



US Department of Energy

DEC 20 2007

Electricity, Delivery and Energy Reliability

December 18, 2007

Anthony Como, Director
Permitting and Siting, U.S. Department of Energy
1000 Independence Avenue
Room 6H-050, OE-20
Washington, DC 20585

Subject: Submittal of Baja Wind U.S. Transmission, LLC Application for Presidential Permit

Dear Mr. Como:

Sempra Generation on behalf of Baja Wind U.S. Transmission, LLC hereby submits the enclosed Application for a Presidential Permit. The proposed project is a 500-kV transmission line that will electrically interconnect up to 1250 MW of energy from renewable energy generators to be located in the vicinity of La Rumorosa, Baja California, Mexico (La Rumorosa) with the Imperial Valley-Miguel segment of the Southwest Powerlink (SWPL) 500-kV transmission line. The proposed transmission line will have a total length of approximately 3 miles within both the U.S. and Mexico. The proposed transmission line will consist of a new, single-circuit 500-kV transmission line on lattice towers, extending south from the point of interconnection with SWPL about one mile to the U.S.-Mexico international border. From the international border, the proposed transmission line will continue south approximately two more miles to its origination point at a new 230/500-kV transformer substation. The portion of the proposed transmission line located in the U.S. (approximately one mile) will be constructed, owned, operated, and maintained by Baja Wind U.S. Transmission, LLC, a wholly owned subsidiary of Sempra Generation.

Also enclosed is an application filing fee of \$150. Should you have any questions or comments on the application please contact Ms. Joan Heredia at 619-696-1824. We look forward to working with on this project.

Sincerely,

A handwritten signature in dark ink that reads "Joseph H. Rowley".

Joseph H. Rowley
Vice President – Project Development

Enclosure

cc: Tom Jennings
Joan Heredia

**UNITED STATES OF AMERICA
BEFORE THE
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY**

BAJA WIND U.S. TRANSMISSION, LLC

DOCKET NO.

**APPLICATION
FOR PRESIDENTIAL PERMIT**

I. INTRODUCTION

Pursuant to Executive Order (EO) No. 10485, as amended by EO 12038, and 10 CFR § 205.320 *et seq.* (2000), Baja Wind U.S. Transmission, LLC (Baja Wind U.S.), a Delaware limited liability corporation and wholly owned subsidiary of Sempra Generation (SG), hereby applies for a Presidential Permit authorizing Baja Wind U.S. to construct, own, operate, and maintain the U.S. portion of an electric power transmission line crossing the international border between the United States and Mexico. This proposed 500-kV transmission line will have the capacity to interconnect up to 1250 MW of future renewable energy generators located in northern Baja California, Mexico with the Imperial Valley-Miguel segment of the Southwest Powerlink (SWPL) 500-kV transmission line located in San Diego County, California, USA. The La Rumorosa Wind Energy Projects (La Rumorosa Projects), which are planned for locations in the vicinity of the town of La Rumorosa, in the Municipality of Tecate, northern Baja California, Mexico, will be connected to the proposed transmission line. The La Rumorosa Projects are wind power generation facilities to be constructed, owned, operated, and maintained by subsidiaries of Sempra Energy Mexico. The SWPL is owned and operated by the public utility, San Diego Gas and Electric (SDG&E).

The proposed transmission line will have a total length of approximately 3 miles within both the U.S. and Mexico. The proposed transmission line will consist of a new, single-circuit 500-kV transmission line on lattice towers, extending south from the point of interconnection with SWPL about one mile to the U.S.-Mexico international border. From the international border, the proposed transmission line will continue south approximately two more miles to its origination point at a new 230/500-kV transformer substation.

The portion of the proposed transmission line located in the U.S. (approximately one mile) will be constructed, owned, operated, and maintained by Baja Wind U.S. At the interconnection point with the SWPL in the U.S., a loop-in substation will be constructed, owned, operated, and maintained by the public utility, SDG&E. Currently there are two other parties requesting interconnection with the SWPL that could utilize the loop-in substation (in addition to Sempra Generation), which parties propose to construct wind generation projects in the U.S.

The portion of the proposed transmission line located in Mexico (approximately two miles) and the 230/500-kV transformer substation located in Mexico will be constructed, owned, operated, and maintained by a subsidiary of Sempra Energy Mexico.

A general area map is shown in Exhibit A (Figure 1). A map showing the proposed transmission line originating at the new 230/500-kV transformer substation, crossing the international border into the U.S., and terminating at the proposed SWPL loop-in substation is provided in Exhibit B (Figure 2).

The portion of the proposed transmission line within the U.S. will be constructed in accordance with all applicable U.S. laws, standards, rules, and regulations. The agencies in the U.S. with potential jurisdiction over the activities proposed within the U.S. include the Federal Energy Regulatory Commission (FERC), Department of Energy (DOE), Bureau of Land Management (BLM), International Boundary and Water Commission (IBWC), California Independent System Operator (CAISO), U.S. Army Corps of Engineers (USACE), U.S. Fish & Wildlife Service (USFWS), and the County of San Diego. The portion of the proposed transmission line within Mexico will be constructed in accordance with all applicable Mexican laws, standards, rules, and regulations. The agencies in Mexico with potential jurisdiction over the activities proposed within Mexico include the Comisión Federal de Electricidad (CFE), Comisión Reguladora de Energía (CRE), Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), and Instituto Nacional de Ecología (INE).

The La Rumorosa Projects will be constructed in multiple phases as described below.

As an initial activity, Baja Wind, S. de R.L. de C.V. (Baja Wind), a wholly owned subsidiary of Sempra Energy Mexico, will install up to 10 MW of wind generation, consisting of up to five wind turbines interconnected locally to the CFE electrical grid (the Jacume Project). Construction will start as soon as all required permits are obtained from the appropriate Mexican regulatory agencies, estimated to be 1st quarter 2008. These generators will not interconnect to the proposed 230/500-kV transformer substation in Mexico or to any transmission lines connected to the United States transmission system, and therefore, the Presidential Permit is not required for the Jacume Project.

During Phase I of the La Rumorosa Projects, Baja Wind will install up to 250 MW of wind generation, consisting of 96 to 167 wind turbines, depending on the selected manufacturer and model selected. The proposed transmission line will be used to export 100 percent of the net generating capacity from Phase I to the U.S. Energy will not be exported from the U.S. to Mexico, except for the small amount used by wind turbine lubrication, hydraulic, and control systems when the generators are not operating. It is understood that an Export Authorization will be required for the export of such energy from the USA to Mexico. Phase I will start construction as soon as all permits are obtained from the appropriate U.S. and Mexican regulatory agencies. The target date for commencing construction activities is 4th quarter 2008, and full commercial operation of Phase I is planned to begin 3rd quarter 2010.

The exact location for installation of subsequent phases of the La Rumorosa Projects is yet to be determined, and SG is currently arranging for additional wind resource properties in the vicinity of La Rumorosa. It is anticipated that construction of the subsequent phases would consist of three or more increments of approximately 200 to 250 MW with each increment being constructed approximately one year apart. The anticipated completion date for three phases subsequent to Phase I is December 2013.

This application is for a new, single circuit 500 kV transmission line capable of transmitting up to 1250 MW of electrical generation. On the U.S. side, the proposed transmission line will include approximately four or five, 180-foot tall, steel lattice towers, similar to the existing 500-kV SWPL structures. However, the structures for the proposed transmission line could be steel monopoles. If steel monopoles are employed, the spacing between structures may be reduced, which would require the installation of additional structures.

The SWPL loop-in substation is anticipated to be either a ring-bus that would allow one or two interconnection positions, or a parallel bus arrangement that would allow three or more interconnection positions. The design of the loop-in substation will be determined by SDG&E. SDG&E has indicated a preference (but not a requirement) for Baja Wind U.S. to interconnect at 230 kV instead of 500 kV, with SDG&E providing the 230/500 kV transformation as part of the SWPL loop-in substation. Should Baja Wind U.S. agree to make such a change, the new transmission line crossing the international border would be double circuit 230 kV instead of single circuit 500 kV, and this application would be amended accordingly. In such case, the total line capacity of 1250 MW would be unchanged, and the maximum structure heights would be equal to or less than as described herein. One 500 kV or two 230 kV termination positions in the SWPL loop-in substation will be dedicated to the transmission line of Baja Wind U.S., and the other termination positions will be made available by SDG&E to other projects in the CAISO Interconnection Queue that are also requesting interconnection into SWPL. Other such projects are independent of the La Rumorosa Projects. The SWPL loop-in substation will encompass a graded area of approximately 85 acres.

Baja Wind is in the process of preparing the necessary Mexican environmental permit application (Autorización en Materia de Impacto Ambiental, or MIA) and land use permit application (Permiso de Cambio de Uso de Suelo) for Phase I of the La Rumorosa Projects, the 230/500-kV transformer substation, and the portion of the proposed transmission line located in Mexico. Copies of the Mexican permits and approvals will be provided to DOE.

The proposed transmission line will be operable year round. The transfer of electricity on the proposed transmission line is expected to reduce the region's dependence upon conventional fossil fuel fired generation plants, and improve the region's ability to meet future electrical energy requirements. The La Rumorosa Projects will also help California utilities meet the renewable portfolio standards specified in state legislation (Senate Bill 107), which requires that by the end of 2010, 20% of retail electricity sales be generated from renewable energy sources. To meet the requirements set forth in Senate Bill 107, California utilities such as SDG&E, Southern California Edison (SCE) and Pacific Gas and Electric (PG&E) have solicited proposals for renewable resources.

Phase I of the La Rumorosa Projects was selected by SCE through a request for proposals process, and a power purchase agreement has been signed between SCE and Baja Wind. The electrical generation from subsequent phases of the La Rumorosa Projects is currently being discussed with other California utilities.

The preferred route (Route A) for the one-mile portion of the proposed transmission line within the U.S. is entirely within private property in eastern San Diego County near the town of Jacumba. An alternative Route B runs to the west of Route A and would cross portions of Bureau of Land Management (BLM) land. An alternative Route C is the western most route and is entirely on private land. SDG&E has preliminarily agreed to a SWPL loop-in substation location that would support the preferred Route A. Baja Wind U.S. intends to obtain a 214-foot wide permanent right-of-way and a 314-foot wide temporary construction easement for the proposed transmission line. Baja Wind U.S. has initiated biological and cultural resource studies in support of an anticipated Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). It is anticipated that DOE would have lead agency status for NEPA purposes.

II. PRESIDENTIAL PERMIT APPLICATION

(a) INFORMATION REGARDING THE APPLICANT

- (1) **Applicant's Legal Name.** Baja Wind U.S. Transmission, LLC
- (2) **Partners.** None
- (3) **Correspondence.** Joan Heredia
Permitting Manager
Sempra Global
101 Ash Street, HQ 8B
San Diego, CA 92101
Telephone: (619) 696-1824

(4) **Foreign Ownership.** Neither SG nor Baja Wind U.S. is owned wholly or in part by a foreign government. SG and Baja Wind U.S. currently do not own distribution transmission lines (through subsidiaries, SG does own generation interconnection lines). SG and Baja Wind U.S. are not directly or indirectly assisted by a foreign government or instrumentality thereof in the construction or financing of the facilities within the U.S.

(5) **List of Existing Contracts with Foreign Governments or Foreign.** Neither SG nor Baja Wind U.S. has contracts with a foreign government or foreign private concerns relating to the purchase, sale, or delivery of electrical energy.

(6) **Corporate Authority and Compliance with Laws.** Attached as Exhibit C is an opinion of counsel to the effect that the construction, connection, operation, and maintenance of the proposed transmission line is within the Applicant's (Baja Wind U.S.'s) corporate powers, and that the proposed facilities comply with all pertinent Federal and State laws.

(b) INFORMATION REGARDING THE TRANSMISSION LINE TO BE COVERED BY THE PRESIDENTIAL PERMIT

(1) Number of Circuits and Placement. Baja Wind U.S. proposes to construct a single-circuit, 500-kV overhead transmission line supported on approximately four or five, 180-foot tall lattice steel towers located between the existing SWPL 500-kV transmission line and the U.S.-Mexico border. The total length of the U.S. portion of the proposed transmission line is approximately one mile. The anticipated border crossing is located near Jacumba.

(2) Operation Voltage and Frequency. The nominal operating voltage will be 500-kV, three-phase, at a frequency of 60 Hz. The maximum operating voltage will be 525-kV.

(3) Conductors. The type of conductor (wire) proposed is a bundled, 2 x 2156 kcmil, aluminum conductor, steel reinforced (ACSR). Alternatives, with the choice to be determined during detailed design, include aluminum conductor, steel supported (ACSS), and aluminum conductor, composite core (ACCC). These alternatives employ technology that may reduce weight, sag, and line losses.

(4) Additional Information Regarding Overhead Lines

(A) Wind/Ice Loading Design Parameters. The transmission line will be designed for an anticipated wind loading of 200 kilometers per hour (125 miles per hour). No ice loading criteria are necessary.

(B) Description of Typical Supporting Structures. A typical steel lattice tower is shown in Exhibit D1. Typical steel monopoles are shown in Exhibits D2 and D3. Lattice towers would be approximately 180 feet in height and approximately 60 feet by 60 feet at the base. Lattice towers would be anchored to a concrete foundation approximately 3 to 6 feet in diameter at each of the four corners of the base. Steel monopoles would be approximately 200 feet in height, 4 to 6 feet in diameter at the base, and tapering to 1 to 2 feet in diameter at the top. Steel monopoles would be anchored to a concrete foundation approximately 7 to 11 feet in diameter. The arms of the lattice towers or steel monopoles will support double insulators that in turn support the bundled conductors. The lattice towers or steel monopoles will support an overhead static ground wire running above the conductors. The overhead static ground wire will have a fiber optic core for communications between the 230/500-kV transformer substation and the SWPL loop-in substation, including communications for system protection and monitoring.

(C) Structure Spacing. The supporting structures will be constructed along the center of a 214-foot wide right-of-way and spaced approximately 1,300 feet (400 m) apart. Spacing of the structures could vary in order to avoid or minimize impacts to sensitive biological or cultural resources.

(D) Conductor Spacing. Horizontal spacing between phases will be approximately 32 feet.

(E) Line to Ground and Conductor Side Clearances. The horizontal distance between each phase and the supporting structure will be approximately 17 feet. Each conductor bundle will be supported by two insulators to prevent lateral sway at the

structure. Minimum ground clearance for the conductors will be 30 feet, with a design margin of 3 to 5 feet.

(5) Additional Information Regarding Underground and Underwater Lines. No underground or underwater lines are proposed.

(6) General Area and Detailed Border Area Maps

A general area map showing the overall facilities is attached as Exhibit A. A detailed map of the facilities crossing the international border showing their physical location, specifying longitude and latitude, and identifying the ownership of the facilities at or on each side of the border, is attached as Exhibit B.

(7) Bulk Power System Information

(A) Expected Power Transfer Capability. The maximum power transfer capability will be determined during detailed design, but in general is limited by the maximum thermal capability of the proposed transmission line. The normal thermal capability will be approximately 1400 MVA at a 0.90 power factor. The estimated short-time emergency thermal capability will be approximately 1500 MVA at a 0.90 power factor.

(B) System Power Flow. The two attached power flow plots from an approved WECC 2009 Heavy Summer case depict the interconnection of the La Rumorosa Projects with SWPL and system flows on the interconnected buses and lines with and without the projects. Note that the plots only include 400 MW of the ultimate build-out of the projects. Additional power flow plots corresponding to maximum loading of the proposed transmission line are expected to be available 1st quarter 2008 and will be provided to DOE.

(C) Interference Reduction Data. A 500-kV line normally does not present radio or television interference problems. The transmission line design will mitigate possible interference by providing corona rings on the insulators and corona free hardware.

(D) Relay Protection. The proposed transmission line will connect the 230/500-kV transformer substation to SDG&E's SWPL loop-in substation and will comply with SDG&E utility practices for relay protection. The proposed transmission line will not be interconnected with CFE's grid and therefore additional relay protection will not be required.

(E) System Stability Analysis. This information will be provided by SG if requested after review of the system power flow plots.

(c) POTENTIAL ENVIRONMENTAL IMPACTS

(1) Assessment of Environmental Impacts.

SG has begun an assessment of potential environmental impacts of the proposed facilities, including biological and cultural resource field surveys. The environmental and cultural resource information provided herein will be updated once all of the surveys are complete and a Draft Environmental Assessment (EA) is prepared. The draft EA will address potential impacts to all resource areas, including visual and other potential project impacts.

Three potential routes for the proposed transmission line, corresponding to three potential locations for the SWPL loop-in substation, have been identified and are shown in Exhibit B. For purposes of assessing potential environmental impacts, the "project area" comprises all three routes and substation locations, even though only one route and substation site will be selected. The specific location of the SWPL loop-in substation will be selected in consultation with SDG&E and is anticipated to support the preferred route. Route A (Preferred Route) is the farthest east, near the border of San Diego and Imperial Counties. The two alternative routes are located to the west of the preferred route. All property in the required right-of-way for the approximately one-mile long U.S. portion of the preferred route is owned by private entities and is entirely within the jurisdiction of San Diego County. However, Route B is partially located on BLM land and Route C is on private land. None of the routes or substation sites is located within American Indian reservation lands.

There are no wetlands or navigable waters in the project area, but there is an intermittent desert wash, potentially regulated by the U.S. Army Corps of Engineers as non-wetland jurisdictional water, that crosses the southern portion of the proposed project area. After crossing Route A, the wash turns northwest where it crosses the Route B and Route C alternatives. The wash is not listed as a flood hazard area in the project area according to the FIRMette Flood Insurance Map database maintained by FEMA (FEMA 2007). Placement of the transmission towers will avoid non-wetland waterways that could be regulated by the Corps of Engineers. However, it is possible that use of existing or new access roads could impact the non-wetland jurisdictional waterways identified in the project area. Grading and filling for the substation in Route B and Route C could impact the desert wash described above.

The study area for the proposed transmission line lies in the high desert country on the southeastern border of the Peninsular Ranges within the Colorado Desert, and spans several habitat types. No plant species listed as threatened or endangered by the USFWS are documented to occur within the project area. However, one plant listed by the state as rare, the Mount Laguna aster, has been documented in the project area. Initial visual inspections of the project area reveal that vegetation is highly disturbed sage brush, and the area is frequently traversed by Border Patrol all-terrain vehicles and by other vehicles.

Two wildlife species listed federally as threatened or endangered, as well as one species of concern, have the potential to occur in the general vicinity of the project area: the

peninsular bighorn sheep (Endangered), the Quino checkerspot butterfly (Threatened), and the flat tailed horn lizard (Species of Concern). Because of the nature of the habitat in the project area, the probability of these species being found in the project area is moderate. In consultation with DOE, additional field studies may be conducted to further define the potential for these species to be found along the preferred and alternative routes.

(2) Cultural Resources.

A record search at the South Coastal Information Center in San Diego and at the Southeast Information Center in Ocotillo revealed no sites listed on the National Register of Historic Places within the project area. However, within a 1-mile radius of the preferred Route A, 39 archaeological sites have been identified. Cultural field surveys will be required to determine if cultural resources are present in the project area. Baja Wind U.S.'s environmental consultant (Ecology and Environment, Inc.) will apply for permission to conduct cultural field surveys along the preferred Route A and possibly the alternative routes, if required by DOE or other agencies. Project attributes that could affect historic places include permanent footings for lattice towers or steel monopoles, permanent access roads for maintenance, temporary construction work areas at each tower or monopole location, and one wire stringing site. Locations of these impact areas have not yet been determined, and since there is some flexibility in where individual tower or monopole structures are located, it is anticipated that any potential impacts can be avoided or minimized. Cultural resource field surveys will establish the location of all historic sites in the potential areas of impact, and to the extent feasible, Baja Wind U.S. will locate work areas and areas of permanent impact so as to reduce or avoid cultural resource impacts.

(3) Proposed Minimum Right-of-Way Width.

Baja Wind U.S. proposes to acquire a 214-foot wide permanent right-of-way, which would be located in close proximity to existing access roads. Baja Wind U.S. anticipates that these existing roads may be used for practical routes of ingress and egress for construction and maintenance. Temporary easements will be acquired for use of additional lands for construction, storage, and staging outside the permanent right-of-way during construction of the transmission line. The proposed right-of-way width of 214 feet is sufficient to ensure that transmission line conductor swing remains within the right-of-way even under extreme wind conditions.

(4) Transmission Towers.

Lattice towers would be approximately 180 feet in height and approximately 60 feet by 60 feet at the base. Lattice towers would be anchored to a concrete foundation approximately 3 to 6 feet in diameter at each of the four corners of the base. Steel monopoles would be approximately 200 feet in height, 4 to 6 feet in diameter at the base, and tapering to approximately 1 to 2 feet in diameter at the top. Steel monopoles would be anchored to a concrete foundation approximately 7 to 11 feet in diameter.

Grading will be done around the lattice tower or steel monopole locations as necessary to accommodate construction and access, but due to the flat nature of the preferred Route A, limited grading is expected. Due to the length of the alternative routes, clearing and grading would be more extensive along the alternative routes. The amount of temporary

land disturbance anticipated during construction is 150 by 200 feet (0.69 acre) at each tower or monopole location for a total of approximately 3.45 acres of temporary disturbance based on the construction of a total of 5 towers or monopoles. Permanent disturbance beneath the base of each lattice tower or monopole would not exceed 60 feet by 60 feet, or approximately 3600 square feet.

It is anticipated that one wire stringing site will be needed for construction. The area of temporary land disturbance anticipated during wire stringing operations is approximately 120 feet by 250 feet (0.69 acre) at the stringing site. It is anticipated that most areas of temporary construction disturbance will be adjacent to the access roads. With the exception of permanent access roads required for ongoing operation and maintenance, all temporarily disturbed areas will be restored and/or revegetated as required following completion of construction.

Access roads will be needed to construct, operate, and maintain the proposed transmission line. There are existing access roads in close proximity to the preferred Route A; however, it may be necessary to construct short, unpaved access spurs from the existing roads to the base of the transmission structures. No road improvements to the existing roads are anticipated.

Storage and staging will be along the proposed 214-foot wide permanent right-of-way. Baja Wind U.S. will seek an additional 100-foot wide temporary construction easement, providing a total width of 314 feet during construction. With some flexibility in tower or monopole locations, the wire stringing site, and the staging and storage area, Baja Wind U.S. will avoid or minimize impacts to environmental resources to the extent feasible.

(5) Threatened or Endangered Wildlife or Plant Life.

The information provided below is applicable to all the proposed alternative routes.

Searches of Federal and state databases identified no listed threatened or endangered plant or animal species on the project site. However, based on the type of habitat in the project area there are several threatened and endangered plant and wildlife species that could potentially occur within the project area. Two wildlife species listed federally as threatened and endangered have the potential to occur in the project area, as well as one species of concern: the peninsular bighorn sheep (Endangered), the Quino checkerspot butterfly (Threatened), and the flat tailed horn lizard (Species of Concern).

In addition, there are numerous plant and animal species listed on the California Natural Diversity Database (CNDDDB) that could potentially occur in the project area. One plant listed by the state as rare, the Mount Laguna aster, has been documented in the vicinity. Other plant species that could potentially be found in the area include slender leaved ipomopsis (*Ipomopsis tenuifolia*), Parry's tetracoccus (*Tetracoccus dioicus*), sticky geraea (*Geraea viscida*), rayless ragwort (*Senecio aphanactis*), Mountain Springs bush lupine (*Lupinus excubitus* var. *medius*), Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), desert beauty (*Linanthus bellus*), and Mexican hulsea (*Hulsea mexicana*). Ground surveys will be conducted to determine the vegetation and habitat types and the presence or absence of threatened, endangered, or sensitive plant species within the project area.

(d) ALTERNATIVES TO THE PROPOSED FACILITY

Three alternatives were identified during the planning process, including two route alternatives and the alternative of an underground transmission line.

(1) Alternative Route B. Alternative Route B is located parallel to and west of the preferred route. Route B extends approximately one mile across U.S. land and slightly longer than the preferred route across land in Mexico. Route B passes through BLM land near the U.S./Mexican border and would thus potentially result in impacts to environmental resources on federal lands. As in the case of the preferred route, Route B would cross an intermittent desert wash potentially regulated by the U.S. Army Corps of Engineers as non-wetland jurisdictional water, and the SWPL loop-in substation site associated with Route B would also likely impact the wash. In addition, the substation site has rocky and uneven terrain that would require greater cut and fill during construction as compared with the substation site associated with the preferred route. Route B would also require the crossing of Old Highway 80. Route B would be in nearby proximity to existing access roads, but would require short access spurs from the existing roads to the transmission line right-of-way.

(2) Alternative Route C. Alternative Route C is located parallel to and further west of the preferred route than Route B. Route C extends approximately one-mile across U.S. land and approximately three miles across land in Mexico. Route C is in close proximity to the Jacumba airstrip and would thus potentially result in aviation impacts. The SWPL loop-in substation site associated with Route C would be constructed within the intermittent desert wash described previously. Route C would also require the crossing of Old Highway 80. There are limited existing access roads near Route C, and therefore the construction of new roads would be required. Route C would cross only private lands.

(3) Underground Transmission Line. Underground transmission lines are normally reserved for dense urban areas where overhead routes are not feasible. This alternative would require significantly greater ground disturbance and environmental impacts, as underground construction would require trenching throughout the entire length of the transmission line. This would result in a much larger and extensive area of environmental impacts during construction than an overhead transmission line and would afford less opportunity to avoid sensitive resources. In addition, labor, operation, and maintenance costs would be significantly higher.

(e) VERIFICATION

This application has been verified under oath by an officer of the Applicant having knowledge of the matters set forth above. This verification is attached as Exhibit F.

LIST AND SUMMARY OF ATTACHED EXHIBITS

Following are summaries of the exhibits required in 10 CFR 205.322 to complete this Application and that SG believes to be applicable in the circumstances described herein:

- Exhibit A Overall general area map
- Exhibit B Crossing location at the international border
- Exhibit C Opinion of counsel that the construction, connection, operation, or maintenance of the proposed facility is within the corporate powers of the Applicant, and that the Applicant has complied with or will comply with all pertinent state and federal laws. [Joan/Estela to provide]
- Exhibit D1 Typical steel lattice tower (tangent structure)
- Exhibit D2 Typical steel monopole (tangent structure - 0 to 2 degrees)
- Exhibit D3 Typical steel monopole (tangent structure - 2 to 8 degrees)
- Exhibit E System power flow plots (400 MW case)
- Exhibit F Verification under oath by an officer of the Applicant having knowledge of the matters set forth herein.

EXHIBIT A

Overall general area map

EXHIBIT B

Detailed area map

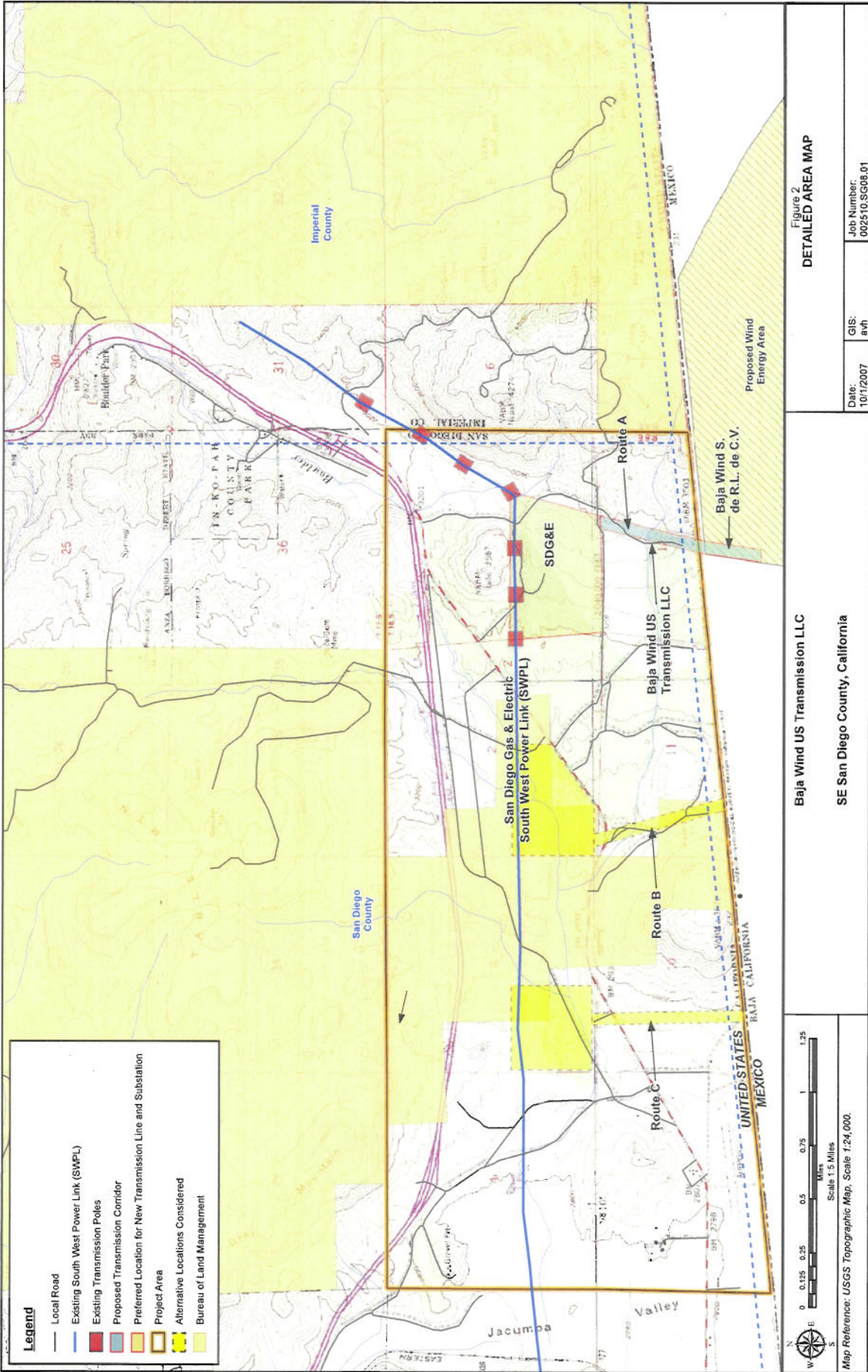


Figure 2
DETAILED AREA MAP

Baja Wind US Transmission LLC
 SE San Diego County, California

| | |
|-------------|----------------|
| Date: | 10/12/2007 |
| GIS: | avh |
| Job Number: | 002510.SG08.01 |

www.projects.burroughes.com/area.html

EXHIBIT C

Opinion of counsel

December 18, 2007

U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Ladies and Gentlemen:

This opinion is rendered in connection with the application ("Application") of Baja Wind U.S. Transmission, LLC, a Delaware limited liability company ("Baja Wind U.S.") for authority to construct, connect, operate, and maintain a new electric transmission facility crossing the border of the United States for the transmission of electricity between the United States and Mexico to be filed with the Department of Energy ("DOE") pursuant to Executive Order No. 10485, as amended, and 10 CFR Sections 205.320 *et seq.* (1998).

Based on my understanding of Baja Wind U.S.'s proposal and my examination of such documents, records, and matters of law as I have considered to be relevant in the premises, it is my opinion that:

1. The construction, connection, operation, and maintenance of the proposed facilities, as contemplated by the Application, are within the corporate power of Baja Wind U.S.
2. Based on information provided by representatives of Baja Wind U.S., the proposed facilities comply with all pertinent Federal and State laws.

I am opining herein as to the effect on the subject transaction only of the federal laws of the United States and the internal laws of the State of California, and I express no opinion with respect to the applicability thereto, or effect thereon, of the laws of any other jurisdiction or as to any matters of municipal law or the laws of any other local agencies within any state. This opinion is issued as of the date hereof and is necessarily limited to the laws now in effect. I am not assuming any obligation to review or update this opinion should applicable law or the existing facts and circumstances change. This opinion is provided by me as counsel for Baja Wind U.S. solely to you for your exclusive use and is not to be made available to or relied upon by any other persons or entities without my prior written consent.

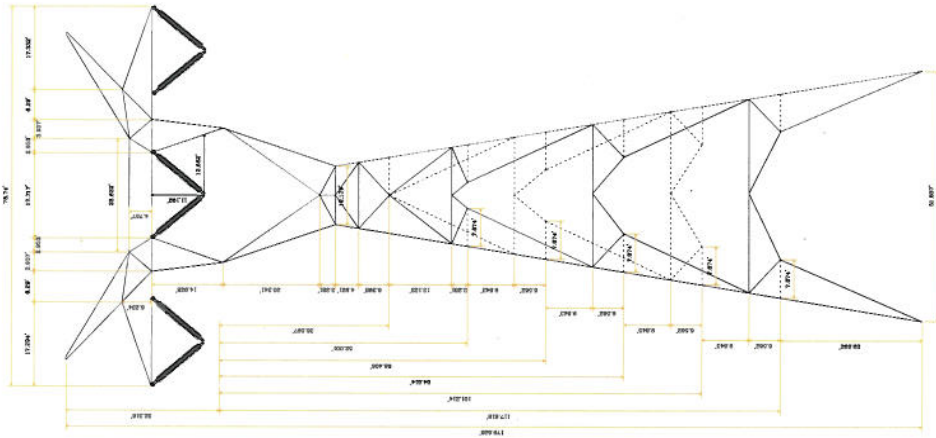
Very truly yours,



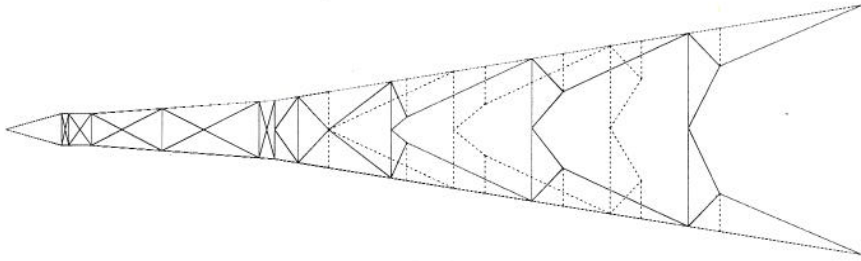
Kevin Sagara
Vice President and Associate General Counsel

EXHIBIT D1

Typical steel lattice tower (tangent structure)



LATTICE TOWER TYPE 4BC1 500KV
FRONT VIEW

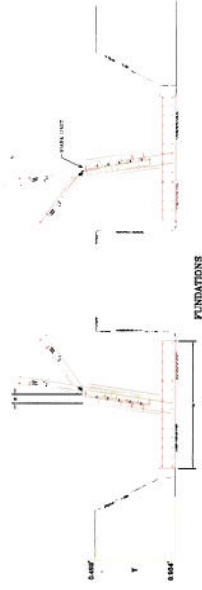


LATTICE TOWER TYPE 4BC1 500KV
SIDE VIEW

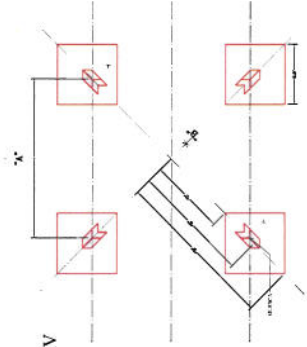
DISTANCES

| LEVEL | EXT | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|-------|-----|--------|--------|--------|--------|--------|
| -2 | | 5000 | 8541 | 8382 | 6500 | 4574 |
| -4 | | 8541 | 15000 | 15000 | 10000 | 7071 |
| -6 | | 15000 | 22500 | 22500 | 15000 | 10500 |
| -8 | | 22500 | 30000 | 30000 | 20000 | 14000 |
| -10 | | 30000 | 37500 | 37500 | 25000 | 17500 |
| -12 | | 37500 | 45000 | 45000 | 30000 | 21000 |
| -14 | | 45000 | 52500 | 52500 | 35000 | 24500 |
| -16 | | 52500 | 60000 | 60000 | 40000 | 28000 |
| -18 | | 60000 | 67500 | 67500 | 45000 | 31500 |
| -20 | | 67500 | 75000 | 75000 | 50000 | 35000 |
| -22 | | 75000 | 82500 | 82500 | 55000 | 38500 |
| -24 | | 82500 | 90000 | 90000 | 60000 | 42000 |
| -26 | | 90000 | 97500 | 97500 | 65000 | 45500 |
| -28 | | 97500 | 105000 | 105000 | 70000 | 49000 |
| -30 | | 105000 | 112500 | 112500 | 75000 | 52500 |
| -32 | | 112500 | 120000 | 120000 | 80000 | 56000 |
| -34 | | 120000 | 127500 | 127500 | 85000 | 59500 |
| -36 | | 127500 | 135000 | 135000 | 90000 | 63000 |
| -38 | | 135000 | 142500 | 142500 | 95000 | 66500 |
| -40 | | 142500 | 150000 | 150000 | 100000 | 70000 |
| -42 | | 150000 | 157500 | 157500 | 105000 | 73500 |
| -44 | | 157500 | 165000 | 165000 | 110000 | 77000 |
| -46 | | 165000 | 172500 | 172500 | 115000 | 80500 |
| -48 | | 172500 | 180000 | 180000 | 120000 | 84000 |
| -50 | | 180000 | 187500 | 187500 | 125000 | 87500 |
| -52 | | 187500 | 195000 | 195000 | 130000 | 91000 |
| -54 | | 195000 | 202500 | 202500 | 135000 | 94500 |
| -56 | | 202500 | 210000 | 210000 | 140000 | 98000 |
| -58 | | 210000 | 217500 | 217500 | 145000 | 101500 |
| -60 | | 217500 | 225000 | 225000 | 150000 | 105000 |
| -62 | | 225000 | 232500 | 232500 | 155000 | 108500 |
| -64 | | 232500 | 240000 | 240000 | 160000 | 112000 |
| -66 | | 240000 | 247500 | 247500 | 165000 | 115500 |
| -68 | | 247500 | 255000 | 255000 | 170000 | 119000 |
| -70 | | 255000 | 262500 | 262500 | 175000 | 122500 |
| -72 | | 262500 | 270000 | 270000 | 180000 | 126000 |
| -74 | | 270000 | 277500 | 277500 | 185000 | 129500 |
| -76 | | 277500 | 285000 | 285000 | 190000 | 133000 |
| -78 | | 285000 | 292500 | 292500 | 195000 | 136500 |
| -80 | | 292500 | 300000 | 300000 | 200000 | 140000 |
| -82 | | 300000 | 307500 | 307500 | 205000 | 143500 |
| -84 | | 307500 | 315000 | 315000 | 210000 | 147000 |
| -86 | | 315000 | 322500 | 322500 | 215000 | 150500 |
| -88 | | 322500 | 330000 | 330000 | 220000 | 154000 |
| -90 | | 330000 | 337500 | 337500 | 225000 | 157500 |
| -92 | | 337500 | 345000 | 345000 | 230000 | 161000 |
| -94 | | 345000 | 352500 | 352500 | 235000 | 164500 |
| -96 | | 352500 | 360000 | 360000 | 240000 | 168000 |
| -98 | | 360000 | 367500 | 367500 | 245000 | 171500 |
| -100 | | 367500 | 375000 | 375000 | 250000 | 175000 |

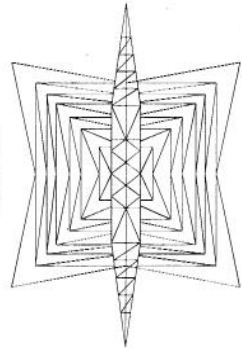
| LEVEL | EXT | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|-------|-----|--------|--------|--------|--------|--------|
| -2 | | 5000 | 8541 | 8382 | 6500 | 4574 |
| -4 | | 8541 | 15000 | 15000 | 10000 | 7071 |
| -6 | | 15000 | 22500 | 22500 | 15000 | 10500 |
| -8 | | 22500 | 30000 | 30000 | 20000 | 14000 |
| -10 | | 30000 | 37500 | 37500 | 25000 | 17500 |
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| -30 | | 105000 | 112500 | 112500 | 75000 | 52500 |
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| -38 | | 135000 | 142500 | 142500 | 95000 | 66500 |
| -40 | | 142500 | 150000 | 150000 | 100000 | 70000 |
| -42 | | 150000 | 157500 | 157500 | 105000 | 73500 |
| -44 | | 157500 | 165000 | 165000 | 110000 | 77000 |
| -46 | | 165000 | 172500 | 172500 | 115000 | 80500 |
| -48 | | 172500 | 180000 | 180000 | 120000 | 84000 |
| -50 | | 180000 | 187500 | 187500 | 125000 | 87500 |
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| -54 | | 195000 | 202500 | 202500 | 135000 | 94500 |
| -56 | | 202500 | 210000 | 210000 | 140000 | 98000 |
| -58 | | 210000 | 217500 | 217500 | 145000 | 101500 |
| -60 | | 217500 | 225000 | 225000 | 150000 | 105000 |
| -62 | | 225000 | 232500 | 232500 | 155000 | 108500 |
| -64 | | 232500 | 240000 | 240000 | 160000 | 112000 |
| -66 | | 240000 | 247500 | 247500 | 165000 | 115500 |
| -68 | | 247500 | 255000 | 255000 | 170000 | 119000 |
| -70 | | 255000 | 262500 | 262500 | 175000 | 122500 |
| -72 | | 262500 | 270000 | 270000 | 180000 | 126000 |
| -74 | | 270000 | 277500 | 277500 | 185000 | 129500 |
| -76 | | 277500 | 285000 | 285000 | 190000 | 133000 |
| -78 | | 285000 | 292500 | 292500 | 195000 | 136500 |
| -80 | | 292500 | 300000 | 300000 | 200000 | 140000 |
| -82 | | 300000 | 307500 | 307500 | 205000 | 143500 |
| -84 | | 307500 | 315000 | 315000 | 210000 | 147000 |
| -86 | | 315000 | 322500 | 322500 | 215000 | 150500 |
| -88 | | 322500 | 330000 | 330000 | 220000 | 154000 |
| -90 | | 330000 | 337500 | 337500 | 225000 | 157500 |
| -92 | | 337500 | 345000 | 345000 | 230000 | 161000 |
| -94 | | 345000 | 352500 | 352500 | 235000 | 164500 |
| -96 | | 352500 | 360000 | 360000 | 240000 | 168000 |
| -98 | | 360000 | 367500 | 367500 | 245000 | 171500 |
| -100 | | 367500 | 375000 | 375000 | 250000 | 175000 |



FUNDATIONS



FUNDATIONS TOP VIEW



LATTICE TOWER TYPE 4BC1 500KV
FRONT VIEW

LATTICE TOWER TYPE 4BC1 500KV
TOP VIEW

500KV TRANSMISSION LINE SINGLE CIRCUIT

CLIENT: SEMPERA ENERGY LA RAMBLA-JOIKE

PROJECT: T 500KV 4BC1

SCALE: NA

DATE: OCT 2027

ING. JERONIMO PINEDA RIVERA

CHK. BY: INE. A. PEREZ

500KV TRANSMISSION LINE SINGLE CIRCUIT

Lattice Tower type 4BC1 500KV and foundation

EXHIBIT D2

Typical steel monopole (tangent structure - 0 to 2 degrees)

Tubular Steel Pole Structures

Tangent - 2 Degrees

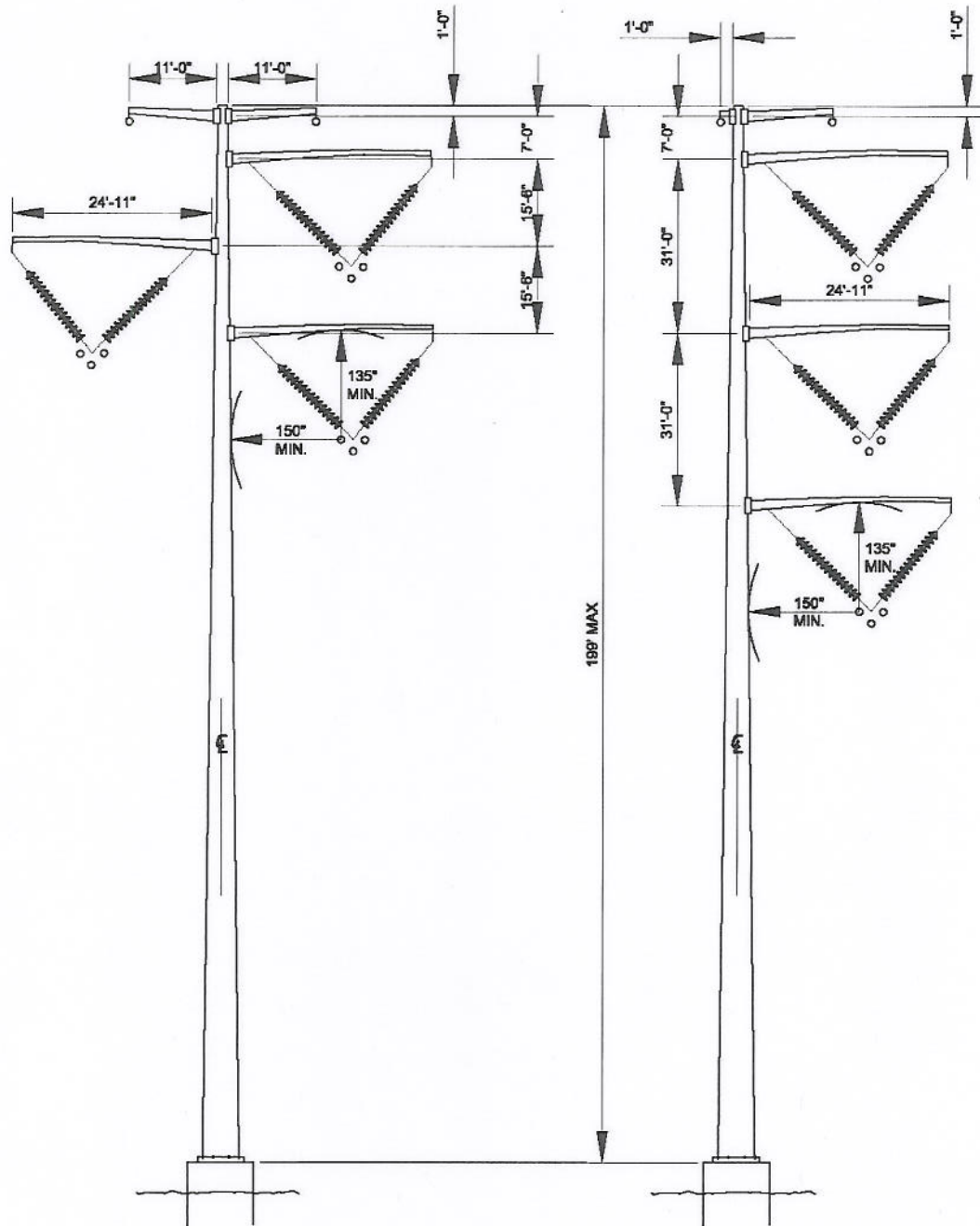


EXHIBIT D3

Typical steel monopole (tangent structure - 2 to 8 degrees)

Tubular Steel Pole Structures

Tangent - 2 to 8 Degrees

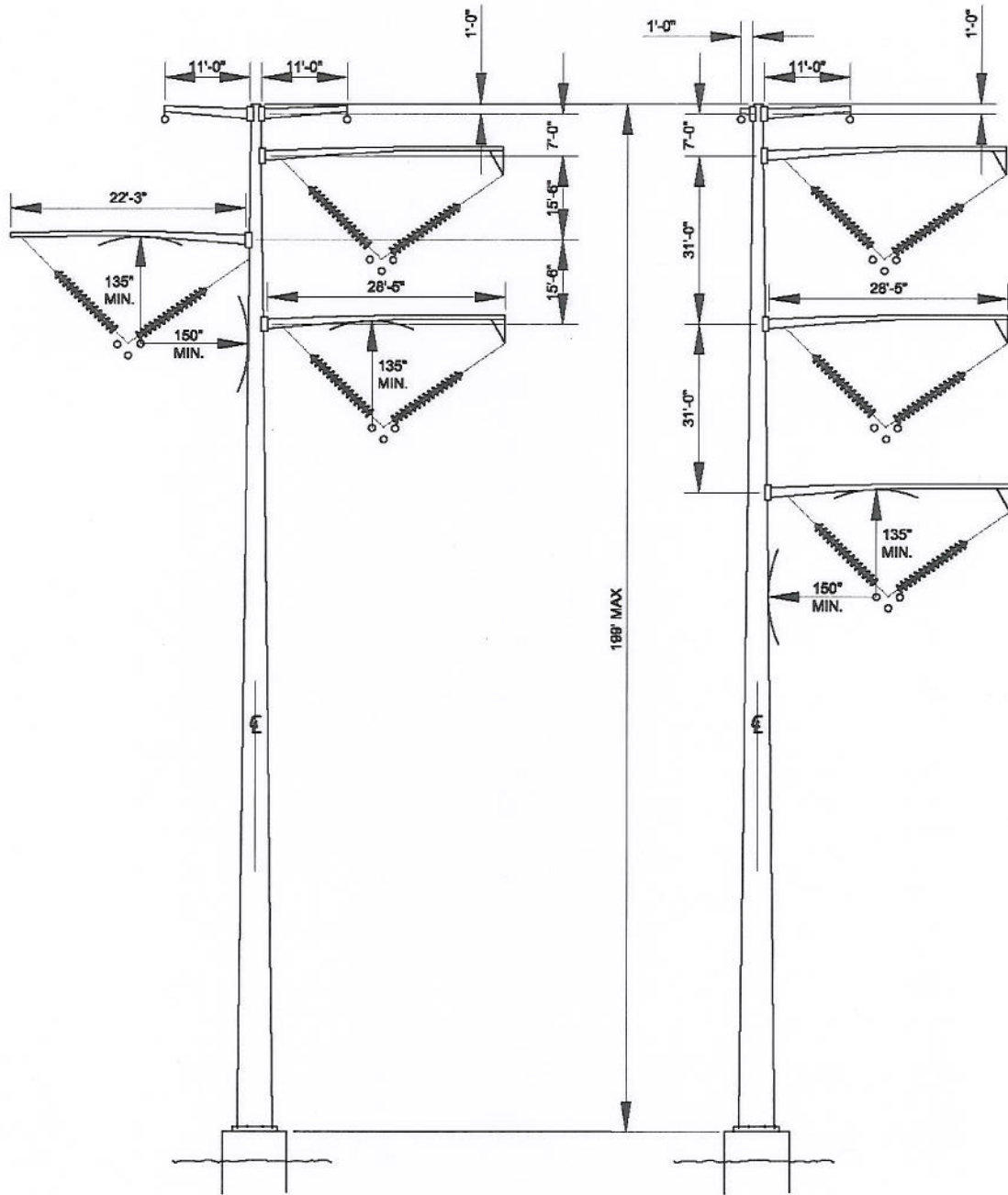
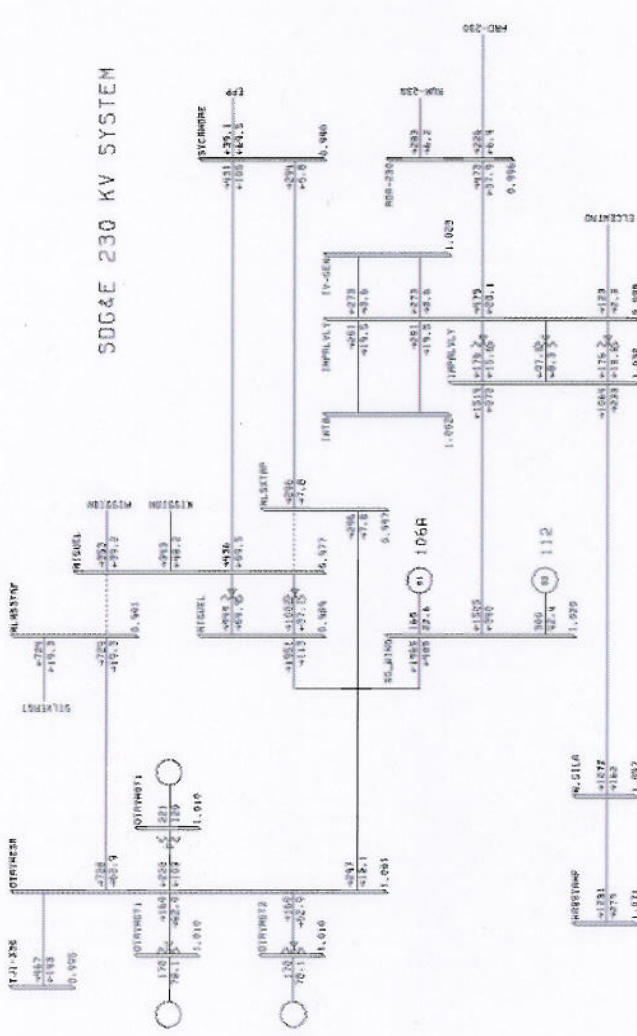


EXHIBIT E

The two attached power flow plots from a WECC 2009 Heavy Summer case depict the interconnection of the La Rumorosa Projects with SWPL and system flows on the interconnected buses and lines with and without the projects. Note that the plots only include 400 MW of the ultimate build-out of the projects. Additional power flow plots corresponding to maximum loading of the proposed transmission line are expected to be available 1st quarter 2008 and will be provided to DOE.



SDG&E 230 KV SYSTEM

500 KV SYSTEM

2009 BASE CASE NO PYD2, Q106R=160, Q112=300 - 09HSND00
 SEMPAR WIND NOT INSTALLED
 BASE MODEL W/D RUMOROSR WIND SUN, SEP 30 2007 19:35

BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MK/MVAR


EXHIBIT F

Verification



AFFIDAVIT OF JOSEPH H. ROWLEY – VICE PRESIDENT

The undersigned, Joseph H. Rowley, being first duly sworn, attests that he is the Vice President of Baja Wind U.S. Transmission, LLC, a Delaware limited liability company; that as such he is legally authorized to bind Baja Wind U.S. Transmission, LLC; that he has read the foregoing Application of Baja Wind U.S. Transmission, LLC for a Presidential Permit and knows the contents thereof; and that the facts and representations set forth in the Application are true and correct to the best of his knowledge, information and belief.

A handwritten signature in dark ink that reads "Joseph H. Rowley". The signature is written in a cursive style and is positioned above a horizontal line.

Joseph H. Rowley

Subscribed and sworn before me, a Notary Public in and for the State of California, County of San Diego, this 18th day of December, 2007.

CALIFORNIA JURAT WITH AFFIANT STATEMENT

State of California

County of San Diego } ss.

- See Attached Document (Notary to cross out lines 1-6 below)
- See Statement Below (Lines 1-5 to be completed only by document signer[s], *not* Notary)

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

Signature of Document Signer No. 1 _____

Signature of Document Signer No. 2 (if any) _____

Subscribed and sworn to (or affirmed) before me on this

18th day of December, 2007, by

(1) Joseph H. Rowley,
Name of Signer

- Personally known to me
- Proved to me on the basis of satisfactory evidence to be the person who appeared before me (.) (.)
(and

(2) _____,
Name of Signer

- Personally known to me
- Proved to me on the basis of satisfactory evidence to be the person who appeared before me.)

Harper E. Wells
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Further Description of Any Attached Document

Title or Type of Document: Application for Presidential Permit w/ Affidavit

Document Date: December 18, 2007 Number of Pages: 29

Signer(s) Other Than Named Above: Kevin Sagara

RIGHT THUMBPRINT OF SIGNER #1
Top of thumb here

RIGHT THUMBPRINT OF SIGNER #2
Top of thumb here