Trail, Thing Valley Road, Crestwood Road, Campo, La Posta, and Manzanita tribal/ BIA roads north of I-8 ; public access areas of USFS Cleveland National Forest, Pacific Crest Trail, BLM McCain Valley Recreation and Conservation Area, accessed by McCain Valley Road
  - c. South /western boundaries: residential areas and public lands accessed by Shockey Truck Trail, Tierra Del Sol Road.
  - d. South /Eastern: residential areas accessed by Tierra Del Sol Road, Tierra Real Road, Vista Del Cielo, and Shasta Way.
  - e. Eastern/North Eastern: Historic Route 80, Live Oak Springs, Tierra Heights, other tribal and private residential areas accessed by Ribbonwood Road, Canebrake Road/Manzanita Road

#### **Appendix G: Phase 1 Environmental Site Assessment: INADEQUATE**

1. Described as Site Assessment for visible signs of contamination
2. Phase 1 is described as the construction and operation of a 160 MW commercial wind operation
3. Where is the evaluation for Phase II and potentially Phase III?
4. (1.4) Site Related Limiting Conditions: "Due to size and density of vegetation, it was not possible to traverse all areas of the subject property during site reconnaissance."
  - This raises concerns with significant and cumulative loss of carbon sequestering vegetation / wildlife habitat /natural soil binding and dust suppressant and the

<sup>57</sup> Rick James: ECO, Tule, ESJ, cumulative impact noise review: <http://www.sdcounty.ca.gov/pds/docs/ZA/NoiseMaterial.pdf>

<sup>58</sup> DEIS Key Observation Points map @page 18 : Figure 4 Visual Study Inventory:

[http://www.shuluukwind.com/documents/Shuluuk\\_DEIS\\_Appendix\\_F\\_Visual\\_Impact\\_Assessment.pdf](http://www.shuluukwind.com/documents/Shuluuk_DEIS_Appendix_F_Visual_Impact_Assessment.pdf)

installation of fire-sparking electrical equipment with potentially hazardous flammable oils and fluids

### **Haz mat:**

- As reference, SDG&E Sunrise Noise Variance (10-17-11) to allow extended hours to fill Suncrest substation transformer oil (*each transformer holds 28,000 gallons of oil*)<sup>59</sup>
- Each wind turbine can hold up to 200 gallons of oil and each turbine transformer can hold up to 500 gallons of oil and wind substations have up to 12,000 gallons of oil<sup>60</sup>:
- How much transformer and gear oil, turbine brake fluid and other chemical liquids that can contaminate water supplies will be needed for project construction and operation and where will they be stored?
- 40 gallons of wind turbine oil spilled during tower collapse<sup>61</sup>:
- 491 gallons of oil spilled during wind turbine substation explosion that contaminated one neighbors well<sup>62</sup>
- Where is Hazardous Materials Management Plan for public review and comment?
- Ground borne vibrations documented up to 6.8 miles from wind farm in Italy<sup>63</sup>:
- Wind project blocked over seismic impacts to sensitive equipment<sup>64</sup>
- Other fuels and lubricants.

### **8.0 References: Documents referenced in DEIS that should be excluded due to lack of credibility or basis in fact:**

1. "Sierra Club 2011; I The Real Truth About Wind Energy: A literature review of wind turbines in Ontario. June<sup>65</sup>" (DEIS references at page 8-12)
  - a. The Sierra Club document should be excluded as irrelevant. It was thoroughly researched, critiqued, and discredited by Wayne Gulden of Wind Farm Realities in his "Critique of the Real Truth About Wind Energy" July 2011<sup>66</sup>. Gulden found that Out of the total of 61 cited references NONE were from a source that was critical of the wind industry, and only 1(Salt) was found among the 13 additional... The bulk of references used here contain assertions, unsupported by any actual evidence, from proponent-friendly sources, many of which have a political or economic stake in the wind energy industry. The few references that are from disinterested parties uniformly have their conclusions stretched to the breaking point to support the proponents' perspective...I encourage you to read through the Report and follow the references to see if this Report presents the Truth, the Real Truth, or any plausible version of the Truth.
  - b. Ben Hoen/ LBNL DOE funded 2009 property value study: The Hoen study has been discredited by numerous professionals and real world property value reductions

<sup>59</sup> San Diego County Variance 11-014 dated received 11-03-11

<sup>60</sup> [http://www.blm.gov/or/districts/burns/plans/steen\\_trans/files/hazard-waste.pdf](http://www.blm.gov/or/districts/burns/plans/steen_trans/files/hazard-waste.pdf)

<sup>61</sup> <http://www.rutlandherald.com/apps/pbcs.dll/article?AID=/20081017/NEWS02/810170356>

<sup>62</sup> <http://www.windaction.org/news/13367>

<sup>63</sup> <http://www.bssaonline.org/content/101/2/568.abstract> ; full report:

<http://www.windturbinesyndrome.com/wp-content/uploads/2011/03/Seismic-noise-by-wind-farms-PDF-report.pdf>

<sup>64</sup> <http://www.windturbinesyndrome.com/2011/wind-turbine-seismic-vibrations-stop-windfarm-cold-uk/>

<sup>65</sup> Sierra Club Real Truth About Wind Energy: <http://www.sierraclub.ca/en/climate-change/real-truth-about-wind-energy>

<sup>66</sup> Gulden's Critique of Real Truth About Wind Energy: <http://windfarmrealities.org/wfr-docs/gulden-sierra-club-critique.pdf>



near wind turbine projects; See Wayne Gulden's 10-page well researched Critique of *The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis*<sup>67</sup>. Hoen was also discredited by Michael McCann, *McCann Appraisal*, who was invited to peer review the document<sup>68</sup>. More recent studies and reports further discredit the Hoen report.

- c. **Dave Bittner WRI** has lost credibility as an unbiased Golden Eagle expert due to his extensive employment by the industrial wind industry and WRI's most recent newsletter on the threat to San Diego County Golden Eagles that does not even mention industrial wind turbines, yet sees the development of trails as a threat<sup>69</sup>

### **Additional references/documentation of adverse Impacts linked to wind turbines and related infrastructure:**

1. **"Properly interpreting the epidemiologic evidence about the health effects of industrial wind turbines on nearby residents"**, June, 2011 by Carl V. Phillips, MPP PhD : <http://www.windaction.org/documents/32559>
2. **Is the Infrasound From Wind Turbines Harmful to Humans Living Nearby**<sup>70</sup>? Alec N. Salt, PhD, Department of Otolaryngology, Washington University School of Medicine, St. Louis, MO, USA and James A. Kaltenbach, PhD Lerner Research Institute/Head and Neck Institute, Cleveland, OH, USA published in **Bulletin of Science Technology & Society July 2011**: DOI: 10.1177/0270467611412555 : excerpt : "Our present understanding of inner ear physiology and of the nature of wind turbine sounds demonstrates that low-level infrasound produced by wind turbines is transduced by the OHC of the ear and this information is transmitted to the cochlear nucleus of the brain via Type II afferent fibers. We therefore conclude that dismissive statements such as "there is no significant infrasound from current designs of wind turbines" are undoubtedly false".
3. **'Wind turbine syndrome': fact or fiction**<sup>71</sup>? A FARBOUD1, R CRUNKHORN2, A TRINIDADE3 Department of ENT Head and Neck Surgery, 1Glan Clwyd Hospital, Rhyl, Wales, and 2Department of Neurosurgery, Queen Elizabeth Hospital, Birmingham, England, UK, and 3Department of ENT Head and Neck Surgery, James Paget Hospital, Great Yarmouth, England . Published in *The Journal of Laryngology & Otology*, 2013 doi:10.1017/S0022215112002964: Excerpt: Results: There is evidence that infrasound has a physiological effect on the ear. Until this effect is fully understood, it is impossible to conclude that wind turbine noise does not cause any of the symptoms described. However, many believe that these symptoms are related largely to the stress caused by unwanted noise exposure. Conclusion: There is some evidence of symptoms in patients exposed to wind turbine noise. The effects of infrasound require further investigation.

<sup>67</sup> Gulden Critique of Hoen's Impact of Wind Power on Residential Property Values: <http://www.bpwtg.ca/hoen-critique.pdf>

<sup>68</sup> <http://www.goodhuewindtruth.com/uploads/mccann-appraisal-llc-review-of-lbnl-wind-farm-property-vale280a61.pdf>;

<https://www.wind-watch.org/documents/regarding-ben-hoen-study-on-residential-property-values/>

<sup>69</sup> [http://www.wildlife-research.org/wildnews%20\(Golden%20Eagles%20of%20San%20Diego\).pdf](http://www.wildlife-research.org/wildnews%20(Golden%20Eagles%20of%20San%20Diego).pdf);

<http://eastcountymagazine.org/node/12317>

<sup>70</sup> DOI: 10.1177/0270467611412555 <http://bst.sagepub.com/content/31/4/296.short>

<sup>71</sup> <http://docs.wind-watch.org/WTS-fact-or-fiction-JLO.pdf>



4. **Grey Highlands 2012 Wind Turbine Noise Survey<sup>72</sup>: February 2, 2013 by Nicholas Kouwen**  
**Summary:** New scientific measurements reveal that industrial wind turbines (IWTs) in Ontario routinely exceed acceptable noise limits set by Ministry of Environment (MOE) guidelines. The data show that when wind turbines are present, the associated sound pressure levels are repeatedly higher than government guidelines permit during the day, evenings and late at night.
5. **Wind Turbine Acoustic Pollution Assessment Requirements<sup>73</sup>: (excerpt)** On behalf of the many people around the world, suffering acute and chronic health damage from living near wind turbines, the Waubra Foundation demands that relevant authorities initiate:
  - ***full frequency spectrum acoustic monitoring inside and outside the homes and workplaces of people claiming health problems caused by the proximity of operating wind turbines;***
  - ***the monitoring must be conducted for sufficient time, under the weather and wind conditions indicated by victims as being contributive to their symptoms;***
  - ***measurements must specifically include, infrasound and low frequency noise, (dBZ or dBLin, dBA, dBC, & dBG).***
 The noise monitoring must be performed by accredited acousticians demonstrably independent of the wind industry, approved by the sufferers, and in a manner that will avoid any deliberate manipulation of turbine operation to reduce the acoustic emissions during testing. The results (including all the raw data and associated sound files) must be made available to all parties.
1. **November 2012 Statement of Dr Sarah Laurie on Infigen's Cherry Tree Wind appeal<sup>74</sup>: In the Victorian Civil and Administrative Appeals Tribunal Planning and Environment List No 2910 of 2012:** "This proposal should therefore be rejected on the basis of its potential to cause serious adverse health effects from sleep disturbance alone, to a great number of people. The proposed industrial wind turbine development should be rejected until the developer can prove with independently conducted peer reviewed scientific, acoustic and medical research that its industrial wind development will not cause harm to the health of rural people living and working nearby, through chronic cumulative exposure to unsafe levels of low frequency noise and infrasound emitted from the industrial wind turbines proposed, over the life of the project.
1. **In depth letter on wind turbine impacts from Dr. Sarah Laurie, Medical Director of the Waubra Foundation<sup>75</sup>** who is helping dozens of wind farm refugees in Australia. Dr. Laurie helps others around the globe and has been targeted by the wind industry and their supporters:
2. **Wind Energy, Noise Pollution<sup>76</sup>:** Living near wind turbines can be hazardous to your health: Robert Bryce, Manhattan Institute for Policy Research.
3. **Wind Energy Noise and Pressure Pulses<sup>77</sup>: Dr Nissenbaum's response to Senate Inquiry:**  
<http://doc.wind-watch.org/Nissenbaum-Nocebo-response-to-senate-inquiry-11-22-2012.pdf>
4. **Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem<sup>78</sup>** Author: U.S. Institute of Medicine Committee on Sleep Medicine and Research

<sup>72</sup> <http://www.windaction.org/documents/37250>

<sup>73</sup> [http://waubrafoundation.com.au/Wind Turbine Acoustic Pollution Assessment Requirements.pdf](http://waubrafoundation.com.au/Wind_Turbine_Acoustic_Pollution_Assessment_Requirements.pdf)

<sup>74</sup> <http://docs.wind-watch.org/Cherry-Tree-VCAT-Sarah-Laurie.pdf>

<sup>75</sup> <http://docs.wind-watch.org/Laurie-Collector.pdf>

<sup>76</sup> <http://www.manhattan-institute.org/html/miarticle.htm?id=7863>

<sup>77</sup> <http://theenergycollective.com/willem-post/84293/wind-turbine-noise-and-air-pressure-pulse>

<sup>78</sup> <http://www.iom.edu/~media/Files/Report%20Files/2006/Sleep-Disorders-and-Sleep-Deprivation-An-Unmet-Public-Health-Problem/Sleepforweb.ashx>



5. **Turbines are affecting people**<sup>79</sup>: Lynn By [Tracey Richardson](#), Sun Times, Owen Sound Wednesday, February 20, 2013 11:20:22 EST AM: "Of hundreds of credible studies around the world on wind energy, none conclude there is no association between the towering turbines and adverse health effects. That's what Grey-Bruce medical officer of health Dr. Hazel Lynn and her researcher, Dr. Ian Arra, will present to the public health board Friday..."<sup>80</sup> ... "(The conclusions are) not new, but it's further confirmation that these are not NIMBYs, these are people affected by these things," Lynn said Tuesday in an interview. "All of the studies rejected the null hypothesis that there was no association. Every one of them found that there was an association"
6. **Power Quality Solutions for Industrial Customers, California Energy Commission: 2000**<sup>81</sup>.
7. **Reducing Environmental Exposure For AEHF's International Symposium 2007 EMF and RF Emission: Products, Devices and Their Intensities**<sup>82</sup> By: Robin Ashton, Tang Lee PhD, Karen Taylor March 23, 2007; Calgary, Alberta, Canada: (excerpts): *Stringent industry regulations are necessary to reduce the emissions from all sources of industry, including telecommunications ;Environmental protection measures must be initiated and implemented for our personal and corporate safety; Standards and guidelines greatly reducing manmade electromagnetic pollution, which inadvertently contributes to global warming through heat generation, must be established; All industries must become inherently interested in the safe construction of all electrical equipment, residential appliances, and their applications and usage; Safety driving standards and guidelines must be on an International scale.* Electromagnetic interference (EMI) is any natural or man-made electrical or electromagnetic energy that results in unintentional and undesirable equipment responses. Electromagnetic energy travels in the form of emissions, either conducted or radiated. Conducted emissions are generated inside electrical or electronic equipment and may be transmitted outward through the equipment's data input or output lines, its control leads, or its power conductors. Conducted emissions may cause an EMI problem between equipment that generates useful emissions and other equipment with low immunity to those same emissions. Radiated emissions are radio-frequency electromagnetic energy that travels through the air. Radiated emissions are also generated by electrical or electronic equipment and may be emitted from poorly shielded or unshielded power and data cables, leaky equipment apertures, inadequately shielded equipment housings, or normally operating equipment antennae. Whether conducted or radiated, emissions include three properties: amplitude, frequency, and waveform. EMI can occur in equipment with low immunity to emissions when any or all of these properties vary from normal—for example, emissions that are too high in amplitude, too low or too high in frequency, or whose waveforms are distorted. EMI can also occur when these properties are within normal operating parameters, usually resulting from equipment's low immunity to emissions.
8. **REVIEWS ON ENVIRONMENTAL HEALTH VOLUME 23, NO. 2, 2008 Setting Prudent Public Health Policy for Electromagnetic Field Exposures** (excerpts):<sup>83</sup>, <sup>84</sup>: Low frequency electromagnetic fields, whose frequencies, harmonics and sub-harmonics coincide with the range of frequencies used by our brains, hearts and cells. Subtly and at extremely low intensities, they strongly interact, through resonant absorption, with primary functions of our bodies with significant elevations in depression, sickness and death; Cells use oscillating

<sup>79</sup> <http://www.owensoundsuntimes.com/2013/02/22/studies-show-association-between-turbines-adverse-effects-report>

<sup>80</sup> <http://www.owensoundsuntimes.com/2013/02/20/turbines-are-affecting-people-lynn>

<sup>81</sup> [http://www.energy.ca.gov/process/pubs/power\\_quality.pdf](http://www.energy.ca.gov/process/pubs/power_quality.pdf)

<sup>82</sup> [http://www.eaglecliffs.com/HTMLobj-280/EMF and RF Emission.pdf](http://www.eaglecliffs.com/HTMLobj-280/EMF_and_RF_Emission.pdf)

<sup>83</sup> <http://cetf.us/wp-content/uploads/2009/03/carpenterreh-emf.pdf>

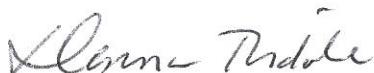
<sup>84</sup> <http://www.safespaceprotection.com/electrostress-from-power-lines.aspx>

electromagnetic fields for many vital functions. Signals and substances that interfere with vital functions are hazardous and toxic; *Current standards do not protect people from many consistent and well established biological and health effects.* The international guideline (International Commission for Non-Ionizing Radiation Protection, ICNIRP (1998)) for public exposure to 50 Hz fields is 1000 mG and for 60 Hz is 833.3mG. These are set to avoid electric shock.

9. **Wind Turbines and Property Values<sup>85</sup> : Appraisal One power point: At page Invenenergy's Forward Wind documented loss of property value; Conclusion: average loss of 12-40%**
10. **Living With the Impacts of Wind Turbines: Chris Luxemburg<sup>86</sup>** Real Estate Broker with Sutton Group – Professional Realty Inc. The impact of Windmills must be considered and proper placement and set backs are required\_Aviation Safety must be considered-The neighbors who bear these devices should ALL be compensated to adjust for the impact on land values.
11. **Wind farms DO hit house prices<sup>87</sup>**: Government agency finally admits that thousands can be wiped off value of homes:
12. **Property Values Blowing in the Wind<sup>88</sup>**: "People do not want to buy near windmills," said Amanda J. Miller, owner of Lake Ontario Realty, Dexter, who specializes in waterfront property sales. "They avoid purchasing in towns like Cape Vincent."\_She presented her views and a report on property values to the Jefferson County Board of Legislators on Tuesday night. In other countries that have had wind power development for a while, they have seen 40 percent to 60 percent drops in resale values, she said. Closer to home, she's had clients pull out of deals and refuse to consider areas that are possible sites for wind turbines.

My apologies for not having adequate time to better cleanup and organize this document and footnotes.

Sincerely,



Donna Tisdale, Chair

CC: Interested Parties

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<sup>85</sup> [http://k.b5z.net/i/u/6016107/f/Wind Power Property Value Presentation by Kurt C. Kielisch Feb 11 .pdf](http://k.b5z.net/i/u/6016107/f/Wind+Power+Property+Value+Presentation+by+Kurt+C.+Kielisch+Feb+11+.pdf)

<sup>86</sup> <http://ruralgrubby.files.wordpress.com/2008/12/chris-luxemburger-presentation1.pdf>

<sup>87</sup> <http://www.dailymail.co.uk/news/article-2177429/Wind-farms-DO-hit-house-prices-Government-agency-finally-admits-thousands-wiped-value-homes.html#ixzz2LtdrCM6t>

<sup>88</sup> <http://www.watertowndailytimes.com/article/20100407/NEWS03/304079990>