ES.0 EXECUTIVE SUMMARY

This executive summary provides a summation of the Applicant's Environmental Document for the Tule Wind Project (proposed project). The following discussion provides a brief introduction to the project, including a brief description of the proposed project components, the three phases of the project, the alternatives, and their respective environmental impacts, including a summary table with impacts and associated mitigation measures for the proposed project and alternatives.

ES.1 CONTENT AND FORMAT OF THE ENVIRONMENTAL DOCUMENT

This environmental document includes the following sections:

- *Executive Summary.* Provides a summary description of the proposed project, the alternatives, and their respective environmental impacts, including a summary table with impacts and associated mitigation measures for the proposed project and alternatives.
- *Section 1: Introduction and Summary.* Provides an introduction to the environmental document and the environmental review process, and a description of the necessary discretionary approvals that may be required for the project and the consultation and coordination that has occurred.
- *Section 2: Proposed Action and Alternatives.* Provides the purpose and need of the project, project objectives, a detailed project description including project components and activities, project design features and best management practices, a summary of the analysis of the environmental impacts and mitigation measures included in the environmental document, County of San Diego cumulative projects, and alternatives to the proposed project.
- *Section 3: Affected Environment/Environmental Setting, Regulatory Setting, Environmental Consequences/Impact Analysis, and Mitigation Measures.* Project effects are analyzed on each of the following sections:
  - 3.1 Air Quality
  - 3.2 Aesthetics and Visual Resources
  - 3.3 Agricultural Resources
  - 3.4 Biological Resources
  - 3.5 Cultural Paleontological Resources
  - 3.6 Energy
  - 3.7 Fire and Fuels Management
  - 3.8 Geology, Soils, and Minerals
  - 3.9 Hazards and Hazardous Materials
  - 3.10 Hydrology and Water Quality
  - 3.11 Land Use and Planning
  - 3.12 Noise
  - 3.13 Population and Housing
  - 3.14 Public Health and Safety
  - 3.15 Public Services and Utilities
  - 3.16 Recreation and Wilderness
  - 3.17 Socioeconomics and Environmental Justice
  - 3.18 Traffic and Transportation
- *Section 4: Other Environmental Considerations.* Addresses California Environmental Quality Act (CEQA)-required topics including; Growth Inducing Impacts, Adverse/Significant Impacts which

cannot be Avoided or Mitigated, Irreversible and Irretrievable Commitment of Resources, and Short-Term and Long-Term Productivity of the Environment.

- *Section 5: List of Preparers.* A list of names and qualification of those primarily responsible for preparing the environmental document.
- *Section 6: References.* A comprehensive list of all technical documents prepared specifically for the project, and other documents that were consulted in the preparation of the environmental document.
- *Appendices.* Technical background information used in preparation of the environmental document.

ES.2 PURPOSE AND NEED

Wind energy provides benefits on a national, state, and local level. Wind power is a clean source of electricity and an inexhaustible, domestic resource that helps reduce our dependence on imports of natural gas, oil, and other fuels. The State of California established its Renewable Portfolio Standard Program in 2002 with the goal of increasing the renewable energy electricity mix of the state to 20 percent by 2010. The Energy Report Update in 2004, approved by Executive Order S-14-08, further recommended increasing the goal to 33 percent by 2020. At the federal level, the Energy Policy Act of 2005 directs the Bureau of Land Management (BLM) and other agencies within the U.S. Department of the Interior to study and take steps in support of increasing renewable energy production on federal lands. BLM's 2005 Programmatic Environmental Impact Statement (PEIS) lays the groundwork for wind energy development on BLM lands. The PEIS identifies eastern San Diego County as an area with high-quality wind capacity. The McCain Valley is one of the few areas in the county where wind energy facilities could be sited due to available wind resources in the area. The Tule Wind Project will help BLM fulfill its role in implementing the Energy Policy Act, while supporting the state mandates and initiatives of increasing power supply from renewable sources.

Additionally, the proposed project implements adopted plans, policies, and regulations of the State of California intended to reduce green house gas (GHG) emissions. The project implements the California Global Warming Solutions Act of 2006, also known as Assembly Bill 32 (AB) 32 (Nunez), by creating a new renewable energy source that achieves GHG reduction. The project is consistent with the California Air Resources Board (CARB) AB 32 Scoping Plan by increasing renewable energy by 200 megawatts (MW), in support of achieving a statewide renewable energy mix of 33 percent and furthering a GHG emissions cap-and-trade program. The U.S. Environmental Protection Agency (EPA) eGrid modeling for the proposed 200 MW project estimates annual GHG reduction of up to 304,283 metric tons due to the renewable wind energy generation replacing the GHG emissions from existing energy sources in the state.

ES.3 PROJECT OBJECTIVES

The following objectives have been identified for the project:

- To provide energy supply to help meet the State's planned population growth and future generations' needs.
- To provide renewable energy to contribute to the goals of the California Renewable Portfolio Standard Program and Energy Report Update and contribute to the State's goal of increasing the renewable energy electricity mix to 33 percent by the year 2020.

- To assist the BLM and other agencies within the U.S. Department of the Interior to increase renewable energy production on federal lands as directed by the Energy Policy Act of 2005.
- To assist the County of San Diego toward accomplishing its renewable energy goals and achieving the primary energy objective of maximizing the development of renewable, alternative sources of energy, as prescribed within the Energy Element of the General Plan.

ES.4 PROJECT LOCATION AND DESCRIPTION

Project Location

The project area is located in the eastern portion of San Diego County, approximately 50 miles east of City of San Diego, 90 miles west of Arizona, and north of the community of Boulevard. The area is accessible via Interstate 8 (I-8), State Route 94 (SR-94) and Ribbonwood Road junction, and McCain Valley Road off of Old Highway 80. The majority of the project area lies in the In-Ko-Pah Mountains adjacent to the Tecate Divide, south of the Cleveland National Forest. The topography of the area is gently-to-steep sloping with an elevation ranging between about 3,600 and 5,600 feet above mean sea level (AMSL). The project area contains lands administered by the BLM, the Ewiiaapaayp Reservation, the Campo and Manzanita Reservations (access only), the California State Lands Commission (CSLC), and privately-owned parcels under the jurisdiction of the County of San Diego. The Region and Vicinity is shown in **Figure ES-1**.

The project is located within the BLM Eastern San Diego County Planning Area and the County of San Diego Mountain Empire Community Planning Area. The project area is on a large portion of the BLM McCain Valley National Cooperative Land and Wildlife Management Area. The area is primarily characterized by open space with very low-density population and small-scale agriculture operations scattered throughout the surrounding area, typically dry land farming or grazing.

Project Description

Pacific Wind Development LLC, a wholly owned subsidiary of Iberdrola Renewables, Inc. (Iberdrola Renewables), is proposing to construct and operate the Tule Wind Project located near Boulevard, California. The proposed project will consist of wind turbines, an overhead and underground electrical collection system and transmission line, a project collector substation, an operation and maintenance building, transportation haul routes and access roads, a concrete batch plant, a parking area, laydown (staging) areas, meteorological towers and sonic detection and ranging (SODAR) unit. The proposed project is shown in **Figure ES-2**. The Tule Wind Project will consist of the following project components:

- Up to 134 wind turbines, ranging in size between 328 and 492 feet in height, to produce 200 MW of electricity;
- A 34.5 kilovolt (kV) overhead and underground collector cable system linking each turbine to the next and to the project collector substation.
- A 138 kV overhead transmission line will run south from the project collector substation to be interconnected with the SDG&E proposed Rebuilt Boulevard Substation;
- A 5-acre collector substation site and 5-acre operation and maintenance (O&M) building site;
- Access roads between turbines, as well as improvements to existing roadways and new roadways to accommodate construction and delivery of equipment;

- A temporary batch plant for construction located on a 5 acre area;
- A temporary 10-acre parking area;
- Nineteen 2-acre temporary laydown areas; and
- Two permanent meteorological towers and one SODAR Unit.

The maximum build-out of the project allows for up to 134 1.5 MW turbines. In order for the project to function at full capacity (200 MW), a minimum of 67 3.0 MW turbines would be necessary. Turbines with a smaller output can be spaced closer together, whereas turbines with a larger output require larger spacing; nonetheless the total project extent is similar in both cases. The turbine locations include 97 wind turbines on BLM land, 17 turbines on Tribal lands, 7 turbines on State lands, and 13 wind turbines on private parcels (Rough Acres Ranch), as illustrated in **Figure 2.0-2**, Proposed Project.

The project area encompasses approximately 23,693 acres. However, the construction footprint of the project would impact a maximum of 772.7 acres, and does not include the entire parcels. The total construction footprint for the project will impact approximately 772.7acres to include 550.4 acres on BLM lands, 89.9 acres on Tribal lands, 39.2 acres on state lands, and 93.2 acres on private land.

ES.5 PROJECT COMPONENTS

Wind Turbines

The proposed project includes the construction and operation of up to 134 wind turbines, ranging in output from 1.5 to 3.0 MW. The brand of turbines has not yet been determined. Each turbine will be three bladed, with an upwind horizontal-axis, with a rotor diameter of up to 328 feet. Each turbine will be a maximum of 492 feet tall, as measured from the ground to the turbine blade tip, and will be mounted on a concrete pad. Each turbine will have a turbine rotor and nacelle mounted on top of its tubular tower, for a rotor hub height of up to 328 feet. Computer systems inside each turbine would perform self-diagnostic tests and allow a remote operator to set new operating parameters, perform system checks, and ensure turbines are operating at peak performance. Turbines would automatically shut down if sustained winds reach 50 miles per hour (mph) or gusts reach about 56 mph. Turbines would automatically shut down if sustained winds or gusts exceed predetermined maximum operating parameters. Each turbine and the proposed MET towers have been assigned a unique alpha-numeric identification code for design and tracking purposes and are shown in **Figure ES-2**.

Project Electrical System

The project's electrical system will consist of three key elements: (1) an overhead and underground collector system, which will connect the wind turbines at a voltage of 34.5 kV; (2) the project collector substation, where the voltage will be increased from 34.5 kV to 138 kV; and (3) a 138 kV transmission line which will deliver the electricity to the SDG&E proposed Rebuilt Boulevard Substation located off-site on Old Highway 80.

There are two collector substation locations proposed on BLM land, the "proposed" collector substation and the "deviant" collector substation. Both substation locations are south of McCain Valley Road, with the deviant substation located 0.6 miles southwest of the proposed substation. The deviant substation location is a potential alternate to the proposed, and as part of the proposed project is not a separate alternative. The deviant substation is included in the project to provide flexibility in the project design to

Figure ES-1. Region and Vicinity

Figure ES-2. Proposed Project

minimize impacts to view sheds and natural resources due to topography. For each of the two proposed substation locations, the collector lines, transmission lines, and roadway land disturbance impacts alter slightly; however, the deviant collector substation yields a higher potential impact for the entire project, with all project components considered. Therefore, the proposed project utilizing the deviant substation is used to show the maximum impacts for the project.

Overhead Collector System

Portions of the project's electrical collector system will be aboveground due to the rugged topography of the project area. The aboveground system will be utilized to avoid streams and wetlands and impacts to soils with low thermal conductivity, rocky conditions, or where multiple parallel aboveground cables would be needed. The 34.5 kV overhead collector system will be supported by a maximum of 250 wood or steel poles that will be 60 to 80 feet in height and 2 feet in diameter, with single and double circuit collectors. Regardless of whether the proposed or deviant substation is utilized, the maximum pole count for the overhead collector system would not exceed 250 poles, which would require a 24-foot width corridor to erect the power lines and construct the pole foundations.

Underground Collector System

Portions of the electrical collector system will also be underground. The underground collection system will consist of a network of 34.5 kV circuits which collect power and energy from the wind turbine generators and deliver it to either the proposed project collector substation or the deviant collector substation. Each circuit will consist of three 35 kV cables with sizes that will vary with the designed electrical load. All cables will have stranded aluminum conductors, cross-linked polyethylene insulation, and a copper concentric shield neutral ground wire in black polyethylene jacket. Each circuit will also have a bare copper or copper-clad trench neutral ground wire. Each circuit will typically include a fiber optic cable for wind turbine generator management and control. The three cables that comprise each circuit are placed in the trench in a tight trefoil configuration and backfilled with select soil from the trench excavation. Trenches will measure 42 to 50 inches in depth with a width of 12 inches. No conduits will be used, except for riser poles.

138 kV Transmission Line

The overhead 138 kV transmission line will begin at either the proposed project collector substation or the deviant collector substation and run south on either side of McCain Valley Road, and across I-8 to the SDG&E proposed Rebuilt Boulevard Substation located on Old Highway 80. The transmission line will be constructed as a single circuit without any under build attachments and would be a maximum of 9.7 miles. A maximum of 116 steel galvanized or weathered steel finish transmission poles will be necessary to support the 138 kV transmission line. Regardless of whether the proposed or deviant substation is utilized, the maximum pole count for the 138 kV transmission line would not exceed 116 poles. The steel galvanized or weathered steel finish poles supporting the transmission line will be approximately 74.5 feet in height; with typical span length of 600 feet and a maximum length of 700 feet.

Conductors

The 138 kV transmission line will have three conductors supported by insulators on single-shaft steel poles that will either be galvanized or coated with a weathered steel finish to resemble wood. This is a standard industry conductor identified as "Pheasant". The use of a non-specular finish is not planned. Minimum ground clearance is planned to comply with the engineering specifications of 30 feet under

final sag and a conductor temperature of 212ºF. Vertical clearance between conductors will be 12 feet and horizontal clearance will exceed 12 feet. This spacing is determined by conductor movement envelopes at mid span, and the clearance required that would avoid unintended electric arcing or "flashover."

Collector Substation

The collector substation site will be located on a 5-acre area and will include an approximate 3-acre graveled, fenced area with transformer and switching equipment, with a parking area for utility vehicles. As mentioned previously, there are two collector substation locations proposed on BLM land, the "proposed" collector substation and the "deviant" collector substation. Both substation locations are south of McCain Valley Road, with the deviant substation located 0.6 miles southwest of the proposed substation. The deviant substation location is considered part of the proposed project, and not a separate alternative. The substation equipment will have two (138 kV and 34.5 kV) 100 megavolt ampere (MVA) power transformers that are connected through 138 kV circuit breakers to a common 138 kV transmission line within the substation. The 138 kV transmission line will run from the either the proposed project collector substation or the deviant collector substation to the SDG&E proposed Rebuilt Boulevard Substation.

Operation and Maintenance Facility

The operation and maintenance facility will be located adjacent to the proposed or deviant collector substation. Both locations are south of McCain Valley Road, with the deviant location 0.6 miles southwest of the proposed substation. The project will include a 5-acre site within which a 5,000 s.f. pre-engineered one-story metal operation and maintenance (O&M) building will be located. The building will be surrounded by a 4-acre cleared area. The O&M building will house operational services and critical spare parts. The O&M building will include a foundation, with electrical and heating, ventilation, and air conditioning (HVAC) systems. The O&M site will also include a septic system and groundwater well to provide up to 5 gallons per minute or 2,500 gallons per day (gpd) of potable water.

Roads

To facilitate construction activity, existing and new access road improvements will include widening from approximately 16 to 20-foot widths to 36-foot widths to accommodate large cranes and equipment delivery. The access roads will be restored from the 36-foot temporary width (accommodates large equipment and deliveries) to the widths identified below, after the turbines have been installed.

Upon completion of construction activity, existing and proposed access roads located on land under the jurisdiction of the County of San Diego will be improved to comply with the Department of Public Works Private Road Standard of 24 feet (28 foot graded extent). The main project roads (Ribbonwood Road and McCain Valley Road) throughout the project site will be improved to a maximum of 20 feet to comply with the California Fire Code Standards. Spur roads to the turbines will be improved to a maximum of 18 feet wide to comply with State Responsibility Areas (SRA) Fire Safe Regulations.

Any new access roads will follow natural contours and minimize side hill cuts to the extent possible. New roads will be designed to maintain current surface water runoff patterns to prevent erosion. Soil erosion will be controlled at culvert outlets and catch basins and roadway ditches, and culverts will be maintained and cleaned on a regular basis. Roads will be located away from drainages and wetlands where possible to avoid or reduce impacts to these resources.

Cement Batch Plant

During construction there will be a temporary cement batch plant located on a 5-acre site. The batch plant is necessary to mix concrete for the foundations of the turbine towers, the project collector substation, and the O&M facility. The batch plant would consist of a mixing plant, areas for aggregate and sand stockpiles, driveways, and a truck load-out and turnaround area. The batch plant would include cement storage silos, water and mixture tanks, aggregate hoppers, and conveyors and augers to deliver different materials to the mixing plant. The batch plant will be removed and the site will be revegetated once construction is complete.

Laydown and Parking Areas

Construction activities will utilize approximately nineteen 2-acre laydown (staging) areas, generally located at one end of each turbine string during construction. A 10-acre parking area for construction personnel will be located on Rough Acres Ranch. During construction, the staging areas will be fenced and gated to control access and limit damage or theft of stockpiled material and equipment. The staging areas may be graveled depending upon site soils conditions. Both the laydown areas and the parking area will be removed upon completion of construction and revegetated to its natural state.

Meteorological Towers

Two permanent meteorological (MET) towers are proposed as part of the project to monitor the wind speed and wind direction. The towers will be free standing (no guy wires) lattice structures, and will be approximately 197 feet high with a concrete foundation. As part of the project, there are two proposed locations for the MET towers, as well as two alternate locations. The proposed and alternate MET Towers are located in eastern and western locations; the proposed are shown as PW-E-1 and PW-W-2 and the alternates as PW E-2 and PW-W-1. In addition, a permanent SODAR unit will also be placed on site. The SODAR measures the wind profile from 49.2 to more than 650 feet in 32 feet increments using pulses of sound. The SODAR unit is approximately 9 feet high, 6 feet wide and 10 feet long and would be housed in a trailer capable of being transported to the site by a truck. The trailer would be sited on a raised cement platform and fenced to prevent unauthorized access. The SODAR unit will be a free standing structure, separated from the met tower by approximately 328 feet.

Communication System

A Supervisory, Control and Data Acquisition (SCADA) system will be installed at the project to collect operating and performance data from each wind turbine and for the project as a whole. The SCADA will also allow for remote operation of the wind turbines. The wind turbines will be linked to a central computer via a fiber optic network. The fiber optic cabling will use the same path as the collector system. The host computer is expected to be located in the O&M building. The SCADA software consists of applications developed by the turbine manufacturer or a third-party SCADA vendor.

ES.6 CONSTRUCTION ACTIVITIES

Prior to the start of construction activities the following construction plans will be completed:

- Grading Plan
- Stormwater Management Plan
- Road Management Plan
- Ground Transportation Plan
- Traffic Management Plan

- Noxious Weeds and Invasive Species Control Plan
- Habitat Restoration Plan

Project construction will involve the following tasks:

- Constructing roads, parking and equipment laydown areas;
- Conducting dust and erosion control;
- Excavating for turbine and transformer foundations;
- Leveling areas for setting the erection crane;
- Pouring foundations for the wind turbines and meteorological towers;
- Transporting tower sections to the site and erecting the towers;
- Installing the nacelle and rotor on the wind turbine tower;
- Trenching for underground utilities and 34.5 kV collection system power cables;
- Building the collector substation and switching station;
- Constructing the O&M building;
- Commissioning and testing the wind turbines;
- Conducting final road grading, final erosion control, and site cleanup;
- Installing 34.5 kV and 138 kV transmission poles and conductors.

Construction Schedule

It is anticipated that the construction phase of the project will start in December 2010 and will continue for 18 to 24 months. **Table ES-1** provides the Proposed Construction Schedule.

Table ES-1. Proposed Construction Schedule

Project Activity	Start Dates
BLM Record of Decision adopted and effective	December 2010
Acquisition of additional required permits	December 2010 through March 2011
Right-of-way/property acquisition	December 2010
Construction begins	December 2010
Completion of construction	June 2012
Project operational	November 2012
Punch list/clean-up	January 2013

The project is anticipated to employee up to 325 employees per day during the peak construction period. An average daily peak of 125 employees will be present at the construction site and up to 200 delivery trucks are estimated to be on site depending on the specific stage of construction. A typical day during the peak of the construction would include the transportation of turbines, movement of heavy equipment, and the transport of material and concrete. Power for construction activities will be supplied by generators provided by the contractor. Construction activities would be limited to normal business hours (7:00 a.m. to 7:00 p.m.).

Project Land Disturbances

The project is estimated to have temporary and permanent surface land disturbances from the construction of the project components, as shown in **Table ES-2**. There is a difference between the potential temporary and permanent impacts for each project component and the total disturbed area due to the fact

that some project components fall into the same disturbance footprint, thus creating overlap. For example, some of the project components overlap when combined together such as; the new proposed roads with a 24 foot disturbed area intersecting with the turbines 200-foot radius. This overlap gives a higher calculation that distorts the overall project surface land disturbances. In an effort to show the breakdown of the land disturbances for each of the project components, and an overall total of surface land disturbances for the project, **Table ES-2** presents a calculated total (total disturbed area) with the overlapping areas removed. The total disturbed area is not the sum of the individual project components, as shown in **Table ES-2**.

Table ES-2. Proposed Project Estimate of Surface Land Disturbance

Project Component	Quantity*	Area Disturbed per Feature	Disturbance Type	Proposed Project	Proposed Project with Deviant Substation
Turbine	134	400-foot diameter	Perm	386.57	386.57
Transmission Line	1	24-foot width	Temp	26.37	28.33
Transmission Line Poles	108 (116)	50 feet x 150 feet	Temp	18.26	19.71
Transmission Line Poles	108 (116)	8-foot diameter	Perm	0.12	0.13
Overhead Collector Line	1	24-foot width	Temp	25.12	27.36
Collector Poles	232 (250)	2-foot diameter	Perm	0.02	0.02
Underground Collector Line	1	24-foot width	Temp	83.09	84.17
New Roads	89 (90)	36 feet	Temp	60.43	61.23
New Roads	89 (90)	20 feet (28 ft. on County lands)	Perm	91.00	92.00
Improvements to Existing Roads	21	16-20 feet	Temp	23.00	23.00
Improvements to Existing Roads	21	20 feet (28 ft. on County lands)	Perm	74.10	74.10
Collector Substation	1	5 acres	Perm	5.00	5.00
O&M Facility	1	5 acres	Perm	5.00	5.00
Parking Lot	1	10 acres	Temp	10.00	10.00
Batch Plant	1	5 acres	Temp	5.00	5.00
Staging Area (Laydown Areas)	19	2 acres	Temp	38.00	38.00
Met Tower	2	700 sf	Temp	0.032 (1,400 sf)	0.032 (1,400 sf)
Met Tower	2	900 sf	Perm	0.041 (1,800 sf)	0.041 (1,800 sf)
SODAR	1	700 sf	Temp	0.016 (700 sf)	0.016 (700 sf)
SODAR	1	900 sf	Perm	0.021 (900 sf)	0.021 (900 sf)
Totals		Acres Disturbed (Temporary)		223.6	229.9
		Acres Disturbed (Permanent)		541.7	5452.7
		Total Disturbed Area		765.3	772.7

Water Usage

According to Geo-Logic Associates, Estimate of Available Groundwater Memo, September 7, 2010 (Appendix O), the following lists the anticipated water usage for construction (based on a five-day work week) and the anticipated well water production required for each project component:

- Road Construction – Up to 120,000 gallons per work day will be required over a 72-day construction period. With continuous water storage, 24-hours per day, seven days per week, it is estimated that well production of 59.5 gallons per minute (gpm) will be required to support this work.
- Turbine Foundation Concrete Mixing – Depending on the turbine, each foundation will require 7,500 to 15,000 gallons of water per foundation. Assuming that two foundations are constructed each day in accordance with the 72-day work schedule; up to 30,000 gallons of water per day would be required. The maximum continuous pumping rate (24-hours per day, seven days per week), required to support concrete mixing for three turbine foundations per day is equivalent to 14.8 gpm.
- Dust Control – During construction, 50,000 to 100,000 gallons per working day will be required for dust control on project roads. The maximum continuous pumping rate required for dust control would be 49.6 gpm for an estimated nine-month construction period.

As indicated above, it is anticipated that the water supply source will be available 24 hours per day, seven days per week. The contractors on the project will provide temporary water storage to ensure that there is adequate water supply available for required project water needs. Based on the conservative peak water use requirements of 250,000 gallons per day (associated with road construction, concrete mixing and dust control activities), an estimated continuous supply of water (24-hours per day, seven days per week) will be required from wells pumping at a cumulative continuous rate of 124 gpm.

Two wells have been tested and are estimated to provide 130 gpm (200,000 gpd), of the peak 124 gpm (250,000 gpm). In addition, three other off-site water sources have been identified, which would add 80,000 to 120,000 gpd, or approximately 55 to 83 gpm of water for the project if needed. With these additional off-site sources, the combined on-site and off-site water could be equivalent to a maximum of 213 gpm could be made available in support of the project. In addition, wastewater plant effluent may be available from the City of El Centro for purchase.

ES.7 OPERATION AND MAINTENANCE

During the operational phase, the project is expected to be supported by up to 12 full-time employees who will be present on-site during normal business hours. Project O&M staff will maintain a positive external appearance of facilities. On-site equipment will include utility vehicles and other equipment that are necessary for operations. The O&M building will require the construction of a groundwater well to provide up to 5 gallons per minute of potable water. Once the project is operational, the O&M building is estimated to use approximately 2,500 gallons of water per day for employee water and sewer uses.

Each turbine would be serviced periodically (e.g., twice a year), or as needed. Inoperative turbines will be repaired, replaced, or removed in a timely manner. Typical turbine servicing activities would include temporarily deploying a crane within the construction easement of each turbine, removing the turbine rotor, replacing generators, bearings, and deploying personnel to climb the towers to service parts within the turbine.

ES.8 DECOMMISSIONING

When the facility is retired or decommissioned, the turbine towers will be removed from the site and the materials will be reused or sold for scrap. Decommissioning activities are anticipated to have similar types of construction-related activities. Therefore, all management plans, BMPs, and stipulations developed for the construction phase of the project will be applied to the decommissioning phase of the project.

After facilities have been removed and the site is returned to pre-construction and operation conditions Iberdrola Renewables will implement a habitat restoration plan, similar to the plan utilized during construction. Topsoil from all decommissioning activities will be salvaged and reapplied during final reclamation. All areas of disturbed soil will be reclaimed using weed-free native shrubs, grasses, and forbs. The vegetation cover, composition, and diversity will be restored to values commensurate with the area's ecological setting.

ES.9 PROJECT IMPACTS AND MITIGATION MEASURES

Table ES-3 is a summary of the analysis of the environmental impacts, mitigation measures, and level of significance after mitigation associated with the development of the Tule Wind Project.

ES.10 REQUIRED PERMITS AND APPROVALS

Table ES-4 presents the anticipated authorizations, permits, reviews, and approvals that may be required for the project.

ES.11 SUMMARY OF PUBLIC INVOLVEMENT ACTIVITIES

Joint BLM and California Public Utilities Commission (CPUC) public-scoping meetings were held for the proposed project at the Jacumba Highland Center, 44681 Old Highway 80, Jacumba, CA 91934 on January 27, 2010, at 7:00 p.m. and at the Boulevard Volunteer Fire Department, 39223 Highway 94, Boulevard, CA 91905 on January 28, 2010, at 7:00 p.m. The meetings consisted of an informal open house from 7:00 p.m. to 9:30 p.m. and provided an opportunity for the public to obtain information about the proposed project to provide written and verbal comments. During the scoping period, the BLM and the CPUC solicited public comment on issues, concerns, potential impacts, alternatives, and mitigation measures to be considered in the analysis.

Materials available at the scoping meetings included an Agenda, fact sheets and poster board displays. Each meeting attendee was asked to sign an attendance sheet to indicate if they would like to be added to the interested parties list or if they would like to receive a copy of the ECO Substation Draft EIS/EIR when it is available. Blank forms to provide written comments were also available during the open house. Written comments were accepted at the meeting or could be mailed to Greg Thomsen (BLM) or Iain Fisher (CPUC), and postmarked no later than February 10, 2010. Additionally, written comment submittals were permitted by electronic mail.

The BLM and CPUC used the public-scoping comments to prepare draft environmental documents to be available for public review later in 2010. Scoping was conducted for more than 45 days during the period from December 29, 2009 until February 15, 2010.

Table ES-3. Summary of Project Impacts and Mitigation Measures

Impact	Mitigation Measure		Conclusions
Air Quality and Greenhouse Gas Emissions			
No impacts identified; therefore, no mitigation measures are required.			
Aesthetics/Visual Resources			
The project would have a substantial adverse impact on scenic vistas.	No appropriate mitigation measure identified.		Significant impact still exists.
The project will substantially degrade the existing visual character or quality of the site and its surroundings.	No appropriate mitigation measure identified.		Significant impact still exists.
Impacts to trees, in particular oak woodlands, as a visual resource may be significant.	AES-1	Upon completion of the grading plan, identify any trees which may be impacted by the project. A determination can be made as to the amount of acreage that will require mitigation in accordance to the San Diego County vegetation community mitigation guidelines. The biology assessment has identified open and closed live woodland oak vegetation types located within the project area, which will be mitigated to a 3:1 ratio.	The avoidance of tree removal to the greatest extent possible and implementation of mitigation measure AES-1 will restore the landscape to a visually pleasing appearance post-construction and after decommissioning. Impacts to trees as a visual resource are less than significant.
Agriculture Resources			
No impacts identified; therefore, no mitigation measures are required.			
Biological Resources			
Mitigation for direct permanent impacts to riparian habitat or sensitive natural community.	BIO-1a	At the conclusion of construction, sensitive vegetation communities and habitats permanently impacted by the proposed project shall be assessed and included in per acre compensatory mitigation. Mitigation ratios for impacts that cannot be avoided shall be taken from the County of San Diego Biological Mitigation Ordinance (see Table 3.4-13, Proposed Mitigation for Permanent Project Impacts to Vegetation Communities). This habitat based mitigation will mitigate for vegetation and all sensitive species impacts using a regionally accepted habitat approach mitigation.	Mitigation measures BIO-1a through BIO 1-cprovide mitigation ratios as per the County of San Diego to mitigation for impacts to vegetation communities. The implementation of this mitigation measures will reduce impacts to a level of less than significant.
	BIO-1b	Whenever possible, project-related disturbances to ecologically sensitive areas (Tier I, Tier II, Tier III) will be avoided or minimized. Residual areas deemed sensitive that are impacted will be mitigated as appropriate.	
	BIO-1c	Iberdrola Renewables will attempt to minimize the need to clear existing trees and shrubs during site design and construction to the greatest practicable extent. A biological monitor shall monitor and quantify impacts to be used for impacts assessment at the conclusion of construction.	

Impact	Mitigation Measure		Conclusions
Direct impact The introduction of invasive vegetation species into disturbed areas of the proposed project area.	BIO-2a	Iberdrola Renewables' plan for control of noxious weeds and invasive species (see Appendix K of the Biological Technical Report) addresses monitoring and educating personnel on weed identification, and methods for avoiding and treating infestations. Use of certified weed-free mulching or reuse of onsite debris from construction (i.e., onsite mulching) will be required. Iberdrola Renewables will work with the BLM to obtain seeding specifications compliant with BLM standards. If trucks and construction equipment arrive from locations with known invasive vegetation problems, a controlled inspection and cleaning area will be established to visually inspect construction equipment arriving at the proposed project area and to remove and collect seeds that may adhere to tires and other equipment surfaces. All vehicles arriving from offsite will be cleaned and visually inspected before entering the site to ensure that weed seeds are not being carried onto the project site.	Implementation of BIO-2a through BIO-2b will reduce impacts from the introduction of invasive species to a level of less than of significant.
	BIO-2b	Iberdrola implement the habitat revegetation plan and update the noxious weed (see Appendix K) to avoid, minimize, or mitigate negative impacts on vulnerable wildlife, while maintaining or enhancing habitat values for other species.	
Direct temporary impacts to vegetation removal from grading and clearing during proposed project construction will result in temporary impacts to vegetation communities.	BIO-3a	Temporary impacts to vegetation communities shall be mitigated through implementation of a habitat revegetation plan. The habitat revegetation plan will detail the proposed revegetation of temporarily impacted habitat and will incorporate special status species to the extent practicable. Topsoil from excavations and construction activities will be segregated from sub-soil and reapplied to the surface of the ground during reclamation. Revegetation shall involve recontouring the land, replacing collected topsoil, and planting seed and/or container stock. Based on monitoring of the restoration area, maintenance activities such as weeding, replacement planting and supplemental watering may be necessary to achieve restoration standards. Areas to be revegetated shall include all areas temporarily impacted by construction, such as wind turbine construction sites, laydown/staging areas, and temporary access roads. Reclamation activities shall be undertaken as early as possible on disturbed areas. Additional reclamation measures shall be developed to address site-specific conditions, as necessary.	Implementation of BIO-3a through BIO-3b will reduce temporary impacts to vegetation communities to a level of less than significant.

Impact	Mitigation Measure		Conclusions
	BIO-3b	Topsoil from all decommissioning activities will be salvaged and reapplied during final reclamation. All areas of disturbed soil will be reclaimed using weed-free native shrubs, grasses, and forbs.	
Indirect impacts associated with project construction to the vegetation communities and sensitive plant or animal species due to the increased risk of fire.	BIO-4a	Around each permanent structure, cleared areas are planned which shall meet or exceed the County's minimum requirements for brush management and fire protection.	Implementation of BIO-4a through Bio-4e will reduce permanent impacts to vegetation communities from the risk of fire to a level of less than significant.
	BIO-4b	Vehicles will be prohibited from parking off road to prevent engine sparks from causing a wildfire.	
	BIO-4c	Smoking by construction and operation personnel will be prohibited.	
	BIO-4d	All vehicles will be kept in good working order and will carry fire extinguishers.	
	BIO-4e	Water trucks with variable delivery capabilities (e.g., hose attachment or articulated water spout) will be on site during heavy equipment operations in case of fire outbreak.	
Indirect temporary impacts project implementation has the potential to impact vegetation communities, sensitive plants, and animal species.	BIO-5a	Implementation of a Storm Water Pollution Prevention Plan will minimize or eliminate incidents of erosion, runoff, and siltation into off-site areas.	The implementation of mitigation measure BIO-5a and BIO-5b will reduce the impacts to vegetation communities, sensitive plants, and animal species to a level of less than significant.
	BIO-5b	The construction workforce will be trained to identify and avoid any sensitive areas or resources. Sensitive areas will be flagged as appropriate (i.e. where they are in the vicinity of potential construction activity), and a biological monitor will be present during construction activities in sensitive areas to minimize the potential for accidental disturbance from construction equipment and crews. Construction area boundaries will be clearly.	
The proposed project will result in temporary and permanent direct and indirect impacts to wildlife associated with general construction activities.	BIO-6a	Iberdrola Renewables will implement construction BMPs identified in applicable permits and required avoidance, minimization, and mitigation measures will minimize and/or avoid a portion of the potential impacts the project will have on wildlife.	Mitigation measures BIO-6a through BIO-6e will reduce temporary and permanent direct and indirect impacts to wildlife associated with general construction activities to a level of less than significant.
	BIO-6b	All construction employees will be trained and instructed to avoid harassment and disturbance of wildlife, and training will reinforce that no plants or wildlife should be collected from the proposed project site.	
	BIO-6c	Littering will not be allowed. Garbage and trash will be removed from the Project area daily.	

Impact	Mitigation Measure		Conclusions
	BIO-6d	Project personnel will not be allowed to bring pets to any project area to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.	
	BIO-6e	All steep-walled trenches or excavations used during construction will be inspected twice daily (early morning and evening) to protect against wildlife entrapment. Small open construction holes will be covered overnight; those too large (e.g., excavated turbine foundations) will be sloped or have ramps installed in one or more areas to facilitate escape for mammals and reptiles. Covers will be secured in place nightly, prior to workers leaving the site, and will be strong enough to prevent livestock or wildlife from falling into the hole. Holes and/or trenches will be inspected prior to filling to ensure the absence of mammals and reptiles. Excavations will be sloped on one end to provide an escape route for small mammals and reptiles. If wildlife is located in the trench or excavation and cannot escape unimpeded, the biological monitor will be called immediately to remove them. The biological monitor will make the required contacts with USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped protected wildlife species. If the biological monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) will be employed to remove the wildlife and transport them safely to other suitable habitats.	
Migratory birds will be impacted during construction and operation of the proposed project. Construction of the project components will have cumulative permanent and temporary impacts to avian species.	BIO-7a	Iberdrola Renewables will design the project layout to minimize the use of above-ground transmission lines. The majority of the project will utilize underground collector lines.	The implementation of mitigation measures BIO-7a through BIO-7f will reduce impacts to migratory birds to a level of less than significant.
	BIO-7b	While still meeting FAA standards, facility lighting shall be minimal in order to avoid attracting nocturnal migrants and other animals.	
	BIO-7c	Iberdrola Renewables shall implement its Avian and Bat Protection Plan (IBR 2008) as part of the proposed project.	
	BIO-7d	Structures shall be constructed to conform to the Avian Power Line Interaction Committee's *Suggested Practices for Avian Protection on*	

Impact	Mitigation Measure		Conclusions
		Power Lines to help minimize impacts to raptors (e.g., inspect insulation of exposed jumper/ground wires to minimize the risk of avian electrocution; transmission lines shall be designed to minimize the risk of avian electrocution).	
	BIO-7e	Post-construction avian fatality studies shall be developed and implemented starting the first year of project operation. The survey and monitoring protocols shall follow the California Energy Commission's California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (2007) and be developed in consultation with USFWS and CDFG.	
	BIO-7f	All ground disturbing activities such as; clearing and grubbing, shall be conducted during the non-breeding season (August 15-February 15).	
Bats will be impacted during construction and operation of the proposed project. Activities that will contribute to cumulative permanent and temporary impacts to bat species due to the construction of the project components.	BIO-8a	Iberdrola Renewables will utilize lighting that will minimize the attraction of the insect prey of bats. Permanent lights at O&M and substation facilities will be the minimum intensity to meet security and operational needs. Where practicable, lights will be motion activate so as to reduce unnecessary lighting of areas. All lights will be shielded and aimed down to avoid unnecessary illumination of the area.	The implementation of mitigation measures BIO-8a through BIO-8c will reduce impacts to bats to a level of less than significant.
	BIO-8b	An adaptive management plan will be developed to mitigate unforeseen impacts which could not be avoided or minimized through pre-installation measures The adaptive management plan will include biologically appropriate goals or triggers to initiate adaptive management strategies.	
	BIO-8c	The Iberdrola will implement its Avian and Bat Protection Plan (www.iberdrolarenewables.us/pdf/Signed_ABPP_10-28-08.pdf) as part of the proposed project, which contains a post-construction bat mortality monitoring plan to be implemented starting the first year of project operation.	
Disturbance to wildlife species will result from project related noise.	BIO-9a	Noise-reduction devices (e.g., mufflers) should be maintained in good working order on vehicles and construction equipment.	Mitigation measure BIO-9a though BIO-9b will reduce project related noise impacts to a level of less than significant.
	BIO-9b	Noise-reduction devices (e.g., mufflers) should be maintained in good working order on vehicles and construction equipment.	
Disturbance to wildlife species could result from project related lighting.	BIO-10	Several mitigation practices related to lighting impacts are described in MM-BIO-7b. Additional mitigation practices related to lighting that will be implemented are:	Implementation of mitigation measure BIO-10 will reduce lighting impacts to a level of less than significant.

Impact	Mitigation Measure		Conclusions
		1. Any night lighting during construction and operation will be selectively placed, shielded, and directed away from all areas of native habitat to the maximum extent practicable. 2. All unnecessary lighting should be turned off at night to limit attracting migratory birds.	
Temporary and permanent impacts to QCB habitat.	BIO-11a	If construction has not started by April 2011 additional USFWS QCB protocol surveys will be conducted in the QCB flight season prior to construction.	Implementation of mitigation measure BIO-11a and BIO-11f provides land conservation for QCB habitat to reduce impacts to a level of less than significant.
	BIO-11b	All construction clearing and grubbing in QCB area (i.e., the 1-km radius around the QCB sighting) will be conducted in one continuous time period. Clearing and grubbing will not be conducted between February 1 and June 30.	
	BIO-11c	Fire brush maintenance will not be conducted between February 1 and June 30, for the life of the project.	
	BIO-11d	Orange snow fencing will be put up around all construction within the QCB area (i.e., the 1-km radius around the QCB sighting).	
	BIO-11e	New access roads to the turbines in QCB areas will be gated to reduce OHV activity in the QCB Areas.	
	BIO-11f	During operations and maintenance of the completed project all roads will be maintained such that no QCB host plants will be allowed to grow within the roadways.	
Impacts to raptor nests or species covered under the MBTA.	BIO-12	At the time of construction, raptor nests or species covered under the MBTA could be present in the project area. Iberdrola Renewables shall have raptor nest surveys conducted prior to tree cutting or grading near mature trees to ensure that active nests are not present. A qualified biologist shall conduct the surveys between February 15 and August 30 and prepare a survey report. If no raptor nests are discovered in the trees to be removed, no further mitigation is required. If any active raptor nests are discovered, the biologist shall mark all occupied trees and delineate a 500-foot buffer area around each occupied tree, if appropriate (best judgment of the biological matter on issues such as line of site, etc. may be considered). In addition a 1,200 foot buffer will be implemented in association with active eagle nests. No construction activity shall occur within the delineated buffer until the young have fledged, as determined by a qualified biologist.	Implementation of mitigation measure BIO-12 will reduce impacts to special status species to a level of less than significant.

Impact	Mitigation Measure		Conclusions
		Iberdrola Renewables shall consult with the appropriate agencies regarding its raptor nest protection measures prior to construction.	
Impact to coastal live oak woodlands and oak wood protection zones could occur.	BIO-13	Within County of San Diego jurisdictional areas, project impacts to coast live oak woodlands and oak woodland protection zones shall be mitigated according to the County of San Diego General Plan (2009d). In order to protect the shallow root systems of oak trees within the project footprint, a minimum 50-foot oak root protection zone shall be implemented between the dripline of oak woodlands and the nearest ground disturbance (i.e., grading or trenching). Where the project results in ground disturbance or compaction within a coast live oak woodland or oak root protection zone, it shall be mitigated with oak woodland habitat. Removal of coast live oak trees (that occur in coast live oak woodland) shall be mitigated at a 3:1 ratio based on the permanent impact to the summed acreage of all individual coast live oak trees and oak root protection zones impacted (County of San Diego 1997, County of San Diego 2009c).	Implementation of mitigation measure BIO-13 will reduce impacts to coastal live oak woodlands and oak woodlands to a level of less than significant.
Permanent and temporary impacts to USACE, RWQCB, CDFG, and County RPO jurisdictional areas will result from the construction of the project components.	BIO-14a	Impacts to special status species and habitat will be minimized through the adherence of the mitigation measures stated in BIO-1 through BIO-13.	Implementation of mitigation measures BIO-14a though BIO-14dwill be incorporated to reduce impacts to jurisdictional areas and water quality to a level of less than significant.
	BIO-14b	Impacts to special status species shall be avoided to the maximum extent practicable through the minimization of habitat degradation. When avoidance of special status species and their habitat is not feasible, mitigation measures will be put into place. These measures will be designed to avoid any significant reduction in species viability. For special status species, impacts will be mitigated through provision of habitat based mitigation, as required under Mitigation Measure BIO-1a.	
	BIO-14c	A biological monitor will be present during all ground-disturbing and vegetation removal activities. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.	
	BIO-14d	Prior to construction of the 138 kV transmission line(s), surveys for sensitive plant species known to occur or with a moderate to	

Impact	Mitigation Measure		Conclusions
		high potential to occur within the Project area will be conducted for work areas and access roads during the appropriate phenological period. A report will be prepared that reflects the finding of these surveys and any associated impacts that will result from construction of the transmission line. This report will be submitted to the CPUC prior to the start of construction.	
The proposed project will impact water quality or the functions and values of jurisdictional areas.	BIO-15a	Environmental monitoring will be implemented during construction activities occurring within or adjacent to jurisdictional areas. The installation and maintenance of construction BMPs (i.e., silt fencing, straw waddles, sandbags, etc.) will be monitored by a qualified biologist, pursuant to NPDES, USACE-issued Nationwide Permit or Section 404 permit conditions.	Implementation of mitigation measures BIO-15a through BIO-15m will be incorporated to reduce impacts to water quality due to the proposed project to a level of less than significant.
	BIO-15b	The proposed project will be constructed consistent with the design, which minimizes impacts to wetlands, drainages and critical habitat areas, pursuant to NPDES, USACE-issued Nationwide Permit or Section 404 permit conditions.	
	BIO-15c	Temporary stockpiles outside the channels or debris basins will be stabilized by compacting or other measures if present at the work site from December 1 to April 1. Silt fences, berms, or other methods will be used to prevent sediments from being eroded from the temporary stockpile into the adjacent drainage. Temporary stockpiles may be placed in channel bottoms or debris basins if they are located on barren soil or areas with non-native weeds, and are not placed in such a manner that they will be exposed to flowing water. No temporary stockpiles will be placed on the channel bed or banks during the period of December 1 to April 1 for more than the duration of the sediment removal work. Permanent stockpiles will be located landward of the 100-year floodplain to the maximum extent feasible, pursuant to NPDES, ACOE-issued Nationwide Permit or Section 404 permit conditions.	
	BIO-15d	Iberdrola Renewables will minimize vegetation removal or reduction from channel bottoms to the least amount necessary to achieve the specific ma construction. Restoration shall include planting or seeding native plants that were present prior to the work and/or are compatible with existing vegetation near the work area. Iberdrola Renewables will prepare a restoration plan for the project that specifies	

Impact	Mitigation Measure		Conclusions
		the limits of restoration, planting mix and densities, performance criteria for survival and growth, and at least a three-year maintenance and monitoring procedures. Restoration sites will be located outside the limits of the repaired structure. If suitable restoration sites are not available, Iberdrola Renewables will provide funds to a third party (public agency or non-profit organization) to implement the required mitigation in the same watershed as the impact. Habitat restoration under this BMP shall only occur if the affected areas support native vegetation; no restoration is required for barren areas or areas dominated by non-native plants. The applicant shall submit all habitat restoration plans to CDFG prior to implementation. The habitat restoration plan for areas within 0.6 miles of the QCB locations will be reviewed and approved by USFWS prior to ground disturbing activities.	
	BIO-15e	Iberdrola Renewables will implement appropriate water management practices during on site concrete repair operations with the Sacramento, San Diego, and Colorado water districts. Water management practices will be applied to the stockpiling of concrete, curing and finishing of concrete as well as to concrete wash-out operations. Water management practices will be adequate to ensure that fluids associated with the curing, finishing and wash-out of concrete will not be discharged to a channel or basin. Concrete wastes will be stockpiled separately from sediment and protected by erosion control measures so that concrete dust and debris are not discharged to a channel or basin. The Districts will determine the appropriate water management practices based on considerations of flow velocities, site conditions, availability of erosion control materials and construction costs.	
	BIO-15f	All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored within. Iberdrola Renewables will ensure that all equipment operating in and near a drainage, or in a basin, is in good working condition and free of leaks. All vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 ft of a drainage channel or structure. Spill	

Impact	Mitigation Measure		Conclusions
		containment materials must be on site or readily available for any equipment maintenance or refueling that occurs adjacent to a drainage. In addition, all maintenance crews working with heavy equipment will be trained in spill containment and response.	
	BIO-15g	Design measure such as straw waddles, silt fencing, aggregate materials, wetting compounds, and revegetation of native plant species will be implemented to decrease erosion and sedimentation.	
	BIO-15h	All work will cease during heavy rains, and shall not resume until conditions are suitable for the movement of equipment and materials.	
	BIO-15i	A Storm Water Pollution Prevention Plan (SWPPP) shall be completed before construction.	
	BIO-15j	Prior to issuance of a Section 404 permit, or approval of a Nationwide Permit, and Section 401 Water Quality Certification, Iberdrola Renewables will mitigate per permit conditions. Mitigation ratios and approach (creation, restoration, or enhancement) will be determined through agency consultation and be stipulated as a permit condition. Creation and/or restoration mitigation will occur as noted in an approved mitigation, monitoring and reporting program. In areas regulated by the County of San Diego RPO, the no net loss requirements for RPO wetlands will be met.	
	BIO-15k	All on-site jurisdictional wetlands and waters will have a minimum 50-foot-wide buffer on either side of the feature (drainage or wash).	
	BIO-15l	Dust abatement techniques should be used on unpaved, unvegetated surfaces to minimize airborne dust; and erosion and fugitive dust control measures will be inspected and maintained regularly.	
	BIO-15m	Iberdrola Renewables will maintain appropriate water and soil conservation practices during construction and operation of the proposed project to protect topsoil and adjacent resources and to minimize soil erosion. Where possible, Iberdrola Renewables will avoid construction of roads on slopes greater than 10 percent. To minimize erosion during and after construction, BMPs for erosion and sediment control will be utilized, pursuant to NPDES permit conditions and SWPPP measures.	

Impact	Mitigation Measure		Conclusions
Cultural and Paleontological Resources			
If impacts are identified, the following mitigation measures will be included.			
Impacts to historical resources.	CR-1	The project applicant shall prepare appropriate level Historical American Building Survey (HABS) documentation in accordance with the National Park Service's *Historic American Building Survey Guidelines for Preparing Written and Historical Descriptive Data.*	Implementation of mitigation measure CR-1 will reduce potential impacts to historic resources to a level of less than significant.
Impacts to cultural resources.	CR-2	Prior to issuance of grading permit(s), the project applicant shall retain an archaeologist to monitor all ground-disturbing activities in culturally sensitive areas in an effort to identify any unknown archaeological resources. Any newly discovered cultural resource deposits shall be subject to a cultural resources evaluation.	Implementation of mitigation measures CR-2 through CR-3 will reduce potential impacts to cultural resources a level of less than significant.
	CR-3	Prior to issuance of any grading permit, the project archaeologist shall file a pre-grading report with the County (if required) to document the proposed methodology for grading activity observation. Said methodology shall include the requirement for a qualified archaeological monitor to be present and to have the authority to stop and redirect grading activities. In accordance with the agreement required in CR-3, the archaeological monitor's authority to stop and redirect grading will be exercised in consultation with the appropriate Tribe in order to evaluate the significance of any archaeological resources discovered on the property. Tribal monitors shall be allowed to monitor all grading, excavation and groundbreaking activities, and shall also have the authority to stop and redirect grading activities in consultation with the project archaeologist. • In the event that previously unidentified potentially significant cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The archaeologist shall contact a County staff archaeologist at the time of discovery. The archaeologist, in consultation with the County staff archaeologist, shall determine the significance of the discovered resources. The County staff archaeologist must concur with the evaluation before construction	

Impact	Mitigation Measure	Conclusions
	activities will be allowed to resume in the affected area. For significant cultural resources, a research design and data recovery program to mitigate impacts shall be prepared by the Principal Investigator and approved by the County staff archaeologist, then carried out using professional archaeological methods. • In the event that previously unidentified cultural resources are discovered, all cultural material collected during the grading monitoring program shall be processed and curated at a San Diego facility that meets federal standards per 36 CFR Part 79, and therefore will be professionally curated and made available to other archaeologists/ researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility identifying that archaeological materials have been received and that all fees have been paid.	
Impact to archaeological, cultural, or paleontological resources, and coordination with area tribes.	CR-4 If inadvertent discoveries of subsurface archaeological/cultural/paleontological resources are made during construction, operation, maintenance or decommissioning of the project, the applicant, the project archaeologist, and the appropriate Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the Developer and the Tribe cannot agree on the significance or the mitigation for such resources, these issues will be presented to the Count of San Diego Department of Planning and Land Use (DPLU). The DPLU shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological resources and shall take into account the religious beliefs, customs, and practices of the appropriate Tribe.	Implementation of mitigation measure CR-4 will reduce impacts to archaeological, cultural, or paleontological resources to a level of less than significant.

Impact	Mitigation Measure	Conclusions
Impacts to paleontological resources during grading.	CR-5 Prior to issuance of a grading permit(s), the applicant shall retain a qualified paleontological monitor. The paleontological monitor shall be responsible for the following: • Monitoring grading that includes initial cutting into any area of the project site. Paleontological monitoring shall occur only for those undisturbed sediments wherein fossil plant or animal remains are found with no associated evidence of human activity or any archaeological context. • If any paleontological resources are identified during these activities, the paleontologist shall temporarily divert construction until the significance of the resources is ascertained. • Paleontological monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays, and to remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially fossiliferous units described above are not present or if the fossiliferous units present are determined by a qualified paleontological monitor to have low potential to contain fossil resources. • All recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. • Specimens shall be identified and curated into an established, accredited, professional museum repository with permanent retrievable storage. The paleontologist shall have a written repository agreement in hand prior to the initiation of mitigation activities. A report of findings with an appended itemized inventory of identified specimens shall be prepared. The report shall address archaeological and paleontological items. This report shall incorporate the full results of the	Implementation of mitigation measure CR-5 will reduce impacts to paleontological resources to a level of less than significant.

Impact	Mitigation Measure		Conclusions
		literature review, as well as the full results of the recommended review of the records of the Eastern Information Center at the University of California, Riverside. The report shall be submitted to the City of Lake Elsinore prior to the issuance of the Certificate of Occupancy.	
Impacts to human remains.	CU-6	If human remains are encountered, California Health and Safety Code § 7050.5 states that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code § 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the San Diego County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within a reasonable timeframe. Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code §5097.98.	Implementation of mitigation measure CR-6 will reduce impacts to human remains to a level of less than significant.
Energy			
No impacts identified; therefore, no mitigation measures are required.			
Fire and Fuels Management			
Expose people or structures to a significant risk of loss, injury, or death involving wildland fires due to construction of the proposed project.	FF-1	Develop and implement a Construction and Maintenance Fire Prevention/Protection Plan. Iberdrola Renewables shall develop a multi-agency Construction and Maintenance Fire Prevention Plan. Plan reviewers shall include: CPUC, CAL FIRE, BLM, CSLC, and the County of San Diego. Iberdrola Renewables shall provide a draft copy of this Plan to each listed agency at least 90 days before the start of construction activities. Comments on the Plan shall be provided by Iberdrola Renewables to all other participants, and Iberdrola Renewables shall resolve each comment in consultation with and to the satisfaction of CAL FIRE, SDRFPD and the SDCFA. The final Plan shall be submitted to CAL FIRE, SDRFPD and SDCFA at least 30 days prior to the initiation of construction activities. Iberdrola Renewables shall fully implement the Plan during all construction and maintenance activities. All construction work on the project shall follow the Construction Plan guidelines and commitments, and Plan	Impacts due to project components would be reduced with the implementation mitigation measures FF-1 through FF-10 due to construction of the project, with the exception of the wind turbines. Impacts due to the wind turbines remains unavoidable until confirmation of a fire suppression system in the nacelle is feasibility.

Impact	Mitigation Measure	Conclusions
	contents are to be incorporated into the standard construction contracting agreements for the construction of the project. Primary Plan enforcement and implementation responsibility will remain with Iberdrola Renewables. At a minimum, Plan contents will include the requirements of Title 14 of the California Code of Regulations, Article 8 #918 "Fire Protection" and the elements listed below: 1. During the construction phase of the project, Iberdrola Renewables shall implement ongoing fire patrols. Iberdrola Renewables shall maintain fire patrols during construction hours and for 1 hour after end of daily construction, and hotwork. 2. Fire Suppression Resource Inventory– In addition to CCR Title 14, 918.1(a), (b), and (c), Iberdrola Renewables shall update in writing the 24-hour contact information and onsite fire suppression equipment, tools, and personnel list on quarterly basis and provide it to the CAL FIRE, SDRFPD, SDCFA, CPUC, BLM, and to state and federal fire agencies. 3. During Red Flag Warning events, as issued daily by the National Weather Service in SRAs and Local Responsibility Areas (LRA), all non-essential, non-emergency construction and maintenance activities shall cease or be required to operate under Iberdrola Renewables' Hot Work Procedure. Utility and contractor personnel will be informed of changes to the Red Flag event status as stipulated by CAL FIRE. 4. All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational along the entire length of the approved route to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction activities at each construction site. The radio shall allow communications with other Iberdrola Renewables' vehicles and	

Impact	Mitigation Measure	Conclusions
	construction trailer. All fires will be reported immediately upon detection. 5. Each member shall carry at all times a laminated card listing pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on contact cards will be updated and redistributed to all crewmembers as needed and outdated cards destroyed, prior to the initiation of construction activities on the day the information change goes into effect. 6. Each member of the construction crew shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. 7. Water storage tanks and access roads shall be installed and operational at time of start of construction.	
	FF-2: Develop a Wildland Fire Prevention and Fire Safety Guide. Iberdrola Renewables shall prepare and adopt a Wildland Fire Prevention Plan and Fire Safety Guide. The Plan will, at a minimum, include all of the provisions of the Construction Fire Prevention Plan (as described above). The Plan will be revisited and updated once every five years to incorporate new regulations, practices, technologies, and fire science research. Iberdrola Renewables shall submit the Plan for review and comment by the following agencies at least 90 days prior to energizing the proposed project: CPUC, BLM, CAL FIRE, SDRFPD, SDCFA, and the CSLC. Iberdrola Renewables will submit the Plan (with agency comments incorporated) for review and approval by CAL FIRE, SDRFPD and the SDCFA at least 60 days prior to commencing construction for the proposed project.	
	FF-3: MOU - Ensure coordination for emergency fire suppression. Iberdrola Renewables shall ensure that personnel, construction equipment, and aerial operations do not create obstructions to firefighting equipment or crews. The following provisions shall be defined based on consultation with CAL FIRE and the SDRFPD. a. Onsite Iberdrola Renewables and contracted personnel shall coordinate fire suppression activities through the	

Impact	Mitigation Measure	Conclusions
	active fire agency designated Fire Incident Commander, and emergency ingress and egress to construction-related access roads will remain unobstructed at all times. Construction and/or maintenance work shall cease in the event of a fire within 1,000 feet of the work area. The work area includes the transmission ROW, construction laydown areas, pull sites, access roads, parking pads, turbines, O&M building, and substation and any other sites adjacent to the ROW where personnel are active or where equipment is in use or stored.	
	FF-4: Remove hazards from the work area. Iberdrola Renewables shall comply with PRC 4291, *Reduction of Fire Hazards Around Building*, to provide 100 feet fuel modification around all buildings, and the County Code Title 9 regarding brush management. Iberdrola Renewables and/or its contractor shall clear brush and dead and decaying vegetation from the work area prior to starting construction and/or maintenance work. The work area includes only those areas where personnel are active or where equipment is in use or stored, and may include portions of the transmission ROW, construction laydown areas, pull sites, access roads, parking pads, turbine pads, O&M building, substation and any other sites adjacent to the ROW where personnel are active or where equipment is in use or stored.	
	FF-5: Helicopter Use: Iberdrola Renewables shall contact CAL FIRE and the SDRFPD dispatch centers two days prior to helicopter use and will provide dispatch centers with radio frequencies being used by the aircraft, aircraft identifiers, the number of helicopters that will be used while working on or near SRA lands at any given time, and the flight pattern of helicopters to be used. Should a wildfire occur within one (1) mile of the work area, upon contact from a CAL FIRE Incident Commander and/or Forest Aviation Officer, helicopters in use by Iberdrola Renewables will immediately cease construction activities and not restart aerial operations until authorized by the appropriate fire agency.	
	FF-6: Roads: Any BLM roads or turbine roads that are proposed to be gated shall be provided with an approved Knox Box.	

Impact	Mitigation Measure		Conclusions
	FF-7:	Combustible Storage: (CFC Chapter 3). Combustible storage and trash on site during construction and operation phases shall be properly stored in a clear area with fuel modification around it, and be away from turbines and the substation. Such storage shall be orderly and be removed from the site as soon as possible.	
	FF-8:	Perform climbing inspections. Iberdrola Renewables shall perform climbing inspections on 10 percent of project structures supporting overhead lines annually, such that every project structure has been climbed and inspected at the end of a 10-year period, for the life of the project. In addition, Iberdrola Renewables will keep a detailed inspection log of climbing inspections, and any potential structural weaknesses or imminent component failures shall be acted upon immediately. The inspection log will be maintained on-site and available for review by CAL FIRE/SDRFD upon request.	
	FF-9:	Line Clearance. For the 138 kV transmission line, Iberdrola Renewables shall establish and maintain adequate line clearance in conformance with CPUC GO 95. Only trees or vegetation with a mature height of 15 feet or less shall be permitted within the transmission right of way except where the transmission line spans a canyon. In addition, tree branches that overhang the ROW within 10 horizontal feet of any conductor shall be trimmed or removed, as appropriate, including those on steep hillsides that may be many vertical feet above the facility. Conductor clearance of 10 radial feet under maximum sag and sway will be maintained at all times. Cleared vegetation shall be removed to comply with requirements of the County of San Diego. During the life of the project, Iberdrola Renewables shall maintain adequate conductor clearances by inspecting the growth of vegetation along the entire length of the overhead transmission line at least once each spring and documenting the survey and results. The inspection log shall be maintained on-site and available for review by CAL FIRE/SDRFPD upon request.	
	FF-10:	Fire Suppression in the Nacelle - Iberdrola Renewables shall provide a manufacturer or aftermarket fire suppression system in each wind turbine nacelle.	
Potential impacts to fire fighting effectiveness due to the presence of overhead	FF-11:	De-energize Electrical System - Iberdrola Renewables shall immediately de-energize the electrical collector and transmission systems	Implementation of FF-11 through FF-13 would reduce potential impacts to fire fighting

Impact	Mitigation Measure		Conclusions
transmission lines, overhead collector lines, and/or wind turbines		during fire emergencies in which SDG&E de-energizes its local 138 kV system. Appropriate fire agencies shall be immediately notified of the line de-energizing. Additionally, Iberdrola Renewables shall provide all appropriate local, state, and federal fire dispatching agencies with an on-call contact person (Fire Coordinator) who has the authority to shut down the line in areas affected by a fire. The transmission line shall be de-energized prior to and during fire suppression activities within 1 mile of the transmission corridor to maintain firefighter safety, and re-energizing shall require notification and approval of all the responsible fire agencies.	effectiveness to a level of less than significant.
	FF-12:	Site Maps - All responsible agencies shall be provided with maps indicating the location of the water tanks, turbines, access roads, and project layout and towers.	
	FF-13:	Communication Devices - In order to easily communicate immediate fire incidence during construction, operation or maintenance of the project, all crews and inspectors shall be equipped with operational communication equipment and open communication pathways shall be established.	
Impacts due to increased ignition potential and rate of fire spread due to the introduction of non-native plants.	FF-14:	Noxious Weed and Invasive Species Control Plan and Habitat Restoration Plan will be completed prior to construction.	Implementation mitigation measure FF-14 would reduce potential impacts to a level of less than significant.
Geology, Soils, and Minerals			
Impacts related to earthquakes and seismic ground shaking.	GS-1	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	The implementation of mitigation measure GS-1 will give additional engineering that will provide stability for the identified turbines and will reduce impacts to less than significant with mitigation.
Impacts due to liquefaction.	GS-2	Identification of soils and groundwater or springs in areas which contain Mottsville soil.	The hazard of Mottsville soil will be the slope and location of available water, of which there are seven springs located within the project area. The towers closest to a spring are turbines D-1 and F-4. The soil does not appear to be saturated, although during construction the flow of the springs, high water table, and heavy precipitation should be monitored to avoid and reduce the risk of liquefaction impacts. Mitigation measure GS-2 will identify areas containing Mottsville

Impact	Mitigation Measure		Conclusions
			soil and a high groundwater table to reduce potential liquefaction impacts to less than significant with mitigation.
Impacts due to soil incapable of supporting the use of septic tanks or alternative wastewater disposal systems.	GS-3	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Appropriate measures will be required to accommodate the soil limitations. Impacts and limitations of soils for septic tanks and wastewater capability will require further analysis upon the completion of the groundwater study and site specific percolation tests prior to construction. Impacts will be considered less than significant with implementation of mitigation measure GS-3.
Hazards and Hazardous Materials			
No impacts identified; therefore, no mitigation measures are required.			
Hydrology and Water Quality			
Preliminary model results indicate that project development not will significantly alter existing drainage patterns and the amount of redirected flows will be minimal. Site specific hydrologic and hydraulic analysis will be completed to determine flow rates.	HY-1	Prior final approval of the proposed project the project applicant shall prepare and submit a final grading plan and site plan. The grading plan shall be prepared to the standards set forth by the County of San Diego and include the BMPs presented in Table 2.0-6 of this environmental document. The grading and site plan are subject to review and approval by San Diego County Public Works Department.	Implementation of mitigation measures HY-1 and HY-2 will further reduce potential impacts to a less than significant level.
	HY-2	Iberdrola Renewables shall prepare a Storm Water Management Plan and Drainage Study prior to final approval of the grading plan and roadway management plan. The applicant shall implement all recommendations presented in the studies.	
Land Use and Planning			
No impacts identified; therefore, no mitigation measures are required.			
Noise			
Impacts due to nighttime turbine noise.	NS-1	Mitigation options that may be considered in final design include revising turbine layout, nighttime curtailment of select turbines, utilizing an alternate turbine manufacturer and implementation of noise reduction technology. Prior to construction a noise report will be finalized to demonstrate compliance with the San Diego County Code of Regulatory Ordinances Section 36.404.	Implementation of mitigation measures NS-1 will reduce potential nighttime turbine noise impacts to a to less than significant level.
Temporary construction noise impacts due to roadway and transmission line construction.	NS-2	A site specific noise mitigation plan will be developed and construction noise levels will be reduced to comply with San Diego County Code of Regulations Section 46.309. Mitigation of construction noise can be	Implementation of mitigation measure MS-2 in conjunction with the proposed BMPs is anticipated to reduce impacts to a level of less than significant.

Impact	Mitigation Measure	Conclusions
	implemented through a number of different options. The most significant impact during roadway construction is 99 dBA L_{eq} at receptors 11A. Reduction of these high levels to 75 dBA L_{eq} is most likely going to take the form of a movable barrier, along with modifications to exhaust systems, and time constraints on the loudest pieces of machinery. Considering a 12-foot high exhaust stack on a typical dump truck, achieving a 20 dB reduction could require a barrier up to 24 feet high. Additional mitigation options may include limited equipment use.	
Population and Housing		
No impacts identified; therefore, no mitigation measures are required.		
Public Health and Safety		
BLM is required to provide public access to all portions of its land. Turbines can suffer structural failures that throw blades or portions of blades, and other heavy parts, some weighing several tons, creating a danger for people occupying the surrounding area.	PHS-1 Iberdrola Renewables shall provide signage throughout the project that warns and cautions the public from getting too close to the towers.	Mitigation measure PHS-1 will notify the public to the potential dangers of wind turbine failures. The project can not provide appropriate mitigation for impacts to the public, particularly recreationists, from the potential hazards of tower/rotor failure. Therefore, this will remain a significant impact.
The project may generate interference with electromagnetic frequencies.	PHS-2 In the event the project results in EMI, Iberdrola Renewables (or the operator), should work with the owner of the impacted communications system to resolve the problem. Potential mitigation may include realigning the existing antenna or installing relays to transmit the signal around the project. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.	Mitigation Measure PHS-2 will reduce the potential impacts to EMI to a less than significant level.
Public Services and Utilities		
No impacts identified; therefore, no mitigation measures are required.		
Recreation and Wilderness		
No impacts identified; therefore, no mitigation measures are required.		
Socioeconomics and Environmental Justice		
No impacts identified; therefore, no mitigation measures are required.		
Traffic and Transportation		
No impacts identified; therefore, no mitigation measures are required.		

Table ES-4. Anticipated Authorizations, Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
Federal		
Advisory Council on Historic Preservation	Section 106 Consultation (National Historic Preservation Act)	To be completed, as necessary.
Federal Aviation Administration	Notice of Proposed Construction (Form 7460-1) Hazard Determination	Filed on December 15, 2006, with determination of no hazard on February 18, 2007. Studies have been extended to be valid through November 25, 2010.
U.S. Army Corps of Engineers	Section 404 Permit (Clean Water Act)	To be obtained.
U.S. Department of the Interior - Bureau of Indian Affairs	Land Lease Agreement approval with the Ewiiaapaayp Tribe	To be obtained.
U.S. Department of the Interior - Bureau of Land Management	Right-of- Way Application for Transportation and Utility Systems and Facilities on Federal Lands, Standard Form 299.	To be obtained.
U.S. Fish and Wildlife Service	Section 7 Consultation (Endangered Species Act)	To be completed, as necessary.
	Consultation (Migratory Bird Treaty Act)	To be completed as necessary.
	Consultation (Bald and Golden Eagle Protection Act)	To be completed, as necessary.
State of California		
California Department of Fish and Game	California Endangered Species Act Incidental Take Permit (Section 2081)	To be obtained.
	California Native Plant Protection Act	To be completed, as necessary.
	Streambed Alteration Agreement Permit (Section 1602)	To be obtained.
California State Historic Preservation Office	Section 106 Consultation (NHPA)	To be completed, as necessary.
California State Lands Commission	Surface Land Lease Agreement	To be obtained.
Colorado River Regional Water Quality Control Board , Region 7	Section 401 Water Quality Certification (Clean Water Act)	To be obtained.
	Section 402 National Pollutant Discharge Elimination System (NPDES) Storm Water Construction Permit (Clean Water Act)	To be obtained.
California Department of Transportation	Transportation Permits	To be obtained.
	Encroachment Permit	To be obtained, if applicable.
Air Pollution Control District (APCD)	Air Quality Permit to Construct and Operate Batch Plant and Collector Substation.	To be completed.
State Water Regional Control Board	General Construction Stormwater Permit	To be obtained.
	Waste Discharge Requirements Permit	To be obtained.

Agency	Permit/Approval	Status
Local		
County of San Diego	Major Use Permit - Operation of Wind Turbines	Submitted October 2009. Revised entitlement package to be submitted August 2010.
	Major Use Permit – Groundwater Extraction on Rough Acres Ranch	To be submitted August 2010.
	Building Permit	To be obtained.
	Encroachment Permit	To be obtained, if applicable.
	Well and Septic Permit	To be obtained.

On December 28, 2009, a display advertisement was published in the San Diego Union Tribune and a display advertisement was published in the monthly (January 2010) publication of the Back County Messenger, on page 15.

ES.12 ALTERNATIVES

In developing the alternatives to be addressed in this environmental document, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while avoiding or reducing the environmental impacts of the project. The alternatives will contain the same components and construction corridor as the proposed project except they may vary in number and location.

Figure ES-3 shows the Alternate Transmission Line Alternative # 1 utilizing either the proposed or deviant O&M/Substation Facility location; **Figure ES-4** shows the Alternate Transmission Line #2 and Collector Substation Alternative, in addition to both the Alternate O&M Facility Locations; and **Figure ES-5** shows the Alternate Transmission Line #3 and Collector Substation Alternative. For the purposes of comparing the potential impacts of each alternative to the proposed project, the deviant Collector Substation location calculations were used for the proposed project and Alternative #1 to analyze the maximum potential impacts.

ES.12.1 No Project/No Action Alternative

Selection of the No Project/No Action Alternative would mean that that Tule Wind Project as proposed would not be implemented. The project activities would not occur and the potential environmental impacts associated with the proposed project would not occur. The 200 MW of electricity that would be generated by the project would not occur.

In the absence of the proposed project, under the No Project/No Action Alternative, the following events or scenarios related to electricity generation and transmission are reasonably expected to occur in the foreseeable future:

- The State of California will be required to identify other renewable energy projects to meet the goals set forth in the State Renewable Portfolio Standard Program and Executive Order S-14-08 to increase the renewable energy electricity mix of the State to 33 percent by the year 2020.

Figure ES-3. T-Line Alternative 1

Figure ES-4. T-Line Alternative #2, Collector Substation Alternative, and O&M Facility Location Alternatives

Figure ES-5. T-Line Alternative #3 and Collector Substation Alternative

- The BLM and other agencies within the U.S. Department of the Interior will be required to look for other renewable energy projects to meet goals set forth in the Energy Policy Act of 2005.
- The County of San Diego would need to identify other ways in which to reduce the amount of greenhouse gas emissions and air quality impacts related to particulate matter, in particular fine and ultra fine particulate matter (PM_{10} and $PM_{2.5)}$ to the extent feasible.

ES.12.2 Alternate Transmission line Alternative #1

The Alternate Transmission Line Alternative #1 (T-line Alternative #1) would include all of the same components as the proposed project except for an alternate overhead 138 kV transmission line (T-line Alternative #1), as shown in **Figure ES-3**. The T-line Alternative #1 would be located parallel to, but in-lieu of, the proposed transmission line. T-line Alternative #1 would be located further west and run from either the proposed or deviant collector substation approximately 5.5 miles south to the Rough Acres Ranch (south of turbine G19). From Rough Acres Ranch, the line would continue west to Ribbonwood Road. The line would continue south on Ribbonwood Road to Old Highway 80, and east along Old Highway 80 to the SDG&E proposed Rebuilt Boulevard Substation.

This alternative would increase the land disturbance by approximately 7.6acres; from 772.7 acres to 780.3 acres, utilizing the deviant collector substation. The 138 kV transmission line would increase in distance from 9.7 miles to 11.7 miles and would increase the amount of transmission line poles from 116 poles to 152 poles, utilizing the deviant collector substation. The 34.5 kV overhead collector lines would remain the same distance of 9.4 miles, and would require the same amount of collector line poles (250), and the underground collector lines would also remain the same distance of 29.3 miles, utilizing the deviant collector substation.

ES.12.3 Alternate Transmission Line #2 and Collector Substation Alternative

The Alternate Transmission Line #2 and Collector Substation Alternative would include the alternate O&M/Substation facility co-located on Rough Acres Ranch (T17S R7E Sec9), the Alternate Transmission Line #2 (138 kV), as well as an alternate overhead collector system, as shown in **Figure ES-4**. This alternative would consist of two 34.5 kV lines connecting the turbines to the alternate collector substation location. All other elements of the project including the turbine locations, parking and laydown areas, roadway upgrades, and batch plant would remain as described in the proposed project. The Alternate Transmission Line #2 would run from the alternate collector substation south along McCain Valley Road, and then west along Old Highway 80 until reaching the SDG&E proposed Rebuilt Boulevard Substation.

This alternative would increase the land disturbance by 1.9 acres; from 772.7 acres to 774.6 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

ES.12.4 Alternate Transmission Line #3 and Collector Substation Alternative

The Alternate Transmission Line #3 and Collector Substation Alternative would include the alternate O&M/Substation facility co-located on Rough Acres Ranch (T17S R7E Sec9), the Alternate Transmission Line #3 (138 kV), as well as an alternate overhead collector system as shown in

Figure ES-5. This alternative would consist of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements including the turbine locations, parking and laydown areas, roadway upgrades, and batch plant would remain as described in the proposed project. The Alternate Transmission Line #3 would run from the alternate collector substation west to Ribbonwood Road, continue south along Ribbonwood Road, and then east along Old Highway 80 until reaching the SDG&E proposed Rebuilt Boulevard Substation.

This alternative would increase the land disturbance by 7.3 acres; from 772.7 acres to 780.0 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 5.4 miles and would decrease the amount of transmission line poles from 116 poles to 60 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

ES.12.5 Operation and Maintenance Facility Location #1 Alternative

The O&M Facility Location #1 Alternative would be located on private property (T17S R7E Sec4), north of the alternate collector substation and located west of McCain Valley Road, as shown in **Figure ES-4**. This alternative would consist of separating the 5-acre O&M building site from the collector substation; however, both would remain on Rough Acres Ranch property. Alternate Transmission Line #2 would be utilized under this alternative as well as the Alternate Overhead Collector System consisting of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements of the project including the turbine locations, parking and laydown areas, and batch plant would remain as described in the proposed project.

This alternative is estimated to have the same land disturbance impacts as the Alternate Transmission Line #2 and Collector Substation Alternative, as described above. However, by relocating the O&M building site to the northern portion of Rough Acres Ranch, this alternative would require an approximate 650-foot new access road to be constructed on the west side of McCain Valley Road, thus necessitating an approximate 0.07 acres of permanently impacted area and a temporary impact of .55 acres. In comparison to the proposed project, this alternative would decrease the land disturbance by approximately 2.5acres; from 772.7 acres to 775.2 acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

ES.12.6 Operation and Maintenance Facility Location #2 Alternative

The O&M Facility Location #2 Alternative would be located on private property (T17S R7E Sec 16), south of the alternate collector substation and located west of McCain Valley Road, as shown in **Figure ES-4**. This alternative would consist of separating the 5-acre O&M building site from the collector substation; however, both would remain on Rough Acres Ranch property. Alternate Transmission Line #2 would be utilized under this alternative as well as the Alternate Overhead Collector System consisting of two 34.5 kV lines connecting the turbines to the alternate collector substation. All other elements of the project including the turbine locations, parking and laydown areas, and batch plant would remain as described in the proposed project.

This alternative is estimated to have the same land disturbance impacts as the Alternate Transmission Line #2 and Collector Substation Alternative, as described above. However, by relocating the O&M

building site to the southern portion of Rough Acres Ranch, this alternative would result in a very slight difference 1.0 acres of permanent impacts and 0.08 acres of temporary impacts resulting from the construction of new access roads than those described in Table 2.0-10. In comparison to the proposed project, this alternative would increase the land disturbance by approximately 2.0 acres; from 772.7 acres to 774.7acres. The 138 kV transmission line would decrease in distance as a result of this alternative from 9.7 miles to 3.8 miles and would decrease the amount of transmission line poles from 116 poles to 44 poles. The 34.5 kV overhead collector lines would increase in distance from 9.4 miles to 17 miles, and would increase the amount of collector line poles from 250 to 452 poles. The underground collector lines would decrease in distance from 29.3 miles to 28.9 miles.

ES.13 COMPARISON OF IMPACTS AND ALTERNATIVES

In accordance with NEPA and CEQA requirements, an analysis of the proposed project and the alternatives has been completed. **Table ES-5** presents a matrix of the potential environmental effects of each alternative as a comparison summary. **Table ES-5** is colored coded for the reader to identify potential impacts for the proposed project and alternatives. Green represents no impacts, pink as potential impacts, and blue as reduced significance with the implementation of mitigation measures.

Table ES-5. Comparison of Proposed Project and Alternatives

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Total Impacted Area (acres)	0	765.3	772.7	780.3	787.4	774.6	775.2	774.7	780.0
Air Quality									
Conflict with applicable air quality plans or create exposure to substantial pollutant concentrations	Continue to leave region dependent on electricity generated by fossil fuels.	0	0	0	0	0	0	0	0
Aesthetics and Visual Resources									
Substantially degrade existing visual character	0 turbines. 0 miles of transmission line or overhead collector system.	134 turbines. 9.1 mile 138 kV transmission line. 8.6 miles of overhead collector system.	134 turbines. 9.7 mile 138 kV transmission line. 9.4 miles of overhead collector system.	134 turbines. 11.1 mile 138 kV transmission line. 8.6 miles of overhead collector system.	134 turbines. 11.7 mile 138 kV transmission line. 9.4 miles of overhead collector system.	134 turbines. 3.8 mile 138 kV transmission line. 17.0 miles of overhead collector system.	134 turbines. 3.8 mile 138 kV transmission line. 17.0 miles of overhead collector system.	134 turbines. 3.8 mile 138 kV transmission line. 17.0 miles of overhead collector system.	134 turbines. 5.4 mile 138 kV transmission line. 17.0 miles of overhead collector system.
Agricultural Resources									
Convert Farmland to non-agricultural use (acres)	0	0	0	0	0	0	0	0	0
Conflict with existing zoning (acres)	0	0	0	0	0	0	0	0	0
Biological Resources									
Quino checkerspot butterfly habitat	0	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.	Approximately 23.6 acres of suitable QCB habitat is within .62 mile of the 2010 QCB observation is presumed occupied and would be permanently impacted.

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Golden eagle	0	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.	It is anticipated that there is 4,334.6 acres of foraging habitat in the survey corridor. Permanent impacts are expected to occur to 468 acres, or 10.8 percent of foraging habitat. Temporary impacts to included 220.8 acres, or 5.1 percent.
Sensitive Vegetation	0	223.50 temporary 541.71permanent	229.87 temporary 542.73 permanent	238.77 temporary 531.19 permanent	244.57 temporary 542.77 permanent	233.19 temporary 541.31 permanent	233.43 temporary 541.65 permanent	233.18 temporary 541.37 permanent	238.60 temporary 541.33 permanent
Cultural and Paleontological Resources									
Historic or archaeological resource	0	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.	Cultural Impacts will be avoided by project design and turbine layout.
Energy									
Wasteful or inefficient use or requirement for substantial additional capacity.	Lack of renewable energy resources.	0	0	0	0	0	0	0	0
Fire and Fuels Management									
Increase probability of wildfire due to the project components.	No activities established.	0	0	0	0	0	0	0	0

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Geology, Minerals, and Soils									
Impacts to earthquakes and seismic shaking and	0	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.	Engineering of proper foundations for the location of the proposed turbines J-6, K-1, K-2, K-3, J-13, L-1, L-2, A-4, A-5, A-6, and P-5 for adequate foundation to resist an earthquake and seismic shaking.
Soils of liquefaction present	0	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.	The closest turbines to a spring are turbines D-1 and F-4.
Impacts due to septic tanks soil capability.	0	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	Further geologic study to determine correct location and compatible soils for the placement of the O&M septic tank.	
Interference with active mines	0	0	0	0	0	0	0	0	0
Hazards and Hazardous Materials									
Create significant hazard to public	0	0	0	0	0	0	0	0	0
Hydrology and Water Quality									
Change existing drainage patterns.	0	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.	Impacts will be avoided with implementation of BMPs and mitigation measures.

Issue Area	No Project/ No Action	Proposed Project: Proposed O&M/Substation	Proposed Project: Deviant O&M/Substation	Alternate T-line #1: Proposed Substation	Alternate T-line #1: Deviant Substation	Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative: O&M Alternative #1	Alternate T-line #2 and Collector Substation Alternative: O&M Alternative #2	Alternate T-line #3 and Collector Substation Alternative
Alter groundwater levels or recharge.	0	0	0	0	0	0	0	0	0
Land Use and Planning									
Land Use Conflict	0	0	0	0	0	0	0	0	0
Noise									
Exceed County Noise Level Limits.	0	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.	Without mitigation, using the current turbine layout is predicted to exceed nighttime allowable noise limits at two adjacent property boundaries in the project-area.
Exposure to excess noise levels	0	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.	Increased ambient noise during roadway and transmission line construction.
Population and Housing									
Displaces existing housing or people (number)	0	0	0	0	0	0	0	0	0
Public Health and Safety									
Exposure to potential health and safety hazards	No exposure to hazards.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.	Possible equipment failure.
Public Services and Utilities									
Physically alter public services	0	0	0	0	0	0	0	0	0
Recreation and Wilderness									
Disrupts or degrades wilderness or recreation opportunities	0	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.	Temporary disruption during construction and decommissioning.

Issue Area	No Project/ No Action	Proposed Project		Alternate T-line #1		Alternate T-line #2 and Collector Substation Alternative	Alternate T-line #2 and Collector Substation Alternative		Alternate T-line #3 and Collector Substation Alternative
		Proposed O&M/Substation	Deviant O&M/Substation	Proposed Substation	Deviant Substation		O&M Alternative #1	O&M Alternative #2	
Socioeconomics and Environmental Justice									
Impact to population and housing, employment, local business revenue, public revenue, and private property value	0	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues	18 to 24 month influx of non-local labor and generate expenditures to the local community and businesses. Generate one-half million dollars annually in property tax revenues
Traffic and Circulation									
Traffic hazards and conflicts	0	0	0	0	0	0	0	0	0