Appendix C

Plan of Development

Brookfield
Renewable

Mesa Wind Energy, CA-55718 (previously 11688-A) & CA-13980

Plan of Development, amended
Submittal: April 2020, BLM Palm Springs Field Office

Contents

Figures

Attachments

1. Introduction

1.1 Applicant's Request for Right-of-Way Grant

Mesa Wind Power Corporation (Mesa Corp), a subsidiary of Brookfield Renewable Energy (Brookfield), as owner of the Mesa Wind Power Project (Mesa Wind), is planning to repower the existing wind project and requests an amendment to the existing right-of-way (ROW) grants for projects CACA-55718 (wind project site granted January 26, 1983 under ROW CA-11688-A and renewed in November 2018 under the new ROW grant number CACA-55718) and CACA-13980 (access roads and transmission granted April 12, 1984, and renewed in November 2018). This updated Plan of Development (POD), submitted to the Bureau of Land Management Palm Springs–South Coast Field Office (BLM), contains the necessary information to complete this ROW request. For the purposes of this application, the term "Project" refers to and includes the potential repowering of Mesa Wind.

1.2 Previous BLM Actions for the Project

The BLM prepared an Environmental Assessment dated February 13, 2008 for an extension of Grant CA-11688-A, which proposed a repowering process to increase Project capacity from 30 megawatts (MW) to 50 MW. The U.S. Fish and Wildlife Service issued Biological Opinion FWS-ERlV-08BO455-08F0501 on April 9, 2009, followed by BLM's Record of Decision (ROD; DOI-BLM-CA-060-07-57), issued on September 21, 2009. This repower was not completed.

Since issuance of the ROD, Mesa Corp and its parent companies have submitted updated technical information in PODs dated January 2012, August 2014, November 2015, and November 2018 and several additional rounds of updated information have also been submitted since then. The scenarios proposed here will reduce resource impacts when compared with the existing Mesa Wind project by repowering the currently operating wind turbine generators (WTGs) and reducing the 460 Vestas V15s WTGs to up to 11 modern WTGs.

1.3 Type of Facility, Planned Uses, Generation Output

Current and Continuing Operations

The operating Mesa Wind was built in 1983-1984 and consisted of 460, 65kW Vestas V15 WTGs with a mix of 85- and 140-foot towers, for a total of 30 MW of output. After Brookfield purchased Mesa Corp, Mesa Corp refurbished the original WTGs that were still in operation, completing that process in 2015. The refurbishment included a mechanical and electrical equipment overhaul to extend the operating WTGs' life expectancy. The refurbishment required no subsurface excavation and caused no new permanent disturbance; terrestrial species concerns were therefore minimal. Currently, 129 WTGs are in working order and reliably generate approximately 8 MW.

Mesa Corp intends to continue operating 129 of the existing Vestas WTGs and selling their electricity either in the real-time market or under short-term contracts until repowering under a new Power Purchase Agreement (PPA).

Repower Project

Mesa Corp has recently secured a new long-term power purchase agreement and is going to repower Mesa Wind with up to 11 new WTGs for up to 30 MW — same as the existing Mesa Wind capacity.

These new WTGs would be on towers approximately 285 feet (87 meters) tall. The repower would remain within the existing project boundaries. The transmission line that ties into Southern California Edison's (SCE) Pan Aero Substation can accommodate the repowered project and therefore the transmission line would not need to be upgraded. The existing access road, approximately 20 feet, may need to be widened up to 40 feet wide to transport the new WTG's and equipment that will be used during construction. Permanent roads would be 16 feet wide. Portions of the access road widening would be outside the existing ROW grant.

The repower includes removal of all the existing WTGs (functioning and non-functioning). The retired units would be removed prior to the Mesa Wind repower. The foundations would be decommissioned in a phased manner, beginning with the repower and taking up to 5 years to complete. Brookfield would break up and remove 12 inches of the foundation below surface and cover the area with native soil. A decommissioning plan for the 65 kW towers is included with the POD, as Appendix A.

All Project components would be located on BLM-administered lands, though access and laydown areas would require access to adjoining private lands, see Figures 1, 2, and 3 presented at the end of the POD.

1.4 Applicant's Proposed Schedule for the Project

The approximate schedule for the repowered Mesa Wind is presented in detail in Section 7.1, and is summarized below. Permitting would include:

- NEPA review, conducted over 18 months between 2019 and June 2020 with Record of Decision expected in June 2020.
- Permits obtained over 1 year, 2020.
- ROW grant amendment, issued in 2020 to begin construction in Q4, 2020.

Mesa Corp would continue to operate and maintain the existing WTGs and sell electricity to the real-time electricity market unless and until Mesa Wind is repowered. The construction schedule for the repower in accordance with the executed PPA would include:

- Pre-construction activity: July 2019 to July 2020
- Decommissioning of existing turbines: July 2020 to December 2020
- Construction of repowered plant: September 2020 to December 2021
- Restoration of temporary disturbance: January 2022 to September 2022
- Removal of legacy turbine foundations: July 2020 to 2025

2. Purpose and Need for the Project

Mesa Corp's ongoing operation and repowering of Mesa Wind provides substantial benefits including the advancement of Federal and State renewable energy goals such as:

1. Contributing to various Federal renewable energy mandates by operating and repowering wind generation on BLM-administered lands, in this case in Riverside County, California;
2. Helping the State of California meet its Renewable Portfolio Standard (RPS) goals and specifically the requirements of Senate Bill 350 that targets 50% RPS and
3. Continuing to comply with the BLM's "all-of-the-above" energy strategy to improve the management of energy resources found on Federal lands in a balanced way to ensure the Nation's economic and energy security and quality of life.

2.1 Federal Renewable Energy Mandates

Federal laws, mandates, and regulations encouraging the development of renewable energy resources include:

- Executive Order 13783, dated March 28, 2017, which promotes "clean and safe development of our Nation's vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation."
- Executive Order 13212, dated May 18, 2001, which mandates that, "…agencies act expediently and in a manner consistent with applicable laws to increase the production and transmission of energy in a safe and environmentally sound manner."
- Executive Order 13807 (August 15, 2017) and Secretary's Order 3355 (August 31, 2017) established policy to prioritize infrastructure projects and streamline the environmental review process.
- Energy Policy Act of 2005 Section 211 established a goal for the Department of the Interior to approve non-hydropower renewable energy projects on the public lands with at least 10,000 MW of capacity by 2015. The BLM has now authorized over 17,000 MW of non-hydropower renewable energy projects. The BLM continues to prioritize renewable energy development on public lands.

2.2 State of California Renewable Energy Mandates

California's climate change laws pertaining to renewable energy resource development include:

- Senate Bill (SB) 1078, passed in September 2002, which set the RPS of 20% total renewable generation by 2020.
- SB 107, passed in September 2006, which accelerated achievement of the 20% RPS to 2010.
- SB X1-2, signed in April 2011, which raised the RPS goal to 33% by 2020.
- SB 350 increased the RPS goals to 50% and passed in 2015
- SB 100 revised the target to 100% carbon-free energy by December 31, 2045 and was signed into law September 2018.

3. Project Description

This section defines the Mesa Wind Project and describes the construction associated with the repower.

3.1 Project Location, Land Ownership, and Jurisdiction

Mesa Wind is located entirely on BLM-administered lands in Riverside County, which is 11 miles northwest of the City of Palm Springs in southern California (see Figure 1). The Project area is rural, open space that is sparsely populated. Local land uses include off-highway vehicle trails, and some protected space including an Area of Critical Environmental Concern (ACEC), and certain areas that have been designated "wilderness". The Pacific Crest Trail runs north of and adjacent to the west side of the Project. The nearest populated areas are the unincorporated community of Bonnie Bell, located approximately 0.5 miles east of the Project, the unincorporated community of Whitewater, located approximately 1.5 miles south of the Project, and the unincorporated community Snow Creek, located 3.3 miles south of the Project. Both an access road crossing and a portion of the Project's transmission interconnection line are located on privately owned lands.

Access to Project locations are via Interstate 10 (I-10) exit at Haugen-Lehmann Way toward Haugen-Lehmann Way, Cottonwood Road, and Rockview Drive to three parcels of land outside the BLM gate for ROW CACA-13980. Mesa Corp currently holds an easement across APN 517-030-004, and an encroachment permit to cross APN 517-030-009, and an easement to cross APN 517-030-003 (see attachment).

Legal Land Description of the Facility (Federal and Non-Federal Lands)

The renewed lease CACA 55718 describes the project as:

- San Bernardino Meridian
  T.2S., E.3E.,
  sec. 27, S1/2SE1/4SW1/4;
  sec. 34, S1/2NW1/4NE1/4, N1/2NE1/4NW1/4, SE1/4NE1/4NW1/4,
  E1/2SW1/4NW1/4, SE1/4NW1/4, NE1/4SW1/4, NE1/4NW1/4SW1/4,
  S1/2NW1/4SW1/4, S1/2SW1/4, SE1/4
  T.3S., R.3E.,
  sec. 4, lots 1 thru 3, W1/2SW1/4NE1/4, N1/4SE1/4NW1/4

The GIS and as built figures show the project as 401 acres.

The legal land description of the renewed lease for ROW CACA-13980 is:

- Access Road
  San Bernardino Meridian
  T.2S., E.3E.,
  sec. 33, S1/2SW1/4, S1/2SE1/4;
  sec. 34, NW1/4SW1/4SW1/4, S1/2SW1/4, SE1/4SW1/4.
  T.3S., R.3E.,
  sec. 4, lots 1 thru 4, SW1/4NW1/4, NW1/4SW1/4
  Containing 6.96 acres more or less (15,154.56 feet long and 20 feet wide)
- 12 kV Transmission line
  San Bernardino Meridian
  T.2S., E.3E.,

sec. 33, SE1/4SE1/4;
sec. 34, SW1/4SW1/4;
T.3S., R.3E.,
sec. 4, lot 1.
Containing 0.28 acres more or less (1,200 feet long and 10 feet wide)

Total Acreage and General Dimensions of All Facilities and Components

Mesa Wind currently consists of 401 acres with a total of 40 acres permanently disturbed by existing WTG pads, collector lines, onsite access roads, the substation, and related facilities (see Figure 2). A 1,500-square-foot operations and maintenance (O&M) building and a 15,000-square-foot 115 kV substation are also located on the Project site. Figure 2 shows existing operating and non-operating WTGs, roads, and transmission lines.

The repowering of Mesa Wind would involve the removal of approximately 460 legacy turbines, and installation of up to 11 new WTGs. Mesa Corp would also remove the foundations of the legacy turbines in a phased manner over 5 years following the repower. Figure 3A shows the proposed WTG sites. The construction required to repower Mesa Wind would temporarily disturb approximately 77 acres for the entire project (turbine siting, laydown area, and collection lines) and permanently disturb 30 acres for the entire project (turbine and slightly wider roads), see table 3-1. This is 10 acres fewer of permanent disturbance compared with the existing project. The acres provided in Table 3-1 include areas that have already been disturbed, such as the existing roads and legacy turbine pads so the overall disturbance of native habitat would be less. The O&M building would remain in the same location; work for the repower could require a slight increase of the substation fenceline.

Table 3-1. Mesa Wind Project Repower Disturbance (acres)[1]

Component	Temporary Disturbance (acres)	Permanent Disturbance (acres)	Total (acres)
Turbines and turbine pads (calculated using GIS, up to 3.6 acres per turbine)	18	18	36
Offsite access roads (includes improved areas along steep slopes leading to the wind ROW)	18[2]	8[2]	26
Onsite access roads (includes improved roads up to 40 feet within the wind ROW, and minor new roads to reach the WTGs)	10	4	14
Temporary Construction Workspace (Laydown area)	15		15
Collection lines (assumes up to 15 feet width of disturbance for new collector lines. Much of this would follow existing roads)	8		8
Legacy Turbine Decommissioning (Calculated based on the new areas potentially required for decommissioned legacy turbines)	8		8
Total Disturbance	**77 (14 acres existing disturbance + 62 acres new disturbance)**	**30 (4 acres existing disturbance + 26 acres new disturbance)**	**107**
Total Net Permanent Disturbance (total new minus total existing)		**-10**	

1 - All measurements are rounded to the nearest acres.
2 - The temporary and permanent road disturbance acres include areas that are already disturbed (i.e. existing roads that are less than 24 feet wide).

Currently, 30 acres (almost 90,000 feet of roadway) are located on site. Approximately 15.4 acres (28,000 feet of existing roadway) would be improved by widening the roadway through grading to accommodate wide loads that would transport new WTGs; and 0.4 acres (790 feet) would be constructed to access new WTG pads. During a repower approximately 20 acres (62,000 feet) of roadway would be removed and reclaimed by scarifying the land and planting native seeds during the appropriate season. Because the roads would be used over a five year period to remove the legacy turbine foundations, major grading or moving of rocks would not occur until after that period.

The repower work would remain within the existing ROW grant except for the access road widening which would go beyond the existing 20-foot-wide access road described in the ROW grant.

3.2 Wind Turbines

Number and Size of Wind Turbines

For the repower Mesa Corp anticipates installing up to 11 WTGs. Each new WTG would be mounted on a reinforced concrete foundation. The foundation is shown on Figure 3B. New WTGs would consist of the following main above-ground components: the WTG tower, the nacelle, the hub, and the rotor. These components are described in more detail below:

WTG Dimensions:

Wind Turbine Generators	
Maximum Tower Height	285 feet (87 meters)
Maximum Rotor Diameter	423 feet (129 meters)
Maximum Hub Height	285 (feet) 87 meters
Maximum Height (top of foundation to blade tip at apex)	Under 499 feet (150 meters)

Tower. The tower portion of the new WTGs would consist of a tubular steel monopole that extends from the top of its foundation at ground level to its connection with the nacelle. The tower supports the nacelle, hub, and three-bladed rotor, and would have internal access ladders and man lifts for maintenance.

Nacelle. The nacelle would be an aerodynamic welded steel and fiberglass structure atop the tower that would contain the inner mechanical workings of the new WTG, including its power-generating components. Power-generating components mounted within the nacelle would include the main drive shaft and generator, the gearbox, electrical components and cabinets, and, depending upon the confirmed WTG size and make, the power transformer, which steps up voltage to the collector lines. The nacelle would also contain the blade pitch control (a system that would control the angle of the blades), a cooling system, and the yaw drive, which would control the position of the new WTG relative to the wind.

Hub. The hub is the fixture for attaching the blades to the main drive shaft and is usually made from a large iron casting. It is located on the nacelle front and covered by a fiberglass nose-cone structure to streamline the airflow and protect the equipment. The hub also contains the mechanisms that allow the blades to pitch into the wind and measure temperature and air density.

Blades and Rotor. New WTGs have three blades bolted to the hub; the blades and hub are collectively called the rotor with a diameter of up to 423 feet (129 meters). The blades are long, tapered, small-chord airfoils that resemble airplane wings that vary in thickness (thinnest at the tip and thickest where they

attach to the hub) and use aerodynamic lift, similar to an airplane wing, to provide the driving force for spinning the rotor. Each rotor is equipped with a braking system.

Controller and Communications. The controller would be a microprocessor that automatically regulates operation of the new WTGs, including startup, shutdown, pitch control, yaw control, and safety monitoring. Information would be communicated from the controller to the O&M facility via fiber-optic cables. A central Supervisory Control and Data Acquisition (SCADA) system would monitor data input from the controller to streamline centralized O&M. If a control parameter deviates from its normal operating range the controller would automatically notify the operating technician(s) of the deviation. In many situations, the controller could analyze the data and take corrective measures, however some situations the controller would automatically shut down the new WTGs.

Transformer. At each turbine there will be a small step-up transformer to increase the WTG output voltage to 34.5 kV. Depending on the new WTG model selected, the step-up transformer would be either contained within the new WTG unit or mounted on a small, separate pad next to the WTG base.

Safety Lighting. Safety lighting would be installed on the outside of some of the nacelles to comply with Federal Aviation Administration (FAA) rules. Because the proposed WTGs have a maximum height less than or equal to 499 feet, lights may not be required on every new WTG and may instead be spaced every 1,000 feet and at the ends of new WTG strings. Lighting color and pattern (e.g., steady vs. flashing lighting) will be designed to minimize potential hazards (i.e., attraction and subsequent collision) to native birds and bats where feasible.

Lightning Protection. A lightning protection system would be installed on each new WTG and connected to an underground grounding arrangement so that lightning could flow safely to the ground. All equipment, cables, and structures that make up the new WTGs would be connected to a metallic site-wide grounding network.

Repowering WTG Configuration and Layout

In a repower, new WTGs would be placed in lines or swaths along the north–south ridges to best capture available wind (see Figure 3A). Lines would be sited in previously disturbed areas to the greatest practicable extent. The location of each new WTG would maximize that WTG's exposure to prevailing winds and minimize wake loss[1].

The new WTGs would be within the current ROW boundary.

3.3 Ancillary Facilities

Substations and Transmission Lines

The existing overhead collector lines will be removed and the existing underground collector lines would be cut and abandoned in place. The new WTGs would have new overhead or underground collector lines to connect them to the project substation. The 115 kV transmission line and substation high-voltage equipment are sufficient for the repowering but the main power transformers and low-voltage equipment within the substation will be replaced. Construction methods are described in Section 7.

[1] Wake loss refers to the turbulence created by each WTG as its blades spin in the wind and the resulting loss in production in down-wind turbines. If WTGs are placed down-wind of each other, the amount of wake loss is high. Wake loss decreases the overall productivity of the site and increases mechanical wear & tear in the turbines.

New electrical components that will replace the existing equipment include:

- Individual step-up transformers at each new WTG (may be internal to WTG nacelle as described above).
- Underground or overhead collector system lines to convey power from each new WTG to the substation.
- A repower of the existing substation which will replace the existing dual 12kV / 115 kV transformers with a single 34.5 / 115 kV transformer with oil containment.

The existing substation is approximately 15,000 square feet in size. Depending on final electrical design, the substation may require upgrades but will likely occur entirely within the existing substation fenceline or within the 0.1 acre of disturbed area surrounding the existing substation. It is possible that the substation may result in a slightly expanded fenceline if additional bus infrastructure is needed with some minor revisions to the substation pads. The substation would remain within the Mesa Wind Project fenceline. The new WTGs would not require any upgrades to the existing interconnection line.

Interconnection to the Electrical Grid

Currently, generated electricity feeds into the Mesa Wind Substation and from there into SCE's adjacent PanAero Substation, which is the point of interconnection with SCE's 115 kV system. It is anticipated that the existing metering, relay, control, and communications systems would remain in place after the repowering but specifics would be determined in the detailed engineering design process, in conjunction with SCE. Additional details regarding the interconnection are presented in Section 8.1.

Access Roads, Buildings, Parking Lots

The Project has two existing main access roads that are up to 30 feet wide. Gold Canyon Road along the western portion of the wind site and an unnamed access road runs along the western portion of the Project. Ongoing operations use and maintain both roads. The unnamed road running to the southern portion of the Project may require upgrading for the repower construction, including potential cut and fill with temporary road widths measuring up to 40 feet wide, and permanent roads measuring 16 feet wide with up to 8 inches of gravel over compacted native material. Gold Canyon Road would not be widened during the repower. Any fill and gravel brought to the site would be weed-free and consistent with general best-management practices.

The Project has onsite roads to access the operating WTGs and may need to construct additional spur roads to reach the new WTG sites. Most WTGs would be accessed using the existing roads, but WTG 5 would require an approximately 350-foot new road and WTG 10 would need an approximately 440-foot new road. Periodic grading or replacement of gravel is required to maintain road quality for facility operations. The new collector system would be constructed within the existing and future access roads whenever possible.

The existing O&M facility will continue to be used during ongoing operations and includes the building and a graveled area for equipment, construction, storage and parking. For the repowering, depending upon the ultimate selection of new WTG manufacturer and size, the O&M facility may require upgrades, including a small increase to its footprint but any increase would remain within the existing disturbed area currently used for a parking pad and storage area. The existing fence surrounding the O&M structure will be updated to include desert tortoise exclusion fencing.

3.4 Temporary Construction Workspace, Yards, and Staging Areas

During construction of the repower, the following temporary work areas and facilities would be needed:

- One temporary construction facility (work area) totaling up to 15 acres
- WTG staging areas at each pad location that would each be up to 3.6 acres in size
- Extra work areas (on steep side slopes) that would be revegetated using micro seeding techniques.

The temporary construction facility may include:

- Temporary offices
- Tool sheds and containers
- Chemical toilets
- Additional parking for construction equipment and vehicles
- Temporary road widening within the footprint of the Project

The location of the primary staging area or laydown yard would likely be centrally located within the southern group of WTGs, see Figure 3A. The laydown areas would be cleared of vegetation and compacted to support construction equipment. This staging area would house temporary offices, tool sheds and containers, portable toilets, and a parking area. Temporary impact areas would be restored following construction. The temporary staging pads at the turbines would also require grading and compaction to support the construction cranes and would be restored following construction.

3.5 Water Usage

Existing water use for ongoing operations is an estimated 7,300 gallons per year for toilets, and the septic system that serves the permanent O&M staff. This water is provided from an existing on-site well.

Construction of the repower would require an additional estimated 43 million gallons of water (67 acre feet) which would be provided by the onsite well. No offsite water use is anticipated; however, if water were needed, Mesa Corp would work with authorized water providers to purchase this water. Water would be used primarily for earthwork compaction and for dust control and vegetation. Concrete would be obtained from permitted commercial or municipal sources or local batch plants located within the same watershed as the Project, or an onsite batch plant.

Following construction, the repowered Project would use up to 330,000 gallons per year (1 acre feet), primarily at the O&M building, for site maintenance work and dust control, and contingencies.

3.6 Erosion Control and Stormwater Drainage

Mesa Wind currently employs storm water prevention systems that are maintained annually. The repower would develop a site-specific Storm Water Pollution Prevention Plan (SWPPP) to prevent off-site migration of contaminated storm water and soil erosion. Section 7.12.1 provides additional detail regarding erosion control. Existing storm water prevention systems would be kept in place and maintained throughout construction and would be decommissioned within restored areas after construction as feasible.

3.7 Vegetation Treatment

Ongoing vegetation treatment is undertaken annually outside of fire season, typically between November 1 and March 15 and more often, as needed. Maintenance includes spraying herbicides around the power

poles, transformers, and substation. Vegetation management is coordinated with the BLM to minimize potential adverse effect on sensitive resources, reduce the potential for erosion, and to address potential dust issues.

Details of proposed methods to manage site vegetation, including noxious weed control and herbicide use for the repower appear in Section 7.6.

3.8 Waste

Ongoing operations remove waste periodically to a permitted off-site facility. Larger nonhazardous waste is stockpiled neatly near the O&M facility until a willing buyer is found or until it is taken offsite to a permitted disposal facility.

Mesa Corp has a Hazardous Materials Business Plan (attached) for ongoing operations that incorporates revised BLM wind energy program policies and best management practices (BMPs) described in BLM Instruction Memorandum No. 2009-043 (BLM 2008). This plan addresses both hazardous and nonhazardous wastes. It identifies waste that could be generated and addresses (1) hazardous waste determination procedures, (2) waste storage locations, (3) waste-specific management and disposal requirements, (4) inspection procedures, and (5) waste minimization procedures. It additionally addresses waste stream composition, including: solid wastes, liquids, and wastewater; collection and recycling; and particulate transport pathways and management. The plan also includes protocols for identifying hazardous waste, solid waste minimization, inspections, locations for temporary waste storage, and specific handling and disposal requirements, as needed.

Nonhazardous Waste

The primary waste generated during operation of the Project is nonhazardous. Nonhazardous solid waste includes those typically associated with operation and maintenance activities (e.g., rags, empty containers, broken and rusted metal, and machine parts). The Project generates wastewater and sanitary waste from the O&M building; a septic field collects sanitary waste.

Hazardous Waste

Small amounts of hazardous materials are expected to be used and stored on site for construction of the repower and operations, including hydraulic control fluid and transformer oil. A Spill Prevention, Control, and Countermeasures (SPCC) plan (attached) has been developed in accordance with federal regulations to protect the environment from petroleum spills. Secondary containment for hazardous materials such as fuel is provided, and the fuel is stored on site for only for as long as needed to minimize spill potential. If hazardous materials are accidentally spilled, documentation is kept and submitted to BLM and other federal or state agencies, as specified in the SPCC plan. During the repower, portable sanitation facilities would be removed by a licensed hauler and taken to a municipal sewage treatment facility. All temporary sanitation facilities would be removed when construction ends.

3.9 Fire Protection

Mesa Corp has developed a Fire Management Plan (attached) for its current operations, as required by and described in the revised BLM wind energy program policies and BMPs (BLM 2008). This fire plan includes a description of fire response services, facility access points, water availability, and other critical information about the facility design, fire prevention, and risk reduction measures. It also includes

information regarding post-fire response. Mesa Corp would update its existing fire plan to accommodate the repower.

3.10 Site Security and Fencing

Permanent fencing is already in place around the existing substation and the interconnection site. The fencing does not include desert tortoise fencing. Temporary fencing may be installed around excavations for worker safety and to limit public access to potential hazards during construction of the repower. New WTG tower access doors would be locked to limit public access. Existing gates are maintained at the border to BLM land.

3.11 Spill Prevention and Containment for Construction and Operation

A SPCC plan has been developed for current operations and includes training requirements and appropriate spill response actions for each material and waste stream (see Appendix C). Secondary containment for hazardous materials, as regulated by the governing agency, is provided. Fuel is only stored on site for as long as it is needed, to limit risk of spillage. In case of an accidental spill of hazardous materials, documentation would be retained and submitted to BLM and other relevant federal or state agencies, including the U.S. Environmental Protection Agency (EPA), as required. This plan is available for on-site review by EPA representatives during normal working hours and would be revised to include the repower.

3.12 Health and Safety Program

Mesa Corp has a thorough site-specific safety program that aims to eliminate or minimize injuries and protects both workers and the general public for current and repower operations. To comply with revised BLM wind energy program policies and BMPs (BLM 2008), this health and safety program has:

- Identified all federal and state occupational safety standards applicable to the Project.
- Established safe work practices for each task including requirements for personal protective equipment, and measures that reduce occupational electric and magnetic field exposure.
- Established fire safety evacuation procedures.
- Defined safety performance standards.
- Developed and implemented a program to identify hazard training requirements for each major task and procedures to provide required training.
- Identified requirements as needed for temporary fencing around Project facilities and the measures needed during operations to limit public access to hazardous areas.

Additional precautions, including consultation with local planning authorities about increased traffic during construction and compliance with Federal Aviation Administration (FAA) regulations for the repower~~s~~, is also part of the health and safety program.

4. Alternatives to the Repowering

This section presents three alternatives to the potential repowering component of the Project that were not found to be feasible.

4.1 Alternative Layout

An alternative layout was considered for a 30 MW build-out that would change the proposed locations of the WTGs. Due to the limited locations appropriate for WTGs, this would require Brookfield to expand the ROW boundary. The BLM California Desert Conservation Area (CDCA) Plan, As Amended includes a number of allocations over the Mesa site that allow for wind repower if it remains within the existing project boundaries.

Additionally, the Applicant reviewed the market of available turbines for technologies that minimized the environmental impact by limiting the number of turbines to be installed, met the 499 feet height restriction, and were rated for the local wind speeds. Turbines that are suitable for Mesa range in hub heights from 272 feet (83m) to 285 feet (87m) and output from 2.9MW to 4.8MW. Tip heights range from 492 feet (150m) to 499 feet (152m). Therefore, this alternative is not feasible.

4.2 Alternative Project Sites

A Mesa Wind repower on private land within Riverside County was considered, although BLM has no jurisdiction over private land siting. Riverside County would have discretionary authority to approve a wind energy generation facility on private land within the county.

This alternative was not pursued because of the number of existing wind energy facilities within Riverside County's San Gorgonio Pass Wind Area. As a result, there are few parcels of private lands large enough to accommodate Mesa Wind repower farm within "Good" or "Better" wind resource areas as defined in National Renewable Energy Laboratory (NREL) standards (NREL 2009). An undisturbed site would require substantial ground disturbance, and the existing site with its operational wind facilities already has access roads and electrical infrastructure.

4.3 Alternative Technologies

Solar and geothermal renewable energy technologies were also considered. While these technologies would also contribute to federal and state climate change goals, they would not be workable at this location. A 30 MW solar energy project would require up to 250 acres of land, and less than 5% slope is preferred for solar projects. While a solar facility can be built on a steeper slope, a large solar project would not be economically feasible on a location with steeper slope because of the large amount of required grading.

A 30 MW geothermal project would not be workable on the Project site because there are no known geothermal resources there. While there are low-temperature geothermal projects in Riverside County, there are no existing or proposed geothermal generation projects because of this lack of geothermal resources (Department of Conservation [DOC] 2002).

5. Federal, State, and Local Requirements

Table 5-1 lists permits and other legal or permitting requirements for the potential repowering. The U.S. Fish and Wildlife Service issued Biological Opinion FWS-ERIV-08BO455-08F0501 on April 9, 2009, for a proposed repowering process to increase Project capacity from 30 MW to 50 MW. A new Biological Assessment (BLM) and associated Biological Opinion (U.S. Fish and Wildlife Service) will be required.

Table 5-1. Potentially Applicable Federal, State, and Local Requirements

Permit, Approval or Report	Regulatory Authority	Permit Description
Federal		
Form 2920 – Land Use Application and Permit for Geotechnical testing	BLM	Permit needed to perform geotechnical testing on the site
SF 299 – Application for Transportation and Utility Systems and Facilities on Federal Lands (ROW authorization permit)	BLM	Two applications are provided to the BLM. One serves the wind energy facility, on-site substation, on-site distribution line, and on-site access roads. A second application serves the off-site access road. SF 299 has been filed for both the wind Project and the off-site access road. Updated SF 299 applications are attached here.
National Environmental Protection Act (NEPA)	BLM	An evaluation of the Project's effects on natural and human resources to determine the potential for significant impacts. Amendment to EA Decision Record DOI-BLM-CA-060-07-57 dated September 21, 2009, and Biological Opinion FWS-ERIV-08BO455-08F0501 dated April 9, 2009
Fieldwork Authorization (for cultural resources surveys)	BLM	Pursuant to Sec. 302(b) of P.L. 94-579, October 21, 1976, 43 U.S.C. 1732, and Sec. 4 of P.L. 96-95, October 31, 1979, 16 U.S.C. 470cc. Requires that applicant (cultural resources contractor) hold an active Cultural Use Permit issued by the BLM's California State Office.
Form 7460 – Notice of Proposed Construction or Alteration (14 CFR Part 77.9)	Federal Aviation Administration	Required for erecting structures in excess of 200 feet tall.
National Historic Preservation Act Section 106 Review (36 CFR 800)	BLM	This act requires all federal agencies to consider the effect of their actions on historic properties (those listed in or eligible for inclusion with the National Register of Historic Places). Applies to any federal undertaking, funding, license, or permit. The Advisory Council on Historic Preservation, the California State Historic Preservation Officer, the Tribal Historic Preservation Officer(s), and other consulting parties advise and assist the BLM in this effort.
National Pollutant Discharge Elimination System (NPDES) Construction Activities Storm Water General Permit	State Water Resources Control Board	Required for land disturbance of greater than 5 acres. Permit application needs applicant information; Project description, including size of area to be affected; and other environmental permits associated with the Project.
Clean Water Act Section 401/404 Permit(s)	Army Corps of Engineers	Applies if the Project involves the removal or placement of fill (i.e., soil, sediment, or most other material) in or near water bodies of the U.S. If a nationwide permit applies, no permit application is required.

Table 5-1. Potentially Applicable Federal, State, and Local Requirements

Permit, Approval or Report	Regulatory Authority	Permit Description
Endangered Species Act, Section 7	USFWS	As noted above, the project has a Biological Opinion issued in 2009 but the USFWS under Section 7 of the Endangered Species Act, has stated that it would require an updated Biological Opinion.
Migratory Bird Treaty Act – Bird and Bat Conservation Strategy (BBCS)	USFWS	The USFWS recommends that electric utilities and utility-scale renewable energy project developers prepare and implement Bird and Bat Conservation Strategy to minimize the incidental take of migratory birds and bats.
Bald and Golden Eagle Protection Act (16 U.S.C. 668a-d)	USFWS	The Eagle Act allows the USFWS to authorize bald eagle and golden eagle programmatic take (take that is recurring, is not caused solely by indirect effects, and that occurs over the long term in a location that cannot be specifically identified). Such take must be incidental to actions that are otherwise lawful. An Eagle Permit Application includes an Eagle Conservation Plan for a 30-year programmatic take permit for golden eagles. This permit requires NEPA review.
State		
California Environmental Quality Act (CEQA)	County or CDFW	Required for CDFW Incidental Take Permit and Streambed Alteration Agreement. In compliance with Section 15221 of the CEQA Guidelines, the NEPA document could be prepared to a CEQA-equivalent standard, for use by CDFW to meet the CEQA obligations related to any permits or approval they might issue for the project. Otherwise, a joint CEQA/NEPA document could be completed or a separate CEQA document in addition to the NEPA document could be completed.
CA Fish & Game Code Section 2081 – Endangered Species Incidental Take Permit	CDFW	BLM consults CDFW about species protected under the CESA. Would require site surveys by qualified wildlife biologists.
California Fish and Game Code Section 1600 - Streambed Alteration Agreement	CDFW	Applies if waters of the state are impacted by construction of the Project.
Hazardous Materials Business Plan (California Health and Safety Code, Division 20, Chapter 6.95)	Riverside, CUPA (delegated from Cal EPA)	Identifies all hazardous materials and their location at the facility.
Hauling Truck and Other Overload Permits	California Department of Transportation	Required for construction hauling
Storm Water Discharge Permit	California State Water Quality Control Board	Required for construction site over 5 acres. Authorization to be covered under the NPDES Construction Permit and approval of a Storm Water Pollution Prevention Plan.
Local		
Air Quality Permit	South Coast Air Quality Management District	Management of particulates generated by construction at the site is required. Typically, Best Management Practices are employed and will be documented in the permit application.

6. Financial and Technical Capability of Applicant

In 2013, Brookfield acquired Mesa Corp as part of its acquisition of the larger Western Wind portfolio.

Brookfield Renewable operates one of the largest publicly-traded, pure-play renewable power platforms globally. Its portfolio consists hydroelectric wind and solar facilities and totals more than 17,400 MW of installed capacity representing $42 billion of assets across 877 generation facilities and 25 power markets in North America, Latin America, and Europe. It has over 100 years of experience in power generation and has full operating, development, power marketing and investing capabilities through its 2,500 employees.

Brookfield Renewable is part of the Brookfield Asset Management group of companies which has more than $285 billion of assets under management.

Over the past 10 years, Brookfield Renewable has developed and built over 1,000 MW of wind and hydro capacity in Canada, the U.S., Brazil, and Europe and has a goal of investing $2.5 billion in renewable energy assets over the next 5 years.

Brookfield Renewable's U.S. Platform consists of over 650 renewable power facilities, consisting of hydro, wind, and conventional and distributed generation solar. This represents $17 billion in assets under management operated by 590 employees. These facilities power over 2.4 million homes and results in 1.6 million vehicles in avoided emissions.

7. Construction of Facilities

Sections 7.1 through 7.11 address the repowering component of the Project. Section 7.12 addresses decommissioning for both existing WTGs and the repowered WTGs.

7.1 WTG Design

7.1.1 Design, Layout, and Installation

A general conceptual description of the repowered Mesa Wind appears in Section 3. Final design, including final selection of the new WTGs and layout, would be covered in the final phases of permitting.

7.1.2 Construction Process Timetable and Sequence

Major construction milestones appear below. This timeframe is preliminary and could change depending on a number of factors including market conditions and equipment availability.

Project Construction Schedule Major Milestones

Activity	Anticipated Timeframe
New PPA	Day 1
Obtain non-ROW permits	9 Months
WTG manufacture and delivery	12-18 Months
Begin construction/mobilize to site	3 Months
Demolition of existing Project	During mobilization
Construct WTG foundations	3 Months
Assemble/erect WTGs	3 Months
Interconnect ready to energize	3 Months
Finalize construction	3 Months

Constructing during the potential repower of Mesa Wind, from mobilization through final completion, is expected to last for a year, but decommissioning the legacy foundations would take up to five years. Construction would begin after receipt of all permits and agency approvals, and would include the following activities, listed in approximate chronological order:

- Finalizing engineered design
- Procuring equipment
- Contractor mobilizing to site
- Decommission, as required, of the legacy turbines
- Completing existing road upgrades and construction of new roads
- Surveying, staking, and general site work for the substation and interconnection site
- Excavating and constructing (e.g., placing concrete) for WTG foundations
- Trenching for underground electrical system
- Assembling and erecting WTGs
- Mechanical and electrical testing and commissioning

- Restoring and reclaiming temporarily disturbed areas
- Site clean-up
- Demobilization

7.2 Geotechnical Studies

Mesa Corp has not yet initiated geotechnical work for new WTG micrositing and a repower layout. Geotechnical work is estimated at one boring for each of the proposed turbine location with a total of up to 11 borings. Field investigation work for these 11 borings is estimated to take approximately 3 weeks (15 business days), although this could vary depending on the depth to rock and rock strength.

Either prior to, or in conjunction with, a comprehensive geotechnical investigation, repower facility sites would be evaluated to identify the most suitable locations within previously surveyed areas. Factors affecting new WTG locations include (1) potential for wind exposure and spacing between WTGs (to maximize generation); (2) distance from roads and property boundaries (to enhance safety and minimize noise); and (3) workable measures to avoid or reduce potential environmental impacts, including visual impacts to sensitive receptors, and impacts to cultural and biological resources.

To begin micrositing, each location would be evaluated for its construction suitability. A survey crew would locate and stake all new infrastructure. If the location of any element could adversely impact the environment or pose construction obstacles, an alternate location would be evaluated, marked, and located via Global Positioning System coordinates.

7.3 Approach to Construction and Operations for Project Phasing

Contingent upon receiving a long-term PPA, Mesa Corp would potentially repower the facility with up to 11 new WTGs with construction occurring on the new WTGs as noted herein. Construction of the WTGs would not be phased.

7.4 Access and Transportation System, Component Delivery, and Worker Access

Existing highways, including the Mesa Project Road would be used to transport equipment for the repower. Access during construction and operations would be via I-10 and other public roads from the south and west. Mesa Project Road would provide primary access during site evaluation, construction, and operation, and would require radius and other improvements, i.e. widenings and grading, and potentially resurfacing. Details of road construction are provided in Section 7.6.1. Gold Canyon Road would provide secondary access but would not be improved.

The Mesa Project access roads uses three easements to reach the Mesa Property, all immediately west of the project between BLM-administered land and Desert View Road. The easement parcels are owned by private entities and by Riverside County Flood Control and Water Conservation District. Brookfield will work with the property owners for the properties crossed by the easements for any work required during the repower. Copies of the easements are included as Attachment A.

A Transportation Plan would address:

- Logistics and safety issues with the transportation of new WTG components, main assembly cranes, and other large pieces of equipment.

- Required permits that would be obtained including California Department of Transportation hauling truck permits.
- Identification of State of California and Riverside County restrictions.
- Identify hazards from truck traffic and traffic flow and provide measures to mitigate those hazards including flaggers, passing lanes, and barriers as required.
- Maintain a maximum speed limit of 10 miles per hour on access roads and 15 miles per hour on the Project site. Speed limits are and will be enforced to promote safety, reduce potential impacts on wildlife, and limit airborne dust.
- Specify that closed unimproved BLM routes would only be used in emergencies.

7.5 Construction Work Force, Vehicles, Equipment, and Timeframes

Construction would generally occur between 7 a.m. and 10 p.m., either five or six days a week, for the duration of the construction period. Additional night-time hours may be needed to make up schedule changes, avoid heat of day in summer, or complete critical construction activities. For example, night work could be anticipated during new WTG construction to allow for completion in low-wind conditions. A Lighting Plan would be drafted for any nighttime work. During construction, workers would park in the construction staging area and delivery trucks would use an existing parking lot adjacent to I-10.

The on-site construction workforce would consist of skilled and unskilled laborers, craftsmen, supervisory personnel, safety personnel, support personnel, construction management personnel, electricians, equipment operators, ironworkers, millwrights, carpenters, general laborers, and truck drivers. The largest construction vehicle traffic would likely be associated with construction workers, followed by deliveries of new WTG components, steel, aggregate, water, electrical equipment, and other general deliveries. Additional detail regarding the construction workforce and materials will be determined during the NEPA process.

Table 7-1 presents estimates of equipment and use for the construction of the repowered Mesa Wind. Construction equipment and labor would be updated as additional engineering was completed, but the construction workforce would be expected to average 150 personnel with a peak at around 170 personnel.

Table 7-1. Typical Construction Equipment

Construction Equipment	Use
Excavator	Clearing
Bulldozer	Moving fill, clearing, grading
Grader	Cutting subgrade and final grade; leveling and cleaning work along trench line and leveling at completion of backfill
Off-road dump trucks	Moving fill and placing base material
Compactor	Subgrade
Smooth drum vibrating compactor	Final subgrade and final grade
Large rubber tire roller	Final grade
Belly dump trailer on tractor	Placing base material
Large excavators	Digging foundation hole
Water truck or other vehicle	Point load testing of foundation bottom
Track hoe	WTG foundation construction

Table 7-1. Typical Construction Equipment

Construction Equipment	Use
Truck-mounted hydraulic jackhammer	WTG foundation construction
Loader	Backfilling
Small sheepsfoot roller	Compaction of each lift for backfill
Telescopic forklift	Moving and lowering steel into hole; assembling
40–60-ton crane	Lowering anchoring assembly
Larger trencher machine	Trenching
Padding machine	Placing cable bedding above and below cable
Remote dual drum compactor	Compacting the trench line in lifts
Smooth drum roller	Final compaction on top
Vertical drill rig	Drilling
Concrete truck or dry mix machine	Pouring concrete
Rotating boom derrick	Holding pole level and in place in preparation for concrete
Pulling trailers and pulling trucks	Guiding the cable
Boom trucks with man baskets	Providing worker access to cables
Rubber tire backhoe	Excavation and loading truck
Vibrating roller	Compaction
Small compaction machine	Compacting around foundation
Cranes (multiple sizes)	Setting breakers, placing transformers, lifting structures
Man lifts	Connecting steel electrical structures and installing overhead equipment
Jumping jack	Compaction following pouring of foundation (in small areas)

7.6 Site Preparation

Surveying and Staking

After new WTG micrositing but before construction, a licensed surveyor would survey the Mesa Wind site. Site surveying would define the sites including new WTG locations, pad boundaries, laydown areas, substation and O&M facility boundaries, and access road and underground electrical collection system centerlines. Transmission line surveying would delineate the transmission line ROW centerline and boundaries, transmission line tower locations, and access road centerlines. Construction exclusion areas, including cultural resource sites and environmentally sensitive areas, would be field delineated in consultation with BLM and current Mesa Wind personnel to avoid adverse impacts to them. Signage to notify the public about construction areas would be placed at intervals along the roads.

Site Preparation, Vegetation Removal, and Treatment

Vegetation Removal

Vegetation at the turbine pads, for road widening, and at the laydown areas would be cleared and grubbed immediately before construction to limit soil erosion and minimize the size of temporary disturbance areas. Soil stabilization techniques would be applied as needed, see Section 7.12.1. Vegetation removal would be limited to what is necessary to ensure safe construction techniques. The

most common vegetation type found onsite is the Brittlebush scrub. A complete list of onsite vegetation is provided in the Biological Resources Technical Report.

Weed Control

An Integrated Weed Management Plan (IWMP) would be developed and submitted to BLM for review and approval before repower construction would begin (see APM BIO-8). Construction equipment is a known weed vector that could transport weeds to previously weed-free areas. In compliance with revised BLM wind energy program policies and BMPs (BLM 2008), this plan would address monitoring, educate personnel, identify how weeds are spread, and include methods for treating weed infestations. It would also describe precautionary BLM actions including use of certified weed-free mulch and seed and a controlled inspection and cleaning area for arriving construction equipment and vehicles. The following are project-specific measures that Mesa Corp would implement to control noxious weeds.

An Herbicide Use Proposal would be prepared and maintained for the Mesa Wind repower. Mesa Corp would coordinate weed control activities for the repower with the BLM Weed Coordinator, particularly regarding proposed herbicide treatments.

An Integrated Weed Management Plan would be prepared before a notice to proceed is granted. This plan would identify potential weed infestations both at Mesa Wind and along its linear facilities and prescribe treatment. Mesa Corp would minimize ground disturbance to safely construct and operate the repower and would avoid creating soil conditions that promote weed germination and establishment.

The BLM requires that a Pesticide Use Proposal (PUP) be developed to ensure that all applications would follow BLM and Department of Interior policies and include only Environmental Protection Act–registered pesticides (including herbicides). Pesticides would be non-persistent and immobile and would only be applied in accordance with label and application permit directions.

Clearing and Grubbing

Mechanical clearing and grubbing would be completed before construction of all new repower elements. Within temporary workspaces, vegetation would be maintained at a maximum height of 6 inches for site maintenance and fire-risk management. Vegetative debris would be piled and distributed onsite. Erosion control measures would be employed in areas susceptible to erosion.

Removing Legacy Towers

Prior to constructing the new WTGs, Mesa Corp would remove all the legacy towers. This would entail either removing the nacelles and rotors with a small crane, disassembling the lattice towers, and hauling the pieces off in dumpsters or felling the turbines in accordance to an engineered and approved process as described in the Decommissioning Plan. The legacy turbine concrete foundations would be removed over a five-year period.

Site Grading and Excavation

Because the Mesa Wind is an existing industrial site, to the extent possible, grading or excavation for the repower would be minimized. Excavation would be required for: new access roads, WTG pad locations, facility foundations, and the underground collection system. Grading for the WTGs and roads would entail grading and excavation of embankment areas to create pad areas for new WTG erection and assembly. New pad areas may be approximately 1 to 2 acres each. Access roads would be widened temporarily to 40 feet wide to accommodate crane travel, collector system construction, and the permanent gravel

access road. Existing roads would be used whenever feasible and Mesa Corp would take advantage of already disturbed areas when feasible. Crane walk shoulders will be restored at the completion of construction. Preliminary engineering estimates for the repower include approximately 1,100,000 cubic yards of cut and 1,100,000 cubic yards of fill. These numbers are anticipated to decrease with further engineering.

Site clearing and grading would be done immediately before construction to minimize the amount of topsoil exposed at any one time. The repower environmental review would consider potential effects on sensitive resources, which could include cultural and biological resources. Depending upon the results of the review, BLM-approved monitors may also be on site during construction.

Roads would be designed with grades lower than 10%; however, site topography could require that roads in some areas have grades greater than 10% and then erosion control measures would be implemented.

7.7 Gravel, Aggregate, and Concrete Needs and Sources

Gravel, aggregate, and concrete would be needed for various repower elements. Gravel would be needed primarily for the footprint areas surrounding the substation and new WTGs, as well as for permanent parking areas. Aggregate would primarily be used for access roads. Concrete would be used at the new WTGs. These areas are shown on Figure 3A.

Sources and amounts of gravel, aggregate, and concrete would be identified when the final engineering design is complete. It is expected that these materials would be obtained from off-site permitted sources such as rock pits and concrete mixing plants.

7.8 WTG Assembly and Construction

New WTG towers typically come in several parts: the tower (typically 3 sections), nacelle, hub and blades. During construction a temporary work area (up to 3.6 acres) at each new WTG site would be established for delivery, staging, and assembly of components. Additionally, a crane pad would be constructed to allow for the safe lifting of the components into place, see Figure 3B. When construction is complete, the crane pad would be retained for O&M activities.

Mesa Wind has an existing one-story O&M facility, parking lot, drive lanes, landscaping, and site fencing. Depending upon the ultimate selection of new WTG manufacturer and size, the O&M facility may require upgrades, including an increase to its footprint.

WTG Foundation Excavation

New foundation design and type may vary with site conditions. Final foundation design for the repower would be dependent on the results from the final geotechnical investigation. However, it is likely that the repower project will use spread footing foundations. A spread footing foundation is a concrete pad that distributes loads from the tower over a wider area of supporting soil. It relies upon the weight of the concrete pad and soil placed on top of the pad to preclude overturning in high winds and/or seismic conditions. The spread footing can cover up to 80 feet by 80 feet and can be 10 feet deep. This expected choice is based on preliminary engineering and could change based on new WTG type and site-specific geotechnical conditions.

The construction process for the new tower foundations could vary depending on engineering requirements and soil conditions. A typical chronology is as follows:

- Clear and grub surveyed WTG location.
- Excavate and grade foundation hole.
- Loosen and remove any rock.
- Complete excavation of foundation hole and level using concrete, engineered fill, or a combination of both.
- Build re-bar cage.
- Place concrete.
- Place concrete footing and pedestal.
- Place and set anchor bolts.
- Place and compact common fills materials as required.
- Set lower tower sections and grout baseplate; apply tension to each anchor bolt.
- Grade site to prevent water from ponding over the foundation.
- Restore site.

7.9 Electrical Construction Activities

Underground Electrical Collection System

A new on-site electrical collection system would be installed for the repowered Mesa Wind. The electrical collection system would be largely underground to connect each new WTG to the substation with trenches 12 to 15 feet wide for construction and 3 to 4 feet for operations and 3 to 4 feet deep and would follow existing or new roads whenever feasible. Trenches may be wider if extra workspace were needed, as determined on a case by case situation. While it is unlikely that this may happen, if it did, Brookfield would follow the appropriate protocol to notify BLM during construction.

Trenches would be excavated with a trenching machine; however, if competent rock was encountered at shallow depth, it could be necessary to jackhammer, drill, or blast sections to open up a trench. In locations where two or more sets of underground lines converge, underground vaults and pad-mounted switch panels would tie lines together into one or more sets of larger feeder conductors. These large conductors would be buried in the same manner as individual conductors, with additional spacing between conductors. The new WTG configuration assumes approximately 26,400 feet of collector trenching (88,300 feet of collector cable).

Installation of the electrical collection cables would disturb corridors about 4-5 feet wide. To reduce the amount of circuit needed, the cable may be installed underground directly between WTGs rather than following the road network. Once installation of the underground electrical collection system and final grading are completed, disturbed areas will be restored.

Substation

Depending upon final electrical design, the existing project substation may need to be upgraded and may result in a slightly expanded fenceline. If expansion is required, typical construction activities would include:

- Surveying and staking the site.
- Clearing and grubbing the site.
- Grading the site.
- Constructing concrete foundations for substation equipment.

- Installing base gravel across the site.
- Installing substation components including circuit breakers, power transformers, bus and insulators, disconnect switches, relays, battery and charger, surge arrestors, alternating and direct current supplies, control house, metering equipment, Supervisory Control and SCADA, grounding (the computer system that will monitor and control the facility), and control wiring and fencing.

7.10 Aviation Lighting for WTGs and Transmission Structures

FAA Form 7460, Notice of Proposed Construction or Alteration, would be submitted to the FAA to identify required air safety measures. The repowered project would comply with the FAA's aircraft safety lighting requirements for structures below 499 feet (see AC 70/7460-1L). In compliance with recent FAA guidance for wind energy projects, L-864 aviation red, strobe, or pulsed obstruction lights are required on new WTGs and operated at night to warn pilots of the facility. As noted in AC 70/7460-1L, in most cases, not all wind turbine units within a wind turbine farm need to be lighted.

7.11 Access Roads

New access roads and upgrades to existing roads, including for access entryways from public roads, would begin with site preparation for the repower. Project design would account for terrain, access, and other engineering requirements (including safety of construction and maintenance activities), but would generally follow these guidelines:

- Access roads would generally be constructed and upgraded to be up to 24 feet wide, newly constructed access roads would also be 24 feet wide. Portions of the roads to be used for the crawler crane path would be upgraded to be 40 feet wide. Figure 3A shows which roads are anticipated to be widened and graded and which roads are new.
- Turning radius for WTG component delivery would be 195 feet wherever possible. This would require upgrading existing roads in some locations, see Figure 3B.
- Road surfaces would include up to 12 inches of aggregate material on top of the base.
- Speed limits are and will be 10 mph on access roads and 15 mph on the Project roads.

Road upgrades would be done in multiple phases, starting with rough grading and leveling. Once rough grading was completed, base rock would be trucked in from an offsite source and spread and compacted to create a road base. Upon completion of heavy construction, a final pass would be made with grading equipment to level road surfaces and more capping rock would be spread and compacted if needed to repair damage from construction traffic. Side ditches would be excavated as needed to allow for natural water drainage away from the road surface to reduce potential erosion. Excavated soil and rock would be either used for road construction or distributed on site.

Roads would be constructed in the following chronological sequence to:

- Stake row centerline and boundaries of roads as necessary for construction.
- Install temporary stabilization features, such as silt fences, weed-free straw wattles, and other controls, at the limits (edges) of construction.
- Clear and grub areas associated with the road.
- Separate and stockpile topsoil from new disturbance in native habitat if feasible for later use.
- Grade roads to slopes and designs indicated on construction drawings.

- Compact sub-grade.
- Install aggregate road surface.
- Re-vegetate disturbed areas in roadway corridors.
- Remove temporary stabilization measures once final stabilization and re-vegetation is complete.

Upon completion of construction for the repower, all roads would be restored to a maximum 16-foot width and barriers would be placed to maintain roads at that width. Roads that led to the legacy turbines and that would no longer be used during O&M would be reclaimed by scarification and seeding. Periodic grading and gravel placement may be required to maintain road quality. Road maintenance would be scheduled during times of little or no wind to minimize airborne dust, which includes spraying roadways as needed and dragging to remove washboarding and ruts.

7.12 Site Stabilization, Protection, and Reclamation Practices

Construction of the repower could potentially affect surface waters, particularly during site clearing and grading when vegetation was removed or disturbed. These affects would be triggered by activities that expose soil, which in turn could increase potential erosion. Erosion could cause pollutants and sediment to enter down slope water bodies when it rains. Erosion potential would be greatest during construction, when large areas of soil would be necessarily disturbed.

According to guidelines in revised BLM wind energy policies and BMPs (BLM 2008), the Project would implement the following site stabilization, protection, and reclamation practices to:

- Limit construction disturbance by clearly identifying and minimizing work areas.
- Use existing roads in lieu of building new ones.
- Minimize the overall number, size, and length of roads, temporary fences, lay-down areas and borrow areas.
- Minimize vegetation removal.

7.12.1 Site Stabilization: Erosion and Sediment Control

To minimize impacts to water quality, erosion and sediment control measures would be implemented. Construction activities could incorporate practices including:

- Sequencing construction activities with the installation of erosion and sediment control measures.
- Installing weed free straw mulching and re-planting vegetation in disturbed areas
- Retaining original vegetation where possible.
- Directing stormwater runoff away from denuded areas.
- Minimizing constructed slope steepness and length to keep runoff low.
- Protecting slopes susceptible to erosion by installing erosion controls such as certified weed-free straw bale barriers and gravel bags.
- Stabilizing non-active areas following completion of construction.

BMPs would control erosion and retain sediment during construction. BMPs would also be developed to consider drainage, topography, soil type, and other variables for the construction season including onsite

desert tortoise. Sediment control measures would include straw bale barriers, silt fences, and vegetated strips; these would reduce sedimentation, along with barriers like sediment traps, berms, ponds, and dams. All would direct and collect sediment to prevent it from entering waterways. Drainage pipes, inlets, and outlets would be protected by engineered ditches and sloped aprons (contoured concrete structures that direct water flow) around rip-rap pipes. In vulnerable areas like steep slopes and areas with erosion-susceptible soil, a variety of techniques would control erosion and runoff. Where sediment barrier devices are used, BMPs would vary by drainage area where:

- Drainage areas would be less than or equal to 2 acres: temporary diversions, filter fabric, or straw bale barriers.
- Drainage areas would be greater than 2 acres and less than or equal to 5 acres (sediment traps).
- Drainage areas would be greater than 5 acres and less than or equal to 150 acres (sediment basins).

Pumping suspended or re-suspended sediment could pollute water bodies with sedimentation and contaminated runoff. Water pumped from the site would therefore be treated by temporary sedimentation basins or with other appropriate practices.

An Erosion and Sediment Control Plan would be prepared before construction begins. This plan would describe details and locations of conveyance systems, detention BMPs, and erosion and sediment control facilities. The ESCP is a component of the SWPPP. The ESCP would be prepared according to erosion and sediment control statutes and will incorporate erosion and sediment control measures required by agency permits.

During the first year following construction of the repower, until vegetation has been re-established, the repowered Mesa Wind would monitor the site for erosion, particularly after precipitation. If erosion is observed, on-site personnel would take corrective action according to National Pollution Discharge Elimination System (NPDES) permitting requirements.

7.12.2 Site Protection: Stormwater Control

Point and non-point stormwater discharges would be managed in accordance with SWPPP and NPDES permits. A detailed construction SWPPP for the repower would be developed before construction were to begin to minimize the potential for pollutant discharges during construction. Site-specific BMPs would be identified for the repower area and designed to meet regulatory requirements. They would include both temporary and permanent BMPs to be implemented through both the construction and operation phases. BMPs for controlling pollutants and runoff include:

Diverting Flow around a disturbed area would reduce erosion and sediment transfer when a disturbed area cannot be immediately stabilized. Diverting runoff from the disturbed area would also prevent pollutants from leaving the disturbed area.

Managing Overland Flow or “sheet flow” would involve temporary and permanent measures, such as silt and straw fencing that limit runoff and sediment transfer.

Maintaining Permanent Drainage ways would involve stabilizing areas of concentrated flow by using geotextiles to construct rock- and concrete-lined waterways.

Protecting Inlets would involve the construction of catch basins, culverts, and other conveyance structures to prevent pollutants from contaminating water bodies. Local agencies responsible for maintaining water quality typically require that all storm drain inlets be protected by straw bales, filter fabric, or equivalent

barriers. Culverts would be designed to allow unrestricted access by desert tortoise but to discourage them for use as shelter sites.

Preventing Tracking would ensure that sediment that is "tracked" or transported onto roadways via vehicles and construction equipment is minimized; tracked sediment carries a high risk for contaminating water bodies. These pollutants would be controlled by using wheel washes and installing sediment collection devices alongside roadways.

7.12.3 Inspection and Compliance Monitoring

Site Environmental Inspections

During construction of the Mesa Wind repower, site inspections would be conducted every 14 days and within 24 hours after 0.5-inch of rain. The on-site Mesa Wind manager would conduct the rainfall inspection or notify the site inspector that rain had caused runoff and an inspection was required. Temporarily or permanently stabilized portions of the site would be inspected once a month until submission of the Notice of Termination. Inspections could be reduced to once a month during the winter when runoff is unlikely.

Project inspections would be conducted according to regulations specified in the SWPPP. Inspections could include contractor personnel or other qualified individuals listed in the Project contact information section of the Delegation section of the SWPPP.

The following actions would be performed during each inspection:

- Record date and time of inspection.
- Record name of person(s) conducting inspection and their qualifications.
- Record rainfall records since the most recent inspection.
- Inspect the site for excess erosion and sedimentation.
- Inspect the site for debris, trash, and spills.
- Inspect temporary erosion and sedimentation control devices.
- Inspect construction entrances for sediment tracking onto paved streets.
- Inspect the adjacent streets, curb, and gutter for sediment, litter, and construction debris.
- Inspect site runoff outfall or discharge areas.
- Record findings of inspection, including recommendations for corrective actions.
- Record corrective actions taken (including dates, times, and who completed the maintenance activities).
- Record changes made to the SWPPP, as required in paragraph IV.D.2 of the General Permit, within 7 days of the inspection.
- Certify and sign inspection reports.

Implementation of BMPs

Project personnel would be responsible for the operation, maintenance, and inspection of temporary and permanent water quality management BMPs, as well as for all erosion prevention and sediment control BMPs, for the duration of construction. The controls in place would be maintained to ensure compliance with the SWPPP.

Criteria used to determine whether the erosion and sediment control devices require maintenance, repair, or replacement could include:

- If sediment control devices such as silt fences or fiber rolls (wattles) were filled to 1/3 of the height of the control device, the contractor would remove all sediment within 7 days of detection or notification.
- If inlet or culvert protection devices appeared plugged with sediment, were filled to 1/3 capacity, or were surrounded by standing water, the contractor would remove the sediment and clean or replace the filter within 7 days of detection or notification.
- If the gravel construction entrances were filled with sediment or otherwise failing, the contractor would either replace the entrance or add additional gravel within 3 days of detection or notification.
- If sediment is observed on roads, the contractor would remove the sediment within 3 days of detection or notification.
- If sediment is observed on roads, in surface waters, or on other properties, the contractor would identify the source and discharge location of the sediment and implement additional erosion and sediment controls at those locations to prevent future discharges. Sediment must be retrieved within 7 days from surface waters unless additional regulatory approvals are needed. The operator would be responsible for contacting all local, regional, state, and federal authorities to obtain any applicable permits prior to conducting any work to remove sediment discharged from the site.
- If excessive sediment or debris is observed at the flared end section outfalls, the contractor would determine the source and discharge locations of those materials. If the discharge occurred on the property, the contractor would remove the sediments and debris within 7 days of notification and correct the source of such materials.

7.12.4 Revegetation Plan

Mesa Corp will develop a Site Revegetation Plan for restoration of all temporarily disturbed areas during the repower. This plan would be implemented immediately following completion of construction for areas disturbed during construction of the repower including temporary roads, staging areas, and transmission line corridors.

This plan would include:

- Reclamation of all areas of disturbed soil using topsoil if available from new disturbance in native habitat, preferably from natives found onsite.
- Specification of the proper seasons and timing for restoration and reclamation.

This plan would also include procedures for reporting and an implementation and monitoring schedule, including monitoring for invasive species. It would include success criteria such as species richness or percent cover of native plants in order to quantify as best as possible the revegetation of the site.

7.13 Decommissioning

Removal of Existing WTGs

As described in Section 7.6, removal of the existing WTGs would occur prior to the construction of the new WTGs. Appropriately sized cranes or other machinery would be required for disassembly or felling and removal of the old WTGs. The WTGs would be disassembled or felled and the turbine lattice would be cut at the foundation level and removed. The concrete foundations supporting the legacy turbines and related infrastructure (e.g., electrical boxes) would be removed either concurrently with legacy turbine removal or over the course of the first five years of operating the repower project. Foundation

material deeper than 12 inches below ground surface will be left in place and covered with soil. Due to the potential occurrence of occupied or suitable desert tortoise burrows beneath the foundations, all foundations will be inspected by a biological monitor prior to their removal. Foundations that may serve as desert tortoise shelters will be left in place pending further direction from BLM, USFWS, and CDFW. Upon removal the concrete will either be transported off-site for disposal or crushed on-site for use as roadbed. Ground disturbance associated with decommissioning of the existing WTGs would be minor. While some temporary ground disturbance could occur during removal of the WTGs, work would primarily occur within already disturbed areas and existing access roads would be used. Decommissioning is described in more detail in the Decommissioning Plan.

Removal of Proposed New WTGs

For the equipment installed for the repower, decommissioning would be completed in compliance with revised BLM wind energy policies and BMPs (BLM 2008) specific to decommissioning, as summarized here:

- Prior to termination of the ROW authorization, a Decommissioning Plan would be developed and approved by BLM. The plan would include site reclamation and monitoring.
- All management plans, BMPs, and other stipulations developed for the repower construction phase would be applied to similar activities during decommissioning.
- All WTGs and other Project structures would be removed from the site.
- All foundations to a certain depth would be removed.
- All areas of disturbed soil would be reclaimed.
- All vegetation cover, composition, and diversity would be naturally restored.

8. Related Facilities and Systems

8.1 Transmission System Interconnection

8.1.1 Existing and Proposed Transmission System

A 115 kV overhead transmission line runs approximately 50 feet from the Mesa Wind Substation to SCE's Pan Aero Substation. An existing SCE transmission line approximately 8 miles long conveys electricity from the Pan Aero Substation to the Devers Substation; this line travels west through BLM-administered land parallel to an existing access road and the Pacific Crest Trail (see Figure 4). After approximately 0.75 miles, the line turns south, passing by the west side of the southern portion of the site along an existing access road. The line exits BLM land south of the Project area before heading east through private property along an existing service road north of the town of White Water and connecting with SCE's Devers Substation.

8.1.2 Status of Power Purchase Agreements

Mesa Corp has recently executed a long-term power purchase agreement (PPA) with a California municipal utility. Under the terms of the PPA, the target commercial operation date is December 2021. To achieve this target, Mesa Corp plans to commence construction activities in Q4, 2020 and needs at least 18 months of lead time to order the WTGs.

8.1.3 Status of Interconnection Agreement

Mesa Corp has a L6arge Generator Interconnection Agreement with SCE that would be used for the ongoing operations and up to 30 MW of repower.

8.1.4 General Design and Construction Standards

Any upgrade to the transmission system would conform to federal and industrial standards.

8.2 Meteorological Towers

The Mesa Wind Project has three existing meteorological (MET) towers. One was installed with the original project and two were installed under a separate ROW grant (CACA-56630). They are equipped with multiple sensors (anemometers, wind vanes, and thermometers) to measure ambient weather conditions and evaluate WTG performance. The expiration date for the MET tower ROW grant is April 2019 but they are being included in this amendment to extend the grant life. The existing MET towers are supported by guy wires with bird diverters installed.

8.3 Communications System

During installation of the underground electrical collector system for the repower, fiber optic communication lines would also be installed to connect the WTG's to the project substation and the O&M facility where the local SCADA system will be located. The existing communication system that serves the current Mesa Wind facility will be utilized to establish communication links to SCE and CAISO as well as Brookfield's National System Control Center.

During construction both cellular or satellite methods would be used for both internet and telephone communications.

9. Operations and Maintenance

Operation and maintenance activities at the facility would include maintenance of new and existing WTG's, access roads and electrical equipment.

Each new WTG would be continuously monitored through the SCADA system that links the facility to Brookfield's National System Control Center. The SCADA system could also be used to remotely shut down a new WTG if necessary.

Maintenance of the new WTGs would initially be performed by the WTG manufacturer for the duration of the warranty period (typically a minimum of 2 years) based on its own recommended program. On average, each new WTG would require 40 to 50 hours of scheduled mechanical and electrical maintenance per year. O&M personnel would perform routine maintenance including replacing lubricating fluids, checking parts for wear, and downloading data from recording chips in anemometers. Most servicing could be performed using a 4x4 truck and without using a crane. The preventive maintenance schedule typically includes inspections, specific testing, and minor parts replacement on a rotating 6-month schedule. Major component failures (e.g., blades, gearbox, generator, and transformer) are rare and could require external contractors in addition to special tools and a large mobile crane to address.

Similar to the WTG's, a periodic inspection and maintenance program would be established for the project substation and collector system based on Brookfield's experience operating wind farms and good utility practices. Such inspection and maintenance would be performed by a combination of project staff and subcontractors.

In addition to WTG's and electrical equipment project staff would regularly inspect and maintain all access roads, pads, and trenched areas to minimize erosion. During normal operation and maintenance, travel to and on the site would create minimal traffic. It is expected that road maintenance will be required twice a year, but more frequent maintenance would be done if needed to maintain road conditions acceptable to the BLM.

10. Environmental Considerations

The repower of Mesa Wind, involving the removal of 460 WTGs and their replacement by 11 modern WTGs, would have a net positive effect on the environment. Having fewer WTGs could allow more land to be restored and available for wildlife, including the resident desert tortoise.

10.1 General Description of Site Characteristics and Potential Environmental Issues

The Mesa Wind site is an existing wind generation site that is currently used for industrial scale wind production with existing access roads. It is close to SCE's Devers Substation. The site is also near existing load centers (the Los Angeles and San Diego areas) and has a proven wind resource.

Mesa Wind is located in the San Gorgonio Pass on public lands managed by the BLM. It is west of the Whitewater River and east of Cottonwood Creek, and is shown on the White Water USGS 7.5 minute topographic quad. Elevation of the Project area ranges from approximately 1,800 feet (the access road crossing at Cottonwood Creek) to 2,800 feet.

The area is unpopulated — the specific ROW area is not used by the public except for the access road which is crossed by the Pacific Crest Trail. The Pacific Crest Trail management corridor was established by the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the CDCA, and was established as a 1 mile buffer from the centerline which overlaps with the Mesa Wind Project. The surrounding Federal lands are used for various forms of outdoor recreation including camping, hiking, and wildlife viewing.

10.1.1 Special or Sensitive Species and Habitats

Sensitive species potentially present include those protected, listed, or candidates for listing by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) and California Native Plant Society (CNPS). All sensitive species were considered as potentially present on the Project site if its known geographical distribution encompassed all or part of the Project area or if its distribution was near the site and its general habitat requirements were present. The site contains suitable habitat for the desert tortoise and burrowing owl. The project Biological Resources Technical Report (2019) provides a full description of the special or sensitive species and habitats present onsite.

The federally listed desert tortoise (*Gopherus agassizii*) is present on the site. The U.S. Geological Survey (USGS) has conducted multiple years of tortoise surveys at Mesa Wind and has shown a long track record of coexisting with the desert tortoise and providing habitat on par with the quality of undisturbed natural habitat (Lovich, 2012).

The Project area also supports wildlife species including deer, bald eagle, and golden eagle. The California Natural Diversity Data Base was reviewed to identify other special-status wildlife species within 5 miles of the Project area.

10.1.2 Special Land Use Designations

The Project is located on land under BLM jurisdiction within the California Desert Conservation Area (CDCA). The Resource Management Plan (RMP) outlines management uses and designates protected areas within the RMP for federally threatened or endangered species (BLM 2006). Important BLM-protected areas in the Project area include the following.

BLM Areas of Critical Environmental Concern (ACEC). These areas are managed for the protection of specific sensitive resources or habitats. As illustrated on Figure 5, the Project is located partially within the Whitewater Canyon ACEC (Arroyo Toad Critical Habitat and riparian bird habitat) and it is 7.5 miles west of the Big Morongo Canyon Preserve ACEC (desert oasis and riparian bird habitat).

The Whitewater Canyon ACEC Management Plan was developed in 1982 in recognition of important wildlife and Native American resources. This plan's objective is to prohibit or minimize through mitigation, surface-disturbing activities that could conflict with sensitive resources within the ACEC. However, as noted in this plan, the ACEC designation does not prohibit development. Within the ACEC, all existing WTGs would be removed. Seven new WTGs are proposed in the ACEC, reducing the overall ground disturbance and improving views from the ACEC. The areas surrounding the removed WTGs would be restored.

Sand to Snow Monument. The *California Desert Conservation and Recreation Act* proposed that the Sand to Snow National Monument would become a new monument between Joshua Tree National Park and the San Bernardino National Forest. On February 12, 2016, President Obama signed a proclamation declaring the Sand to Snow National Monument east of Los Angeles in Southern California. The 154,000-acre monument extends from Bureau of Land Management lands on the Sonoran desert floor up to over 11,500 feet in the San Gorgonio Wilderness on the San Bernardino National Forest. It would be adjacent to the Project but no project infrastructure would be located within the monument boundary.

Desert Renewable Energy Conservation Plan. The DRECP is a landscape-scale renewable energy and conservation planning effort covering more than 22 million acres in the California desert. The DRECP boundary does not include the Project area but the BLM DRECP Land Use Plan Amendment (LUPA) covers the entire CDCA, including the Mesa Wind site. The DRECP notes that a portion of the Mesa Wind site is designated as an ACEC and a special recreation management area (SRMA). The DRECP notes that wind energy development currently exists within the Whitewater Canyon ACEC and SRMA and states that repowering or replacement of existing wind energy facilities will be considered if the repower development remains within the existing right-of-way boundary and would reduce the overall environmental impacts of the wind energy facility (DRECP LUPA Appendix B page 127). The DRECP LUPA also includes some of the Whitewater Canyon ACEC as part of the California Desert National Conservation Lands.

Wild and Scenic Rivers. The Dingell Act (2019) designated portions of the Whitewater River as Wild and Scenic Rivers. The designated portion nearest to the Project is over 3,000 feet (over half a mile) away from the project boundary.

10.1.3 Visual Resource Management Designations

All lands within the Project area are categorized according to BLM's Visual Resource Management (VRM) classification system. The overarching goal of the VRM system is to ensure that any development or changes in the landscape achieve the scenic goals and objectives of the assigned VRM class. The objectives of the VRM classes are:

- **Class I.** To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
- **Class II.** To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.
- **Class III.** To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
- **Class IV.** To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high (BLM 2009).

The VRM Class for the Project site was established as VRM Class IV in the California Desert Conservation Area (CDCA) Plan Amendment for the Coachella Valley. The objective of this class is to provide for management activities that cause major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the characteristic landscape (e.g., form, line, color, and texture).

Any modification to the landscape caused by the Project could affect visual resources. Recreational use of BLM lands has a high value for visual resources. The BLM has established mitigation measures addressing potential visual impacts of energy generation on Federal lands in the western U.S. These environmental design concepts and techniques can minimize visual contrast and reduce or eliminate any potential adverse changes to existing visual resources (BLM 2005).

10.1.4 Cultural and Historic Resource Sites and Values

Stantec Consulting (Stantec) conducted a Class III cultural resources inventory of 308 acres of the Project site where most of the ground disturbance would occur (Stantec, 2007). Three cultural resources were recorded within the area inventoried: one archaeological site previously recorded and two new cultural resources. They include a historic site (CA-RIV-2169H), a historic feature (33-15991), and a prehistoric isolate (33-15990). The resources would be avoided if workable and earthmoving near the resources would likely require monitoring.

10.1.5 Native American Tribal Concerns

As part of the Class III cultural resources inventory, Stantec submitted a request for sacred land on file with the Native American Heritage Commission (NAHC) in April 2007. An NAHC representative responded and stated that the NAHC sacred lands file did not indicate the presence of Native American cultural resources in the immediate area but that numerous cultural resources are located near the Project and are well known to members of the Morongo Serrano and Cahuilla tribes. In April 2007 Stantec sent letters to all Native American groups provided by NAHC requested additional information or concerns. The Morongo Band of Mission Indians Cultural Resource Manager responded in April and May 2007 with considerable prehistoric and historic information regarding the area since it is significant to the Serrano and Cahuilla people. (Stantec, 2007)

10.2 Other Uses on Project Site

10.2.1 BLM Authorized Uses

Mesa Wind is located within the former Whitewater Canyon Grazing allotment, which was relinquished to the BLM in 2007. The Pacific Crest Trail runs north of and adjacent to the western side of the Project area. There are off-road vehicle trails nearby. Other authorized uses near the Project include several existing and proposed wind energy and transmission projects including: the FPL Cabazon Energy Project, Desert Wind Project, Johnson Wind Energy Project, San Gorgonio Whitewater Hill Project, DIFCO Whitewater Floodplain Project, and the Energy Unlimited Eastridge Project.

The BLM administered lands within the proposed project area have not been withdrawn from mineral entry and therefore prospecting for public domain minerals and the location and staking of claims for locatable minerals is currently an allowable activity.

10.2.2 Aviation and/or Military Issues

No major commercial or military airports are located near the Project site. Based on Google Earth estimates (2012), regional airports in the vicinity are:

- Banning Municipal Airport (33° 55.166'N, 116° 51.549'W) is ~11 miles W of the Project ROW
- Palm Springs International Airport (33° 49.780'N; 116° 30.402'W) is ~12 miles SE of the Project ROW
- Yucca Valley Airport (34° 7.790'N, 116° 24.413'W) is ~20 miles NE of the Project ROW
- Redlands Municipal Airport (34° 5.116'N, 117° 8.783'W) is ~30 miles NW of the Project ROW

The Department of Defense (DOD) Preliminary Screening Tool was used to identify potential impacts on Air Defense and Homeland Security radars (Long Range Radar), Weather Surveillance Radar–1988 Doppler radars (NEXRAD), and Military Operations (FAA, 2012). The Project would not likely impact any of these. Confirmation of the likelihood of these potential impacts would require an aeronautical study undertaken or funded by Mesa Corp. To facilitate this aeronautical study Mesa Corp would send a site-specific plan to the FAA detailing each WTG location in the proposed layout. Upon review of the individual effects of each new WTG and the cumulative effects of the entire WTG layout, the FAA will issue its opinion on potential effects of the repowered Mesa Wind on military operations.

10.2.3 Other Environmental Considerations

Air Quality

The majority of a wind energy generation facility's adverse contributions to air quality would occur during the construction phase, largely resulting from construction equipment emissions and dust. However, the Project would not create any significant emissions during operation, so it would not contribute to a long-term cumulative increase in air pollutants. In fact, the Project would result in a positive cumulative benefit to air quality in the region because it would expand the use of a non-fossil-fuel-based energy source. Therefore, the Project's long-term air quality benefits would outweigh temporary construction impacts.

Noise

There are no sensitive receptors (e.g., homes, hospitals, schools, libraries, or nursing homes) located within 3,000 feet of the Project site. The nearest existing residential area from the site is located approximately 4,400 feet east of the closest WTG in the community of Bonnie Bell in the Whitewater Canyon. Existing wind farms and semi-disturbed vacant desert land characterizes the remainder of outlying areas surrounding the Project.

10.3 Design Criteria (Applicant Proposed Measures)

Mesa Corp recognizes that the Project may impact environmental resources during construction and operation of the repowering component. Therefore, the following general Applicant Proposed Measures (APMs) are proposed, by resource area, to mitigate impacts. As detailed field surveys are completed and additional site-specific potential impacts are revealed, the list of APMs will be updated with specific measures to reduce these potential impacts. This might include updating the list to address potential impacts to resource areas that are not listed here. As part of the project, Brookfield provided a draft BA for the project to the BLM. The APMs in the draft BA were numbered and worded slightly differently to apply specifically to the listed species covered in the Section 7 consultation.

The APMs for each of the resource areas are summarized below.

10.3.1 Special Status and Sensitive Species and Habitats

During repower siting, Mesa Corp would identify certain categories of environmental disturbance and estimate their associated acreage. The repowered Mesa Wind would be sited to minimize disturbance and thus potential loss of special-status species and habitats by maximizing use of previously disturbed areas.

Habitat compensation. The Mesa Wind site is within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) boundaries but take of covered species (including desert tortoise) is not authorized by the MSHCP because the BLM is not a permittee. Mesa Wind Power Corporation proposes to offset 89 acres of temporary and permanent habitat impacts (i.e., the 107 acre disturbance footprint less the approximately 18 acres that are currently disturbed) according to terms of a compensation strategy to be developed in coordination among the USFWS, CDFW, and BLM. The compensation lands will be located in desert tortoise habitat with equivalent function and value. The replacement habitat is intended to benefit the population of tortoises adversely affected by the project and will be located in the Colorado Desert Recovery Unit. The Applicant will coordinate with the CDFW, BLM, and USFWS to reach mutual agreement on the selection and ownership/management of acquired lands. Additionally, restoration of previously-disturbed areas within the Project site may also be a compensation strategy.

APM BIO-1 **Wildlife Relocation**. The Applicant will prepare and implement a Wildlife Relocation Plan to ensure that special-status wildlife species, including (but not limited to) desert tortoise, burrowing owl, and desert kit fox, are safely relocated outside the Project construction area prior to construction. The Wildlife Relocation Plan will conform to USFWS guidelines for desert tortoise surveys and relocation and to CDFW guidelines for burrowing owl and desert kit fox passive relocation, including scheduling to avoid disturbance to natal dens or burrows. The Wildlife Relocation Plan will specify methodology for pre-construction clearance surveys on the proposed Project construction sites; monitoring or tracking special-status species, burrows, or dens that may be located during the surveys; construction of off-site artificial burrows, if needed; relocation methods for localized “out of harm’s way” relocation; passive relocation methods for burrowing owl or desert kit fox; qualifications of field personnel who may handle desert tortoises; and follow-up monitoring of relocated animals.

APM BIO-2 **Biological Monitoring.** The Applicant will assign an Authorized Biologist as the primary point of contact for the lead resource agencies regarding biological resources mitigation and compliance. For desert tortoise protection measures (BIO-6, below), the Authorized Biologist will serve as the Field Contact Representative (FCR). The Applicant will provide the resume and USFWS health assessment training letter, if applicable, of the proposed Authorized Biologist to the BLM, USFWS, and CDFW (as appropriate) for concurrence at least 30-days prior to onset of ground-disturbing activities. The Authorized Biologist will have demonstrated expertise with the biological resources within the Project area. In general, the duties will include, but will not be limited to those listed below:

- Regular, direct communication with representatives of BLM, USFWS and CDFW, and other agencies, as appropriate.
- Train and supervise additional Biological Monitors to ensure that all biological monitoring activities are completed properly and according to schedules. Monitoring will include

clearance surveys of any area or activity that may impact biological resources to ensure compliance with all avoidance and minimization measures for biological resources.

- Conduct or oversee WEAP training (APM BIO-3).
- Conduct or oversee clearance surveys and monitoring duties.
- Halt any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources.
- Clearly mark sensitive biological resource areas during construction, O&M, and decommissioning, and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions.
- Conduct or oversee compliance inspections during ground disturbing construction and decommissioning activities. Inspections will include delineating limits of disturbance, fence construction activities, pre-construction clearance surveys; and clearing, grubbing, and grading.
- Inspect or oversee daily inspection of active construction or O&M activity areas where animals may have become trapped. At the end of each work day, either inspect installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way and relocate them if necessary.
- During the operations phase of the Project, provide annual report conduct compliance inspections (trash management, wildlife mortality logs per incident, etc.); conduct weed monitoring and control (according to the Integrated Weed Management Plan).
- Immediately notify the Applicant, BLM, and resource agencies (as applicable) in writing of dead or injured special-status species, or of any non-compliance with biological mitigation measures or permit conditions.
- During construction, provide weekly verbal or written updates to BLM, and, for any information pertinent to state or federal permits, to the BLM and resource agencies.
- During construction and O&M, prepare and submit monthly and annual compliance reports, respectively.

APM BIO-3 **Worker Environmental Awareness Program Training.** The FCR or Authorized Biologist will prepare and implement a WEAP. The Applicant will be responsible for ensuring that all workers at the site receive WEAP training prior to beginning work on the Project and throughout construction and operations. The WEAP will be available in English and Spanish. The Applicant will submit the WEAP to BLM, USFWS and CDFW for approval prior to implementation. If BLM does not respond to submittal of the draft Plan within 60 days, the Project owner may consider this a waiver of the BLM's, USFWS's, and CDFW's authority to comment and the Plan may be considered approved. The WEAP will:

- Be developed by or in consultation with the Authorized Biologist and consist of an onsite or training center presentation with supporting written material and electronic media, including photographs of protected species, available to all participants.
- Provide an explanation of the function of flagging that designates authorized work areas; specify the prohibition of soil disturbance or vehicle travel outside designated areas.

- Discuss general safety protocols such as vehicle speed limits, hazardous substance spill prevention and containment measures, and fire prevention and protection measures.
- Review mitigation and biological permit requirements.
- Explain the sensitivity of the vegetation and habitat within and adjacent to work areas, and proper identification of these resources.
- Discuss the federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act and the consequences of non-compliance with these acts.
- Discuss the locations and types of sensitive biological resources on the Project site and adjacent areas and explain the reasons for protecting these resources. This includes the biology and ecology of sensitive biological resources on the Project site and adjacent areas.
- Inform participants that no snakes, other reptiles, birds, bats, or any other wildlife will be harmed or harassed.
- Place special emphasis on species that may occur on the Project site including special-status plants, desert tortoise, burrowing owl, golden eagle, nesting birds, desert kit fox, American badger, and Nelson's bighorn sheep.
- Specify guidelines for avoiding rattlesnakes and reporting rattlesnake observations to ensure worker safety and avoid killing or injuring rattlesnakes. Wherever feasible, rattlesnakes should be safely removed from the work area using appropriate snake handling equipment, including a secure storage container for transport.
- Describe workers' responsibilities regarding wildlife avoidance, prohibitions of pets and firearms, and for avoiding the introduction of invasive weeds onto the Project site and surrounding areas, describe the Integrated Weed Management Plan.
- Provide contact information for the FCR and Authorized Biologist and instructions for notification of any T&E or sensitive wildlife discoveries, vehicle-wildlife collisions or dead or injured wildlife species encountered during Project-related activities;
- Include a training acknowledgment form to be signed by each worker indicating that they received training and will abide by the guidelines.

APM BIO-4 **Minimization of Vegetation and Habitat Impacts.** Prior to ground-disturbing activities, work areas (including, but not limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils) will be delineated with construction fencing (e.g., the common orange vinyl material) or staking to clearly identify the limits of work and will be verified by the Authorized Biologist. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). Fencing/staking will remain in place for the duration of construction. Spoils will be stockpiled in disturbed areas. All disturbances, vehicles, and equipment will be confined to the fenced/flagged areas.

When feasible, construction activities will minimize soil and vegetation disturbance to minimize impacts to soil and root systems. Upon completion of construction activities in

any given area, all unused materials, equipment, staking and flagging, and refuse shall be removed and properly disposed of, including wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers. Any unused or leftover hazardous products shall be properly disposed of offsite.

Hazardous materials will be handled and spills or leaks will be promptly corrected and cleaned up, according to applicable requirements. Vehicles will be properly maintained to prevent spills or leaks. Hazardous materials, including motor oil, fuel, antifreeze, hydraulic fluid, grease, will not be allowed to enter drainage channels.

APM BIO-5 **Wildlife Protection.** The Applicant shall undertake the following measures during construction and O&M to avoid or minimize impacts to wildlife. Implementation of all measures shall be subject to review and approval by BLM, USFWS and CDFW.

- *Wildlife avoidance.* Wherever feasible, Project activities will avoid interference with wildlife (include ground-dwelling species, birds, bats) by allowing animals to escape from a work site prior to disturbance; conducting pre-construction surveys and exclusion measures for certain species as specified in other measures; checking existing structures and foundations for wildlife that may be present, and safely excluding them prior to removing the structures.
- *Minimize traffic impacts.* The Applicant will specify and enforce 15 miles per hour as the maximum vehicle speed limits, to minimize risk of wildlife collisions and fugitive dust.
- *Minimize lighting impacts.* Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding fish or wildlife habitat. Any FAA required safety lighting color and pattern (e.g., steady vs. flashing lighting) will be designed to minimize potential hazards (i.e., attraction and subsequent collision) to native birds and bats.
- *Avoid use of toxic substances.* Soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to wildlife and plants.
- *Minimize noise and vibration impacts.* The Applicant will minimize noise to offsite habitat.
- *Water.* Potable and non-potable water sources such as tanks, ponds, and pipes shall be covered or otherwise secured to prevent animals (including birds) from entering. Prevention methods may include storing water within closed tanks or covering open tanks with 2-centimeter netting. Dust abatement will use the minimum amount of water on dirt roads and construction areas to meet safety and air quality standards. Water sources (e.g., hydrants, tanks, etc.) shall be checked periodically by biological monitors to ensure they do not create puddles.
- *Trash.* All trash and food-related waste shall be contained in vehicles or covered trash containers inaccessible to ravens, coyotes, or other wildlife and removed from the site regularly.
- *Workers.* Workers shall not feed wildlife or bring pets to the Project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons.

- *Wildlife netting or exclusion fencing.* The Applicant may install temporary or permanent netting or fencing around equipment, work areas, or Project facilities to prevent wildlife exposure to hazards such as toxic materials or vehicle strikes, or prevent birds from nesting on equipment or facilities. Bird deterrent netting will be maintained free of holes and will be deployed and secured on the equipment in a manner that, insofar as possible, prevents wildlife from becoming trapped inside the netted area or within the excess netting. The Desert Tortoise Monitor or Authorized Biologist will inspect netting (if installed) twice daily, at the beginning and close of each work day. The Desert Tortoise Monitor or Authorized Biologist will inspect exclusion fence (if installed) weekly.
- *Wildlife entrapment.* Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate wildlife ramp or other means to allow trapped animals to escape. At the end of each work day, a Desert Tortoise Monitor or Authorized Biologist shall ensure that excavations have been secured or provided with appropriate means for wildlife escape.
- *All pipes or other construction materials or supplies* will be covered or capped in storage or laydown areas. No pipes or tubing will be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials will be inspected for wildlife before it is moved, buried, or capped.
- *Dead or injured wildlife* will be reported to CDFW or the local animal control agency, as appropriate (special-status species must be reported to USFWS, BLM, and CDFW). An Authorized Biologist shall safely move the carcass out of the road or work area if needed and dispose of the animal as directed by the agency. If an animal is entrapped, an Authorized Biologist shall free the animal if feasible, or work with construction crews to free it, in compliance with safety requirements, or work with animal control or USFWS and CDFW to resolve the situation.
- *Pest control.* No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the project site, on off-site project facilities and activities, or in support of any other project activities.

APM BIO-6 **Desert Tortoise Protection.** All ground-disturbing activities would avoid desert tortoise take by either exclusion fencing or on-site monitoring. The determination whether to fence work areas will be made on a case by case basis dependent on the schedule and extent of planned activities and topography of the work site. Desert tortoises would be handled or translocated according to the Desert Tortoise Relocation Plan, to be prepared as specified in APM BIO-1, pending approval by both the Service and CDFW.

The Authorized Biologist shall conduct or oversee pre-construction clearance surveys for each work area, watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The Authorized Biologist will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with the BLM, USFWS, and CDFW (described below). The Authorized Biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in take of a desert tortoise. Only the Authorized Biologist or Desert Tortoise Monitor with direct oversight

from the Authorized Biologist will handle or relocate desert tortoises and only as specifically outlined in the Desert Tortoise Relocation Plan. Any incident that is considered by the Authorized Biologist to be in noncompliance with these measures will be documented immediately.

The Authorized Biologist will be responsible for overseeing compliance with desert tortoise protective measures and for coordination with resource agencies. The FCR will also have the authority to halt any Project activities that may risk take of a desert tortoise or that may be inconsistent with adopted mitigation measures or permit conditions. Neither the FCR nor any other Project employee may bar or limit any communications between any Natural Resource Agency or BLM and any Project biologist, biological monitor or contracted biologist. Upon notification by another Authorized Biologist or Monitor of any noncompliance, the FCR will ensure that appropriate corrective action is taken and documented. The following incidents will require immediate cessation of any Project activities that could harm a desert tortoise: (1) location of a desert tortoise within a work area; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; (4) operation of construction equipment or vehicles outside a Project area cleared of desert tortoise, except on designated roads; and (5) conducting any construction activity without a Desert Tortoise Monitor where one is required.

The Authorized Biologist will be responsible for implementing, inspecting, or overseeing the following requirements in coordination with Desert Tortoise Monitors, Mesa Corp, and all its on-site contractors.

- *Monitor Desert Tortoise Exclusion Fence Installation (if necessary)*. The desert tortoise exclusion fence installation will be monitored by the Authorized Biologist or Desert Tortoise Monitor, under supervision from the Authorized Biologist, who will ensure stipulations provided in the Service's (2009, Chapter 8) guidance for tortoise exclusionary fencing are met. Throughout the construction phase, the tortoise exclusionary fence will be checked regularly and immediately after major rainfall events to ensure its integrity. Repairs will be made within 48 hours of discovery to prevent a tortoise from entering the site.
- *Preconstruction Clearance Survey for fenced areas.* For construction areas that would be fenced with desert tortoise exclusion fencing or standard construction fencing, clearance surveys will follow procedures outlined in the Service's *Desert Tortoise Field Manual* (December 2009) or more current Service guidance. The Authorized Biologist will conduct preconstruction clearance surveys immediately prior to initiation of ground disturbing activities in desert tortoise habitat regardless of the time of year. The goal of a clearance survey is to find all tortoises on the surface and in burrows that could be harmed by construction activities. Surveys will cover 100 percent of the acreage to be disturbed. All potential burrows within 100 feet of construction activity will be marked and avoided to the extent practicable. Those that cannot be avoided will be excavated by the Authorized Biologist.
- *Monitor and oversee activities within construction phase tortoise exclusion fencing.* Prior to construction of Mesa Wind facilities, temporary or permanent desert tortoise exclusion fencing may be installed around the laydown area (temporary areas in use during construction and decommissioning phases only). The fence will adhere to USFWS design guidelines (Service 2009). The Authorized Biologist will conduct or

oversee a clearance survey before the tortoise fence is enclosed to ensure no tortoises are in the work area. Any potentially occupied burrows will be avoided until monitoring or field observations (e.g., with a motion-activated camera or fiber-optic mounted video camera) determines absence. If live tortoises or an occupied tortoise burrow are identified in the work area, tortoises shall be relocated by the Authorized Biologist or allowed to leave on their own accord before enclosing the fence. The fence shall be either continuously monitored prior to closure, or clearance surveys shall be repeated prior to closure after tortoises are removed. Once installed, exclusion fencing will be inspected at least daily and following all rain events, and corrective action taken if needed to maintain it. Fencing around each work area will include a "cattle guard" or desert tortoise exclusion gate at each entry point. This gate will remain closed at all times, except when vehicles are entering or leaving the Project area. If it is deemed necessary to leave the gate open for extended periods of time (e.g., during high traffic periods), the gate may be left open as long as an Authorized Biologist or Desert Tortoise Monitor is present to monitor for tortoise activity in the vicinity.

- *Monitor and oversee activities within unfenced work areas.* As an alternative to exclusion fencing, any work conducted in an area that is not fenced to exclude desert tortoises must be monitored by a Desert Tortoise Monitor who will stop work if a tortoise enters the work area. Work activities will only proceed at the site and within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been relocated out of harm's way by an Authorized Biologist or a Monitor under the direct supervision of the Authorized Biologist. Work sites with potential hazards to desert tortoise (e.g., auger holes, steep-sided depressions) that are outside of the desert tortoise exclusion fencing will be securely covered or filled at the end of each workday. Note that work areas without tortoise exclusion fencing nonetheless will be clearly defined by other fencing materials, staking, flagging, or other measures (BIO-4, above).
- *Tortoises under vehicles.* The ground beneath parked vehicles will be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle will not be moved until the desert tortoise leaves of its own accord.
- *Tortoises on roads.* If a tortoise is observed on or near the road accessing a work area, the Authorized Biologist or Desert Tortoise Monitor will be contacted immediately, and vehicles will stop to allow the tortoise to move off the road on its own.
- *Tortoise Observations.* Any time a desert tortoise is observed within or near a work site, Project work activities will only proceed at the site and within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been moved from harm's way by the Authorized Biologist. If a tortoise is observed in an unfenced work area, construction will stop and the tortoise shall be allowed to move out of the area on its own. If it does not leave the site within 30 minutes, the Authorized Biologist may move the tortoise out of harm's way in a manner consistent with APM BIO 1 and Service handling guidance. If a tortoise or tortoise burrow is observed within the exclusion fencing, construction in the vicinity will stop, pending relocation of the tortoise.
- *Dead or Injured Desert Tortoise.* Upon locating a dead or injured tortoise, the Authorized Biologist will immediately notify the BLM, the Service's Palm Springs Fish and Wildlife Office, and CDFW by telephone. Written notification must be made within five days of

the finding to the Palm Springs Fish and Wildlife Office and CDFW. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.

APM BIO-7: Avoid or minimize impacts to special-status plants. Where impacts to special-status plants cannot be avoided, Mesa Corp would minimize impacts to the greatest extent feasible to offset impacts.

APM BIO 8. Integrated Weed Management Plan. Mesa Corp will prepare and implement an Integrated Weed Management Plan (IWMP) to minimize or prevent invasive weeds from infesting the site or spreading into surrounding habitat. The BLM must approve the plan. The IWMP will identify weed species occurring or potentially occurring in the Project area, means to prevent their introduction or spread (e.g., vehicle cleaning and inspections), monitoring methods to identify infestations, and timely implementation of manual or chemical (as appropriate) suppression and containment measures to control or eradicate invasive weeds. The IWMP will identify herbicides that may be used for control or eradication, and avoid herbicide use in or around any environmentally sensitive areas. The IWMP will also include a reporting schedule, to be implemented by Mesa Corp.

APM BIO 9. Monitoring and Reporting Schedule. Encounters with desert tortoise shall be immediately reported to the FCR, Authorized Biologist, or Monitor. The Authorized Biologist shall maintain a record of all desert tortoises encountered during construction and decommissioning activities. Information recorded for each desert tortoise will include: the location; date of observation; general condition of health and apparent injuries and state of healing; location of damaged exclusion fence (if applicable); if moved, location moved from and location moved to and whether the desert tortoise voided its bladder; and diagnostic markings (i.e., identification numbers or marked lateral scutes).

The Project proponent will provide monthly reports to the BLM, USFWS, and CDFW throughout the construction and decommissioning phases that summarizes the implementation of Project measures pertaining to desert tortoise management. The reports will be prepared by the Authorized Biologist.

The Project proponent will provide annual reports to the BLM, USFWS, and CDFW throughout the construction and decommissioning phases, and a final report upon completion of construction and decommissioning, that summarize the implementation of Project measures pertaining to desert tortoise management. The reports will be prepared by the Designated Biologist or other qualified biologist.

AMP BIO 10. Trash Management. All garbage associated with the Project during all phases of the Project will be contained in secure receptacles to prevent the introduction of food resources that could potentially attract or support common ravens, coyotes, and other predators or scavengers. Secure, wildlife proof self-closing waste bins will be used for all organic waste. To reduce the possibility of ravens or other scavengers from ripping into bags and exposing the garbage, plastic bags containing garbage will not be left out for pickup. All such waste material must be in secure waste bins or dumpsters at all times.

APM BIO 11. Raven Management Plan. The Project applicant will develop and implement a Raven Management Plan to address activities that may occur during the pre-construction, construction, decommissioning, and O&M phases of the Project that may attract common ravens (*Corvus corax*), a nuisance species that is a subsidized predator of desert tortoises and other sensitive species in the Project vicinity. The measures contained in the Raven Management Plan will be designed to:

- Identify conditions associated with the Project that might provide raven subsidies or attractants.
- Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities.

- Describe control practices for ravens.
- Address monitoring during construction and for the life of the Project and discuss reporting requirements.

The Project applicant will submit payment to the Project sub-account of the Renewable Energy Action Team (REAT) Account held by the National Fish and Wildlife Foundation (NFWF) to support the Service's Regional Raven Management Program. The one-time fee will be as described in the cost allocation methodology or more current guidance as provided by the Service or CDFW. The contribution to the regional raven management plan will be $105 per acre impacted.

APM BIO-12. Revegetation. Mesa Corp will prepare and implement a Revegetation Plan for all temporarily disturbed areas, to be reviewed and approved by BLM, USFWS, and CDFW. The Revegetation Plan will specify success criteria and materials and methods for site preparation, reseeding, maintaining, and monitoring revegetated areas in the following two categories:

- Temporarily disturbed areas where no future disturbance will occur (e.g., cut and fill slopes along roadways or turbine pads, to be left undisturbed throughout the life of the project). The goal of revegetation on these sites will be restoration of vegetation and habitat characteristics to provide habitat for listed species comparable to what is present before the disturbance.
- Temporarily disturbed construction areas around turbines, where future repairs or maintenance may necessitate further disturbance during the life of the project. The goal of revegetation on these sites will be to minimize dust, erosion, and invasive weeds from disturbed sites, but not to restore pre-disturbance habitat values (those impacts are mitigated through off-site compensation).

The nature of revegetation will differ according to each site, its pre-disturbance condition, and the nature of the construction disturbance (e.g., drive and crush vs. blading). The Plan will include: (a) soil preparation measures, including locations of recontouring, decompacting, imprinting, or other treatments; (b) details for topsoil storage, as applicable; (c) plant material collection and acquisition guidelines, plants from the project site, as well as obtaining replacement plants from outside the project area (sources for plant materials will be limited to locally occurring native species from the local area); (d) a plan drawing or schematic depicting the temporary disturbance areas described above; (e) time of year that the planting or seeding will occur and the methodology of the planting; (f) a description of the irrigation, if used; (g) success criteria; and (h) a monitoring program to measure the success criteria, commensurate with the Plan's goals, (i) contingency measures for failed revegetation efforts not meeting success criteria.

AMP BIO-13: Post construction monitoring for birds and bats. Mesa Corp would conduct post construction mortality surveys for bird and bat populations on the repower Mesa Wind.

10.3.2 Cultural and Historic Resources Unanticipated Discoveries

Impacts to sites, properties, or objects of importance to Native Americans are not anticipated; however, APM CUL-1 and CUL-2 would be implemented in the event cultural resources are discovered during repower construction.

APM CUL-1: Unanticipated discovery of cultural resources. If unanticipated cultural resources, including historic and prehistoric sites, are discovered during any phase of the repower construction, Mesa Corp would immediately cease all work within 100 feet of the find and immediately notify the BLM archaeologist. Mesa Corp would not resume work at an archaeological discovery until the BLM archaeologist had evaluated the area and permitted work to continue.

APM CUL-2: Unanticipated discovery of human remains. Mesa Corp would cease work upon the discovery of human remains and associated funerary objects and immediately contact the BLM archaeologist and the county sheriff. Work within 200 feet of the remains would not resume until the BLM archaeologist has granted permission to do so.

APM CUL-3: Upon discovery of previously undocumented prehistoric resources all work in the area would stop within 200 feet of the discovery. BLM and the affected tribes would be notified within 24 hours of the find.

10.3.3 Aviation and or Military Conflicts

The repower project is not expected to cause adverse effects on FAA or DOD resources. However, to reduce the risk of potential aviation-related safety hazards, Mesa Corp proposes the measures described below.

APM AMC-1: Mesa Corp would comply with FAA's aircraft safety lighting requirements for structures under 499 feet tall. Lights used to meet FAA requirements would, to some extent, be shielded from ground-level view due to a constrained (3- to 5-degree) vertical beam.

10.3.4 Air Quality

Emissions that could affect air quality would primarily occur during the construction phase of the Project. To reduce these effects, Mesa Corp proposes the measures described below.

APM AQ-1: Minimize disturbance. Mesa Corp would minimize grading and vegetation removal and limit surface disturbance during construction to the time just before construction. If required by the BLM, Mesa Corp would revegetate disturbed areas as soon as possible after disturbance.

APM AQ-2: Dust abatement plan. Mesa Corp would prepare and comply with a dust abatement plan in cooperation with the South Coast Air Quality Management District. The plan would address emissions of fugitive dust during construction and operation of the repower. The dust abatement plan would include provisions for monitoring and managing fugitive dust and would follow the protocols established by the California Air Resources Board (CARB). Examples of measures that would be implemented include (1) minimizing ground disturbance to reduce dust generation, (2) using dust suppression measures including watering the site and covering stockpiles of exposed soil, (3) planting temporary ground cover vegetation in areas that may be exposed for prolonged periods (several months), and (4) limiting vehicle traffic and reducing speed limits.

APM AQ-3: Vehicle emissions standards. Mesa Corp would ensure that construction and maintenance vehicles would comply with EPA and CARB emissions standards.

APM AQ-4: Minimize idling time. Mesa Corp would limit construction equipment and vehicle idling times to no more than 5 minutes.

APM AQ-5: Equipment operation and maintenance. Mesa Corp would ensure that construction equipment and vehicles are properly maintained and operated in accordance with manufacturers' instructions to minimize emissions.

Additionally, the switchgear at the substation that uses sulfur hexafluoride (SF6) as an arc quenching medium may need to be phased out because SF6 is a potent greenhouse gas.

11. References

Biohere. 2009. Inventory of California Natural Areas. Accessed March 7, 2012 at http://www.biohere.com/natural_areas/california/Riverside_County/

BLM (Bureau of Land Management). 2011. Palm Springs–South Coast Field Office. South Coast Resource Management Plan Revision. Accessed March 7, 2012 at http://www.blm.gov/ca/st/en/fo/palmsprings/SCRMP_Revision.html

BLM (Bureau of Land Management). 2008. California Desert Conservation Area Plan Amendment for the Coachella Valley.

BLM Instruction Memorandum No. 2009-043: Wind Energy Development Policy.

BLM Manual H-8410-1 - Visual Resource Inventory. Accessed March 7, 2012 at http://www.blm.gov/nstc/VRM/8410.html.

CNDDB (California Natural Diversity Database). California Department of Fish and Game. Accessed March 7, 2012 at http://www.dfg.ca.gov/biogeodata/cnddb.

DOC (Department of Conservation). 2002. Division of Oil, Gas, and Geothermal Resources: Geothermal Map of California. ftp://ftp.consrv.ca.gov/pub/oil/maps/Geothermal/MapS-11.pdf

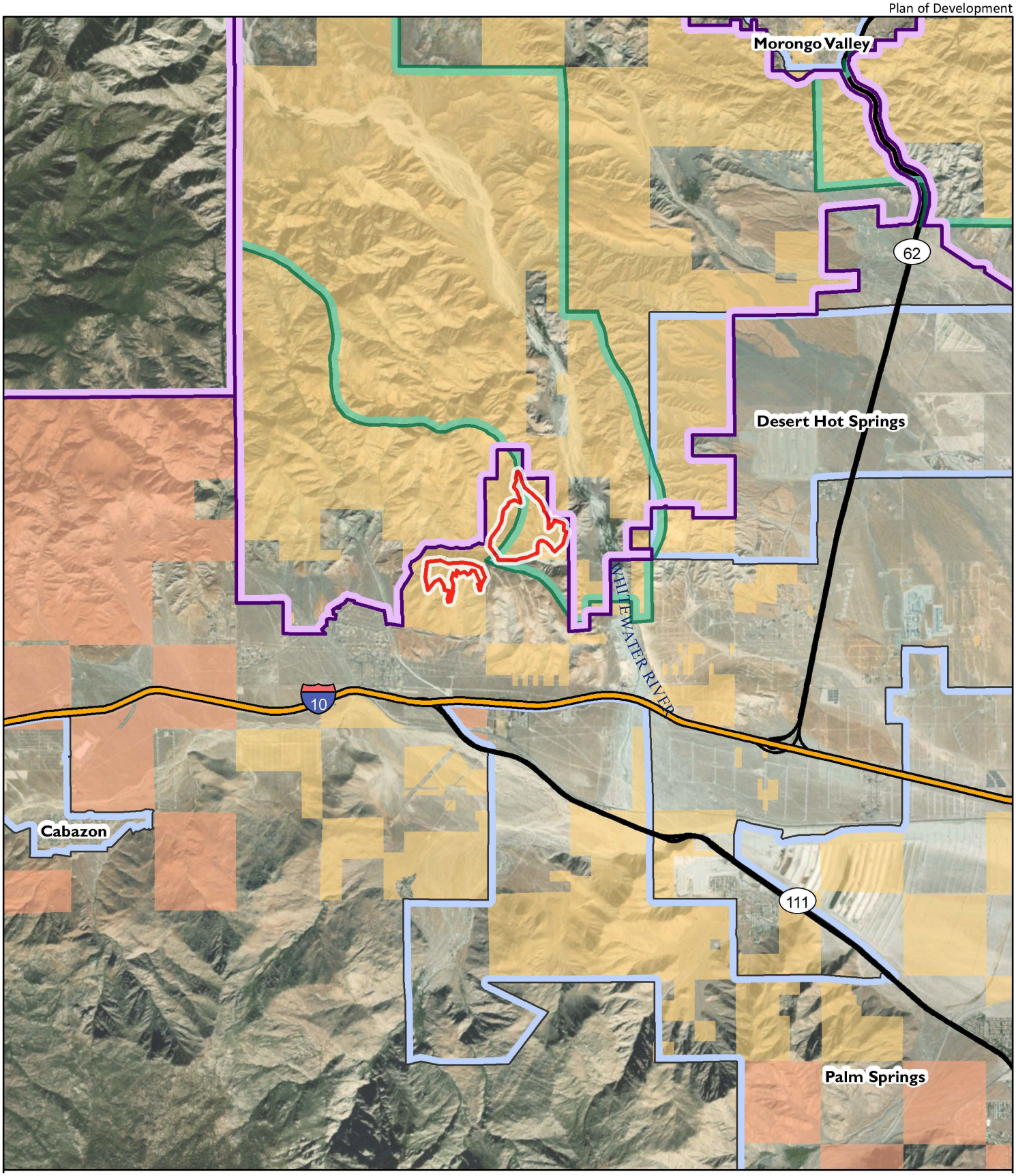
FAA (Federal Aviation Administration). 2012. Department of Defense Preliminary Screening Tool. Accessed March 7, 2012 at https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showLongRangeRadarToolForm.

Lovich, Jeff. 2012. Personal Communication.

Natural Resources Assessment, Inc., General Biological Resources Assessment, Mesa Repowering Project, May 30, 2008

Natureserve Explorer. Accessed March 7, 2012 at http://www.natureserve.org/explorer/

Stantec (Stantec Consulting). 2007. Amended Final Class I Cultural Resource Investigation for the Alta Mesa Project: 308 Acres Located Northwest of the City of Palm Springs, Riverside County, California. August. U.S. Fish and Wildlife Service (USFWS). 2012. Species Lists. Accessed March 7, 2012 at http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm



Mesa Wind Existing ROW
City Boundary
Sand to Snow National Monument
Whitewater Canyon ACEC

Land Ownership
Bureau of Land Management
Tribal Land

0 1 Miles

Figure 1.

Mesa Wind Project Location

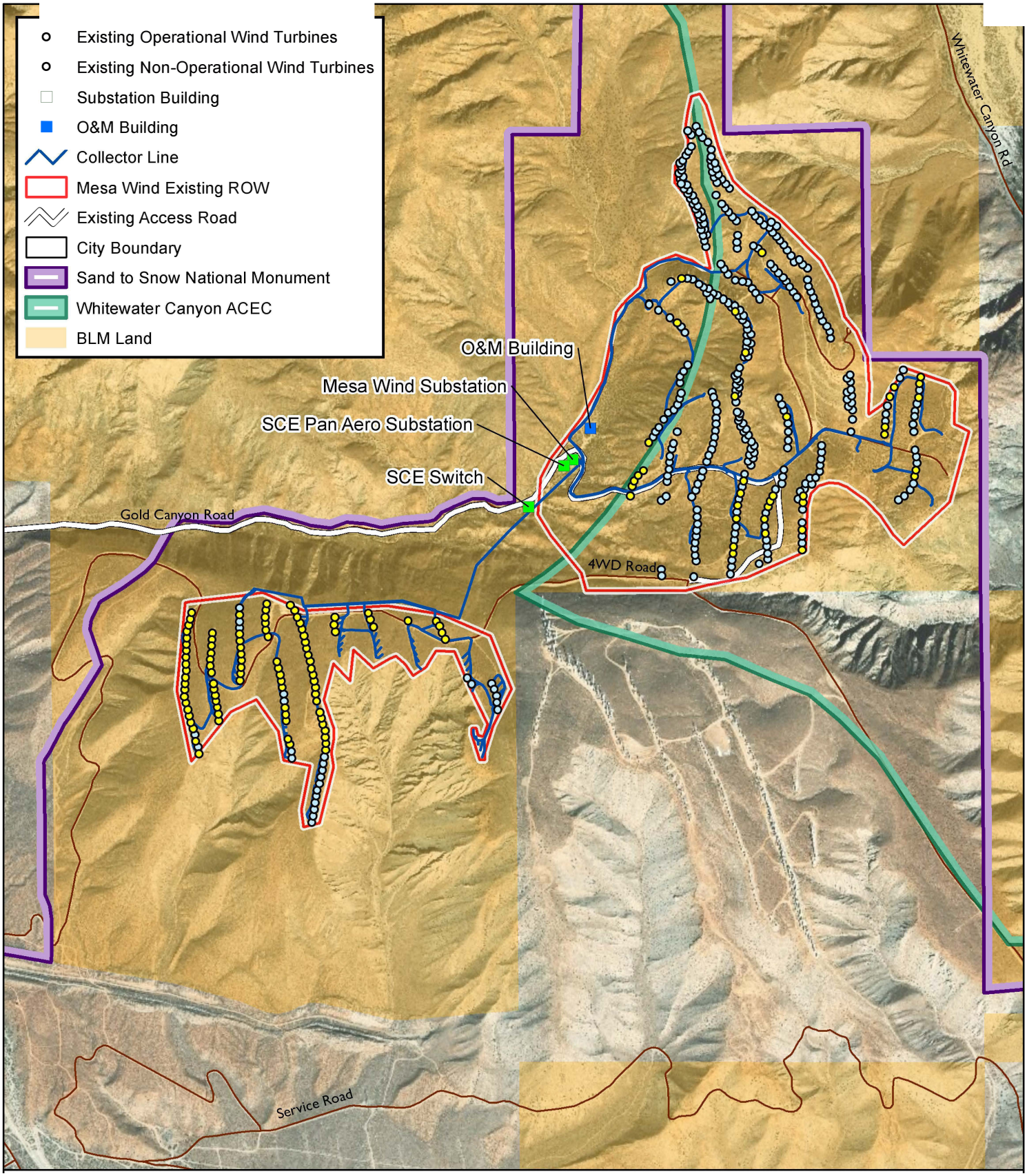


Figure 2.

Existing Mesa Wind Energy Project

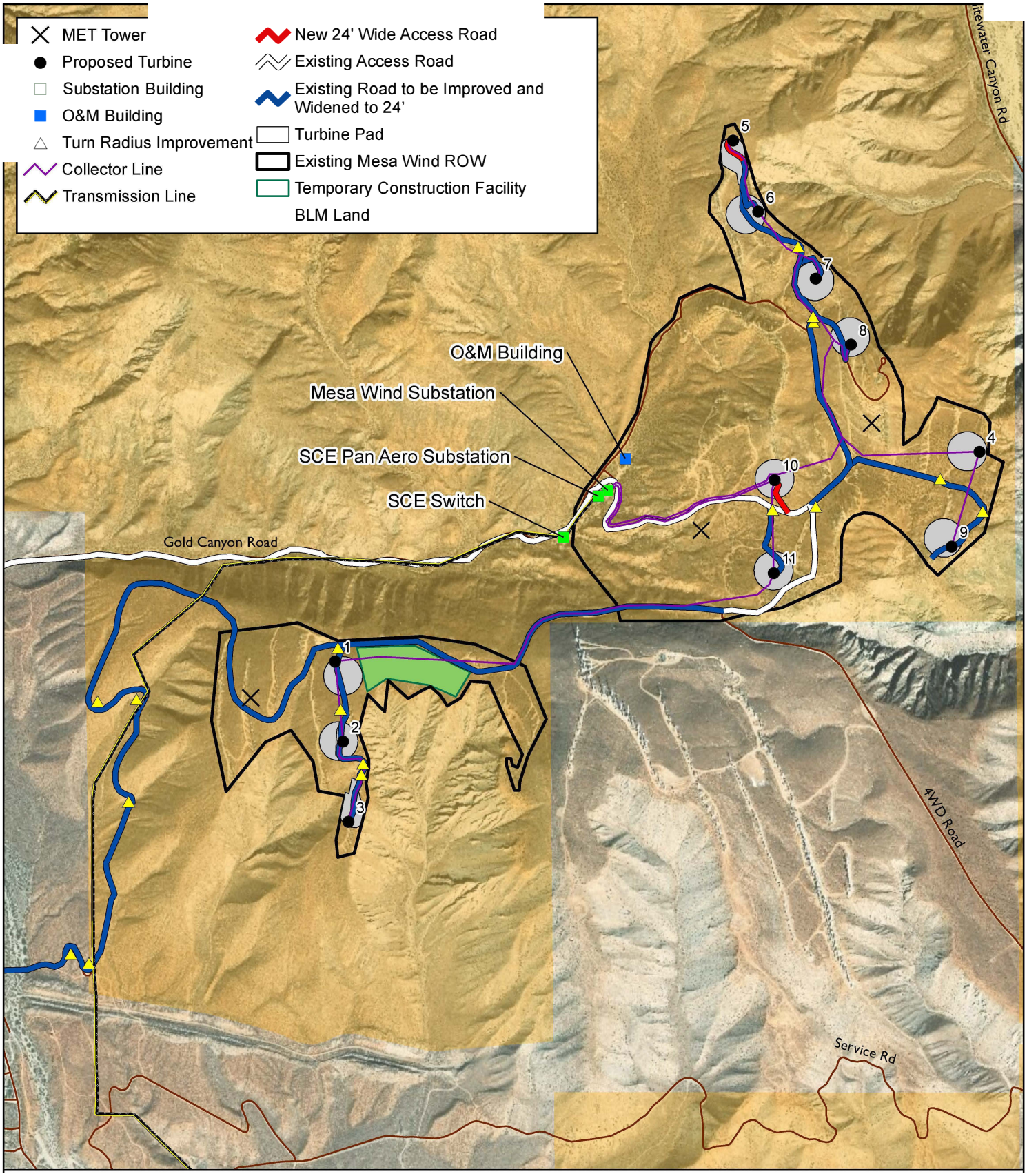
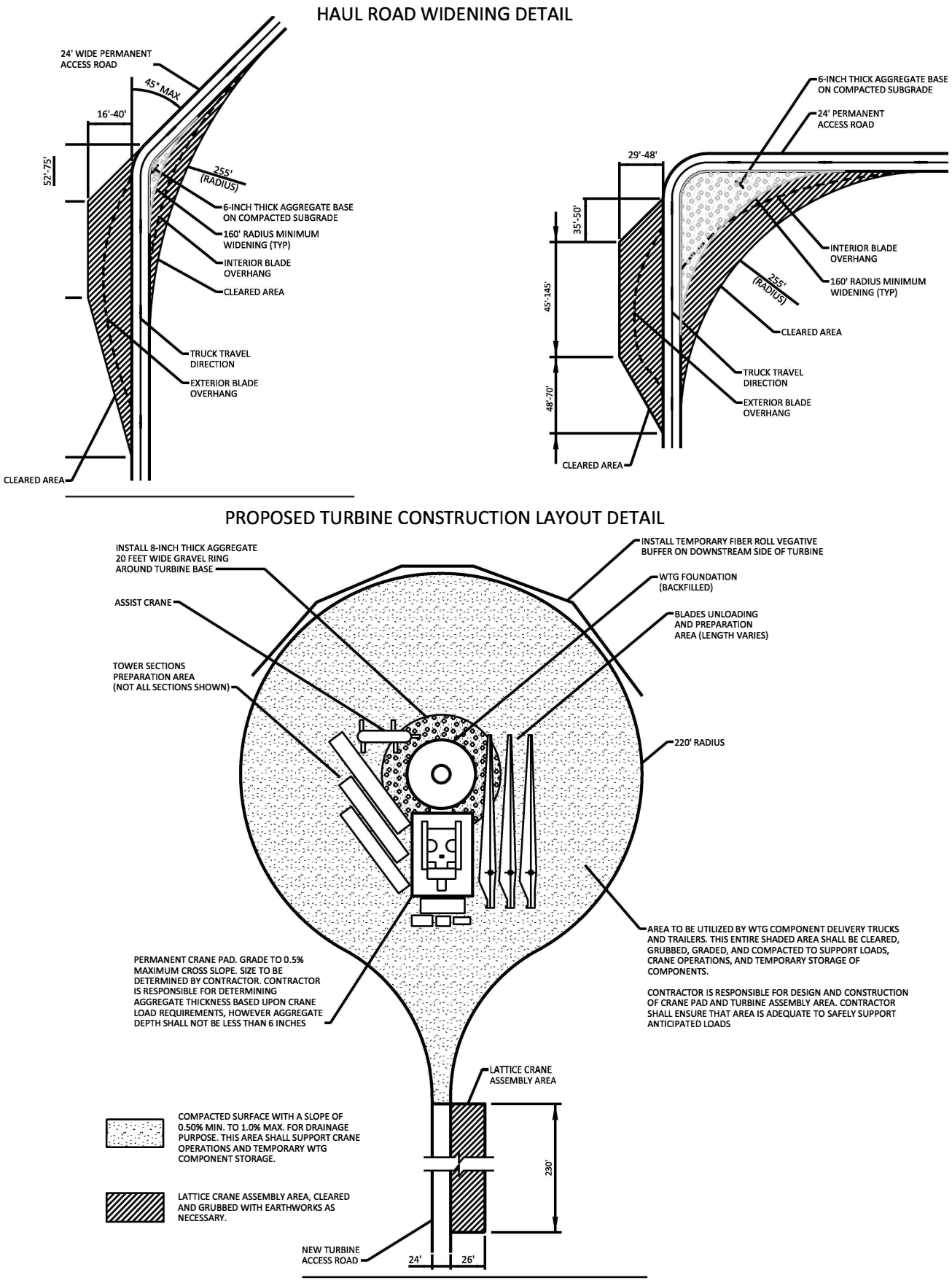


Figure 3

Proposed Mesa Wind Energy Project Repower



Source: Black & Veatch, September 2019

Figure 3B.

Proposed Turbine Pad and Haul Road Widening Detail

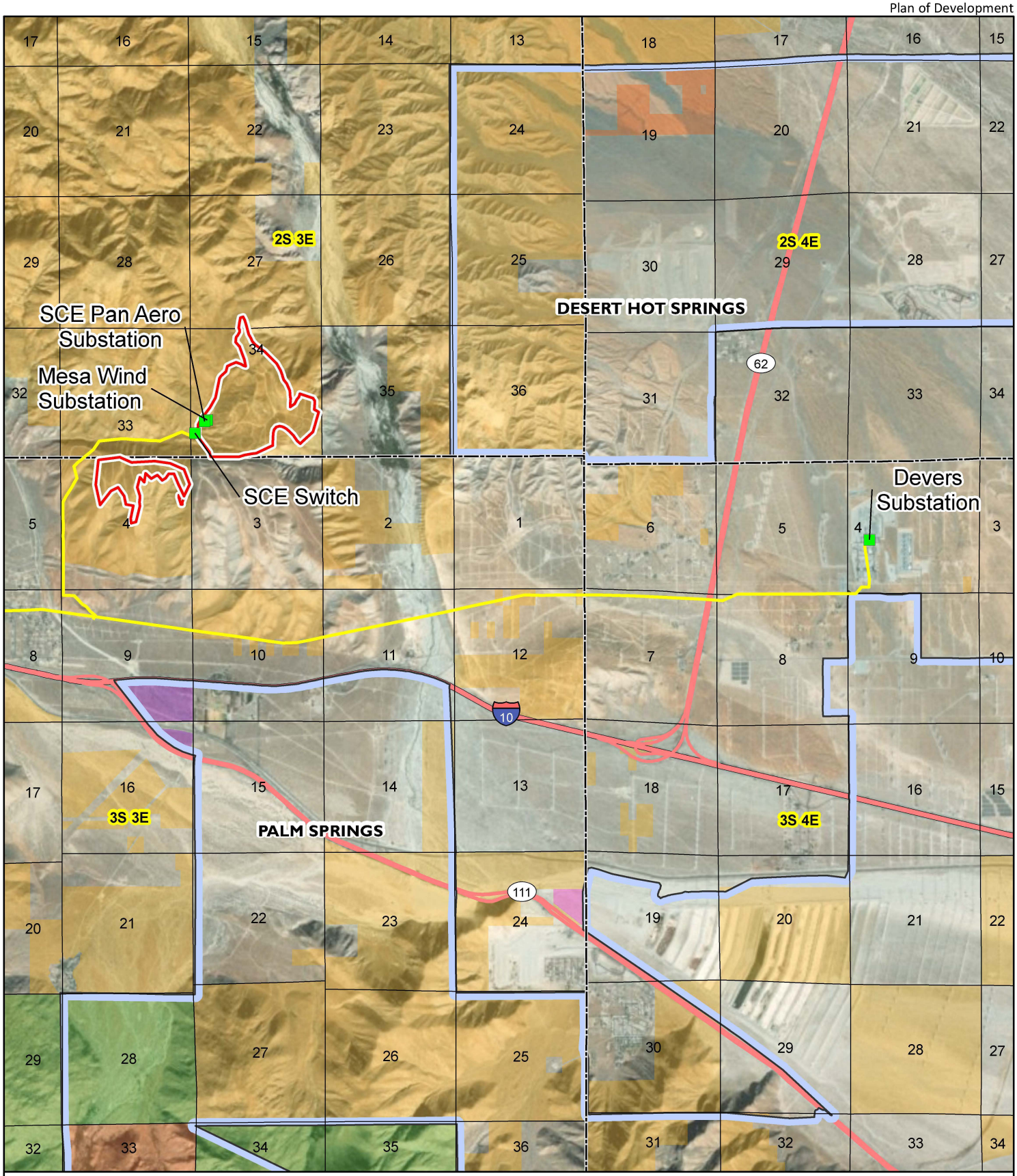


Figure 4.

Mesa Wind Energy Project Interconnection Line

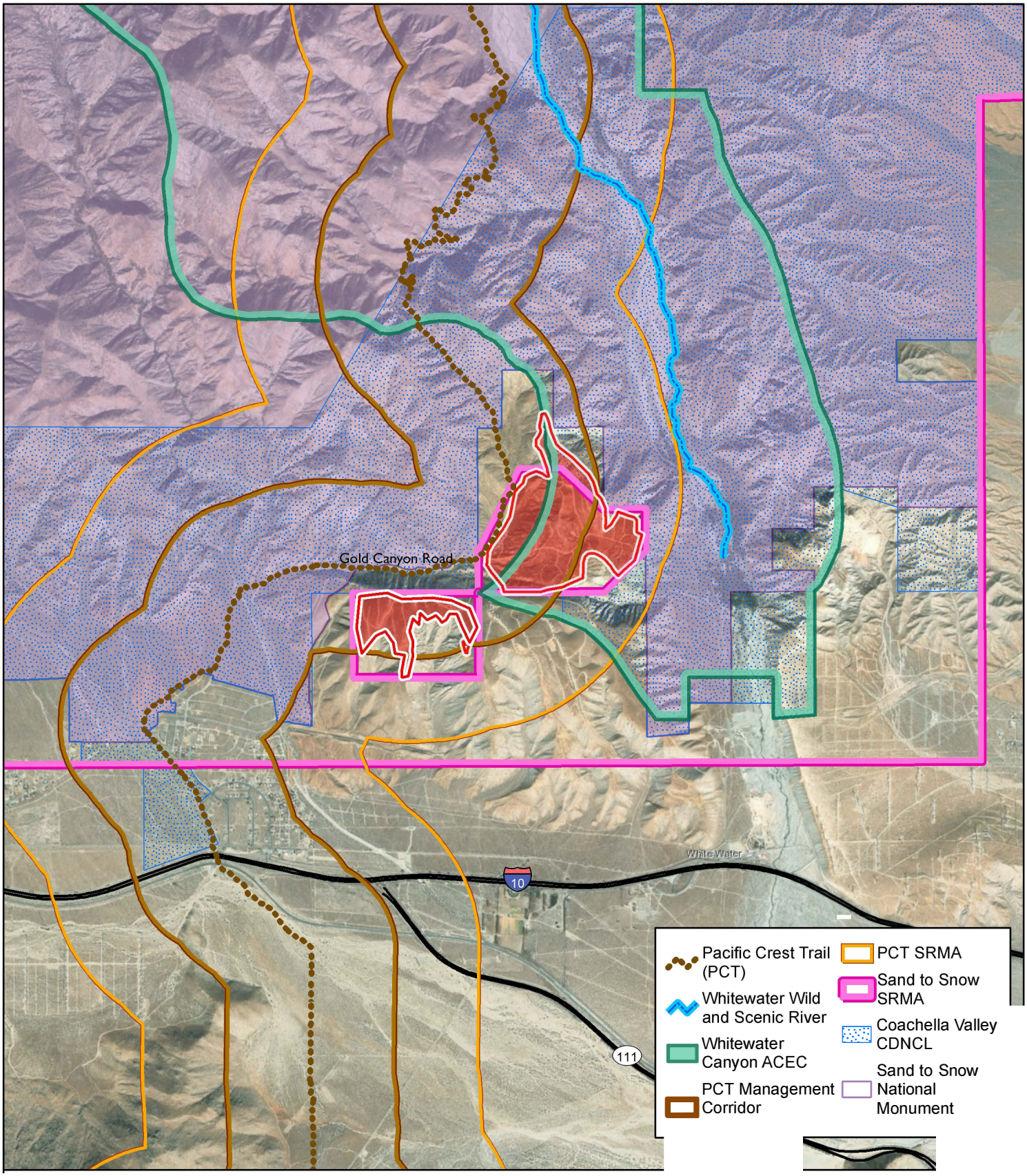


Figure 5.

Mesa Wind Energy Project
Land Use Designations

Attachment A

Private Land Easements

WHEN RECORDED MAIL TO:

Mesa Wind Power Corporation
3500 Glenrose Avenue
Altadena, CA 91001
Attn: T. Alana Steele

DOC # 2012-0492908
10/16/2012 11:14A Fee:51.00
Page 1 of 13
Recorded in Official Records
County of Riverside
Larry W. Ward
Assessor, County Clerk & Recorder

S	R	U	PAGE	SIZE	DA	MISC	LONG	RFD	COPY
1			13						Ce.
M	A	L	465	426	PCOR	NCOR	SMF	NCHG	EXAM
					T:		CTY	UNI	042

D.T.T- Twenty Two $22 Dollars
APN 517-030-004
unincorporated area of Palm Springs

C
042

EASEMENT DEED

THIS EASEMENT DEED ("Agreement") is made as of Oct. 4, 2012 (the "Effective Date"), by Seymour Lazar and Alyce Lazar, Trustees of the Lazar Family Trust ("Grantor"), and Mesa Wind Power Corporation, a Colorado corporation ("Grantee").

RECITALS

A. Grantor is the fee owner of certain real property located in Riverside County, State of California, more particularly described on Exhibit A attached hereto (the "Grantor's Property").

B. Grantee is the holder of a Right-of-Way granted by the U.S. Bureau of Land Management on certain real property located in Riverside County, State of California, more particularly described on Exhibit B attached hereto (the "Grantee's Property").

C. Grantee's Property is part of a wind energy generation project being developed by Grantee (the "Project") on the Grantee's property, hereinafter referred to as the "Project Site."

NOW, THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Grant of Easement. Grantor, as the fee owner of Grantor's Property, hereby grants and conveys to Grantee for the benefit of Grantee's Project Site, the following easement:

1.1 A 50-year non-exclusive easement and right of way (the "Easement") in, on, over and across that portion of Grantor's Property depicted and more particularly described on

Exhibits C and C-1 attached hereto (the "Easement Area"), subject, however, to any covenants, conditions, restrictions, easements, existing facilities, rights and rights of way of record as of the Effective Date, for:

1.1.2 The engineering, construction, repair, replacement, removal, inspection, enhancement, and maintenance of a fifty (50)-foot wide roadway across the Easement Area, of either dirt, asphalt, or gravel surface and in accordance with the Riverside County Code of Building Regulations. Construction includes use of heavy construction equipment; and

1.1.3 Access purposes including, without limitation, ingress, egress and vehicular and pedestrian access to, from, and across the Easement Area, including, without limitation, use by construction vehicles and use of any newly constructed or existing roads.

2. No Opposition. Grantor acknowledges Grantee's right to obtain the consent of all governing agencies to develop the Project on Grantee's Property and other adjacent land in whatever manner Grantee shall choose. Grantor, on behalf of itself and its officers, partners, members, directors, employees, agents, partners, members, successors and assigns, agrees that it will not in any way challenge, contest, oppose, litigate, or seek to hinder or delay, directly or indirectly, administratively, judicially, publicly or privately, including by referenda or initiative, and will not in any way assist, support, encourage or provide cooperation, direct or indirect, to others who challenge, contest, oppose, litigate, or seek to hinder or delay: (a) the processing and issuance of entitlements for the development, use, and/or operation of the Project or any matter in any way related thereto; (b) any governing agency ordinances, permits, approvals or determinations in any way related to the development, construction, use, and/or operation of any portion of the Project, including, but not limited to, any development agreement, tentative or final map, or the conditions applicable thereof, (c) ordinances, permits, approvals or determinations in any way related to the construction of public works, and/or offsite improvements related to the Project; (d) matters related to the implementation of Project ordinances, permits, approvals determinations or other entitlements, (e) financial agreements with governing agencies and community facilities districts or bonds issued pursuant thereto, (f) any other documentation related to development, construction, use, and/or operation of any portion of the Project, or (g) any modification, renewal, extension, or amendment of any of the foregoing. Grantee shall execute and acknowledge such documents, agreements, consents, waivers, or other instruments and shall take such other actions as Grantee may reasonably request as necessary, expedient or appropriate to confirm Grantee's consent to the development of the Project in accordance with the provisions of this Section.

3. Term. The term of the Easement shall begin on the Effective Date and end on the 50th anniversary of the Effective Date.

4. Indemnity. To the fullest extent permitted by law, Grantee shall defend, indemnify, and hold Grantor, and its successors and assigns, predecessors in interest, any affiliated partnerships, corporations or other entities, and their respective partners, members, managers, employees, directors, officers, agents, shareholders, representatives, and attorneys, and each of them, past, present, and future (the "Indemnitees"), harmless from and against all losses, damages, claims, suits, actions, causes of action, debts, costs, and expenses, and any liability whatsoever incurred or suffered ("Losses") by Grantor as a result of Grantee's, or its invitees', employees',

contractors', members', managers' or agents', (i) entry onto and/or use of the Easement, (ii) unauthorized entry onto and/or use of any other portion of Grantor's Property, and (iii) the breach by Grantee of its duties and obligations under this Agreement. The obligations to indemnify, hold harmless and defend set forth above shall include reasonable attorneys' fees, investigation costs, and all other reasonable costs, expenses, and liabilities incurred. Notwithstanding anything to the contrary, Grantee shall not be required to indemnify Indemnitees to the extent any Losses arise from or are attributed to the activities of the Indemnitees, including its negligence or willful misconduct, or from any conditions existing on the Grantor's Property prior to the Effective Date.

5. Insurance. Grantee shall obtain and keep in force at all times a policy of general commercial liability insurance issued by a company, which shall be in a form and with liability limits no less than $1,000,000.00 aggregate coverage per occurrence to cover the negligent acts and wrongful failures to act of Grantee and its invitees, employees, contractors, members, managers and agents on Grantor's Property with regard to the obligations and liabilities undertaken by Grantee under this Agreement; provided, however, that such insurance shall not serve as a limitation on Grantee's liability hereunder. Such policy shall name Grantor as an additional insured thereunder. Grantee shall provide to Grantor a certificate evidencing the existence and amount of such policy and such certificate shall provide that the policy of insurance evidenced thereby shall not be canceled except upon ten (10) days prior written notice to Grantor.

6. Waiver of Insured Risks. Without affecting any other rights or remedies, Grantee hereby releases and relieves Grantor, and waives its right to recover damages (whether in contract or in tort) against Grantor, for any loss of or damage required to be insured against under this Agreement, but only to the extent insurance proceeds on a particular claim are actually received by the waiving party. The effect of such release and waiver of the right to recover damages shall not be limited by the amount of insurance carried or required or by any deductibles applicable thereto. To the extent possible, Grantee agrees to include a waiver of subrogation in all insurance policies obtained by it in accordance with this Agreement.

7. Right of First Refusal to Purchase Property. Grantor grants Grantee an exclusive right of first refusal to purchase the Grantor's Property for the term of this Easement. Grantor agrees that during the term of this right of first refusal, it will only entertain offers to purchase the Grantor's Property in its entirety.

7.1 In the event Grantor determines to sell Grantor's Property, Grantor shall give written notice to Grantee together with any bona fide offers to purchase Grantor's Property in its entirety, including the consideration to be paid and any terms or conditions of a proposed sale.

7.2 Grantee and any of its successors or assigns has thirty (30) days from the receipt of Grantor's notice to exercise its right of first refusal. If Grantee fails to exercises its right, Grantor is entitled to sell the Grantor's Property to a third party.

7.3 If Grantor fails to perform its obligations under this right of first refusal, Grantee is entitled to sue for specific performance or other damages.

8. Assignment. Grantee shall at all times have the right to sell, assign, encumber, transfer, or grant subeasements of any or all of its rights and interests under this Agreement without Grantor's consent; provided, however, that any and all such transfers shall be expressly made subject to all of the terms, covenants and conditions of this Agreement. No such sale, assignment, transfer, or subeasement shall relieve Grantee of its obligations under this Agreement unless Grantee assigns its entire interest hereunder and the assignee assumes all liabilities and obligations hereunder in a written agreement, a copy of which shall be delivered to Grantor, in which event (i) Grantee shall have no continuing liability hereunder for matters arising from and after the date the assignment and assumption of this Agreement is delivered to and received by Grantor, and (ii) references to "Grantee" in this Agreement shall be deemed to mean the assuming assignee of such interest. The burdens of the Easement and rights contained in this Agreement shall run with and against the Property and shall be a charge and burden thereon for the duration of this Agreement and shall be binding upon and against Grantor and its heirs, successors, assigns, permittees, licensees, lessees, employees, and agents. The Easement and other rights of Grantee hereunder shall inure to the benefit of Grantee and its heirs, successors, assigns, permittees, licensees, lessees, employees and agents.

9. Encumbrances; Required Notices to Mortgagees.

9.1 Right to Encumber. Grantee shall have the right at any time to mortgage to any entity (herein, a "Mortgagee") all or any part of Grantee's interest under this Agreement and the easements and rights created by this Agreement without the consent of Grantor. Under no circumstances shall the estate of Grantor in and to Grantor's Property be subordinated to any such mortgage.

9.2 Covenants for Mortgagees Benefit. Should Grantee mortgage any of its interests hereunder as provided in Section 8.1 above, Grantor and Grantee expressly agree between themselves and for the benefit of any Mortgagees as follows:

9.3 They will not cancel or modify this Agreement without the prior written consent of each of the Mortgagees, which consent shall not be unreasonably withheld or delayed.

9.4 Each Mortgagee shall have the right to do any act or thing required to be performed by Grantee under this Agreement, and Grantor shall accept any such act or thing performed by a Mortgagee under this Agreement as if such act or thing was done by Grantee itself.

9.5 No default that requires the giving of notice to Grantee shall be effective unless a similar notice is given to each of the Mortgagees. If Grantor shall become entitled to terminate this Agreement due to an uncured default by Grantee, Grantor will not terminate this Agreement unless it has first given written notice of such uncured default and of its intent to terminate this Agreement to each Mortgagee and has given each Mortgagee at least thirty (30) additional days to cure the default to prevent such termination of this Agreement or the Easement (or such longer reasonable period of time required to cure such default, if such failure or omission cannot reasonably be cured within a thirty (30) day period). Furthermore, if within such thirty (30) day period a Mortgagee notifies Grantor that it must foreclose on Grantee's interest or otherwise take possession of Grantee's interest under this Agreement in order to cure the default, then provided

and for so long as Mortgagee is acting with due diligence in all respects, Grantor shall not terminate this Agreement or the Easement, and shall permit such Mortgagee a sufficient period of time (including any additional period of time after Mortgagee is prohibited by any process or injunction issued by or by reason of any court having jurisdiction over any bankruptcy, reorganization, insolvency or other debtor-relief proceeding from commencing or prosecuting foreclosure or other appropriate proceedings) as may be necessary for such Mortgagee, with the exercise of due diligence, to foreclose or acquire Grantee's interest under this Agreement and to perform or cause to be performed all of the covenants and agreements to be performed and observed by Grantee. Upon the sale or other transfer of the entire interest of Mortgagee in the easements and rights granted hereunder by any Mortgagee to an assignee of this Easement who assumes all of Grantee's liabilities and obligations accruing after the date of such assumption under and as set forth in this Agreement in a writing delivered to Grantor, such Mortgagee shall have no further duties or obligations hereunder.

9.6 In case of the termination of this Agreement as a result of any default or the rejection of this Agreement in bankruptcy, Grantor shall give prompt notice to the Mortgagees which have provided Grantor with notice of their interest and address for notices to Mortgagees. Grantor shall, upon written request of the first priority Mortgagee, made within forty (40) days after notice to such Mortgagee, enter into a new easement agreement with such Mortgagee, or its designee, within twenty (20) days after the receipt of such request. Such new easement agreement shall be effective as of the date of the termination of this Agreement by reason of default or rejection in bankruptcy by Grantee, and upon the same terms, covenants, conditions and agreements as contained in this Agreement. Upon the execution of any such new easement agreement, the Mortgagee shall agree in writing to perform or cause to be performed all of the other covenants and agreements set forth in this Agreement to be performed by Grantee to the extent that Grantee failed to perform the same and Mortgagee shall agree in writing to pay Grantor for any damages it has suffered as a result of termination of this Agreement prior to the execution and delivery of the new easement agreement.

9.7 Each Mortgagee is and shall be an express third party beneficiary of the terms of this Section 8 and shall be entitled to enforce the obligations of Grantor hereunder. If a mortgage is syndicated or partially assigned so that more than one person hold interests of the same priority, Grantor shall not be required to provide notices to more than one (1) such person, and such person, defined in Mortgagee's notice to Grantor, shall be the only person deemed the Mortgagee of that mortgage hereunder, and shall be responsible for transmitting any notice from Grantor to all other partial owners of the mortgage.

10. Mechanics Liens. Grantee shall keep Grantor's Property free and clear of mechanics and materialmen's liens and claims of lien that arise out of Grantee's use of the easement or use of the easement by Grantee's principals, agents, employees, heirs, executor, administrators, representatives, successors and assigns, as well as any person or entity claiming through or on behalf of Grantee, either directly or indirectly, including, but not limited to licensees, lessees or successors-in-interest, which are not due to any act or omission of Grantor, its principals, agents, employees, heirs, executor, administrators, representatives, successors and assigns, as well as any person or entity claiming through or on behalf of Grantor, either directly or indirectly, including, but not limited to licensees, lessees or successors-in-interest. If any action is filed to foreclose or enforce any such mechanic's or materialmen's lien, Grantee shall promptly obtain

the removal of the lien by payment of the lienor in full or by posting bond under Civil Code Section 3143. Not less than twenty (20) days prior to commencing any works of improvement within the Easement Area, Grantee shall provide notice of same to Grantor, which shall be entitled to post and record notices of non-responsibility regarding same.

11. Miscellaneous.

11.1 No Rights in Public. Nothing herein contained shall be deemed to be a gift or dedication of any portion of the Easement Area or the Property to or for the general public, it being the intention of the parties hereto that the Easement shall be strictly limited to the purposes herein expressed. Except as specifically set forth in Section 1 above, nothing contained herein shall be deemed or construed to grant to Grantee any right in or to any portion of the Property other than the Easement Area.

11.2 Attorneys' Fees. In any action or proceeding brought to enforce or interpret any provision of this Agreement, or where any provision hereof is validly asserted as a defense, the prevailing party shall be entitled to recover reasonable attorneys' fees and all other litigation costs including without limitation costs awardable pursuant to California Code of Civil Procedure Section 1033.5 and amounts payable to expert witnesses ("Costs") in addition to any other available remedy. In addition to the fees and Costs recoverable under the preceding sentence, the parties agree that the prevailing party shall be entitled to recover reasonable attorneys' fees and Costs incurred in connection with the any appeal and/or the enforcement of a judgment arising from such action or proceeding. The provisions of the preceding sentence shall be severable from the other provisions of this Agreement and shall survive the entry of any such judgment.

11.3 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the successors and assigns of Grantor and Grantee.

11.4 Construction. As used in this Agreement, the masculine, feminine and neuter gender and the singular or plural number shall be deemed to include the other whenever the context so indicates. This Agreement shall be construed as a whole and in accordance with its fair meaning, the captions being for convenience only and not intended to fully describe their defined provisions in the portions of this Agreement to which they pertain.

11.5 Waiver; Default; Remedies. No delay on the part of any party hereto in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any waiver on the part of any party hereto of any right, power or privilege hereunder operate as a waiver of any other right, power or privilege hereunder, nor shall any single or partial exercise of any right, power or privilege hereunder, preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder. In the event of a breach of this Agreement by Grantee, including an assignment of Grantee's interest not in compliance with Section 7 above, and such breach is not cured within sixty (60) days after delivery of notice thereof to Grantee, then Grantor by subsequent notice to Grantee may terminate the Easement and this Agreement, subject to Mortgagees' rights under Section 8 above. Notwithstanding Section 8 above, if the breach by Grantee is adversely affecting or presents an imminent threat to Grantor's title to Grantor's Property, or the reasonable use or safe operation of the balance of

Grantor's Property outside the Easement Area, then without terminating this Agreement Grantor may pay off liens, perform such work or file such actions as are reasonably necessary to eliminate the encumbrance or abate the adverse effects or safety hazards, and the cost of same, including reasonable court costs and attorneys fees, shall be paid by Grantee to Grantor upon demand.

11.6 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

10.7 Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the State of California applicable to agreements made and to be performed within the state. The parties, hereby consent to exclusive venue for all causes of action arising under this Agreement in the Superior Court in and for Riverside County, California, or the Federal District Court for the Eastern District of California, and hereby waive the right to bring or maintain an action arising under this Agreement in any other forum.

11.8 Severability. Invalidation of any of the provisions contained in this Agreement, or the application thereof to any person by legislation, judgment or court order, shall in no way affect any of the other provisions hereof or the application thereof to any other person, and the same shall remain in full force and effect.

11.9 Termination. Grantee's rights under this Agreement shall terminate with respect to any portion of the Easement Area that is within a physically open, dedicated and accepted public street. In such event, Grantee shall upon request execute a quitclaim deed or other similar documents reasonably requested by Grantor to confirm the termination of this Agreement as it applies to such Easement Area.

IN WITNESS WHEREOF, Grantor and Grantee have executed this Easement as of the date first written above.

"GRANTOR"

LAZAR FAMILY TRUST

By: _____
Seymour Lazar, Trustee

By: Alyce Lazar
Alyce Lazar, Trustee

"GRANTEE"

Mesa Wind Power Corporation, a Colorado corporation

By: Thomas J Dugan
Thomas Dugan, Staff Attorney

Exhibit A

LEGAL DESCRIPTION OF GRANTOR'S PROPERTY

APN: 517-030-004, 3/10ths of an acre (.38 acres)

THAT PORTION OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 3 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF, LYING SOUTHERLY OF THE SOUTHERLY LINE OF LOT 640 OF SAN GORGONIO PASS NO, 7, AS PER MAP RECORDED IN BOOK 36 PAGES 65 THROUGH 67 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, LYING EASTERLY OF THE EASTERLY LINES OF LOT B (DESERT VIEW AVENUE) AND 389 OF SAN GORGONIO PASS NO. 5, AS PER MAP RECORDED IN BOOK 34 PAGES 43 AND 44 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, LYING NORTHERLY OF THE NORTHERLY LINE OF THE METROPOLITAN WATER DISTRICT AQUEDUCT AND LYING WESTERLY OF THE WESTERLY LINE OF COTTONWOOD CANYON WASH. SAID WASH SHOWN AS PARCEL 6140-7A OF RECORD OF SURVEY ON FILE IN BOOK 51 PAGES 29 TO 34, INCLUSIVE OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

EXHIBIT B

LEGAL DESCRIPTION OF GRANTEE'S PARCEL

Approximately 68 acres in Section 4, Township 3 South, Range 3 East, SBBM;

Approximately 409 acres in Sections 27, 33, and 34, Township 2 South, Range 3 East, SBBM.

APN: n/a (owned by United States (BLM))

EXHIBIT C

(POR) A.P.N. 517-030-004

All that land in the Southeast quarter of Section 5, Township 3 South, Range 3 East, San Bernardino Meridian, in the County of Riverside, State of California, described as follows:

A strip of land, 50.00 feet in width, lying 25.00 feet on each side of the following described centerline:

Commencing at the Northeast corner of Lot 389 of San Gorgonio Pass No. 5, as shown by map on file in Map Book 34, pages 43 through 44, Official Records of Riverside County, California;

Thence N 07°09'16" W, along the East line of Desert View Avenue, 60.00 feet in width, as shown by said Map, a distance of 30.00 feet to the Point of Beginning;

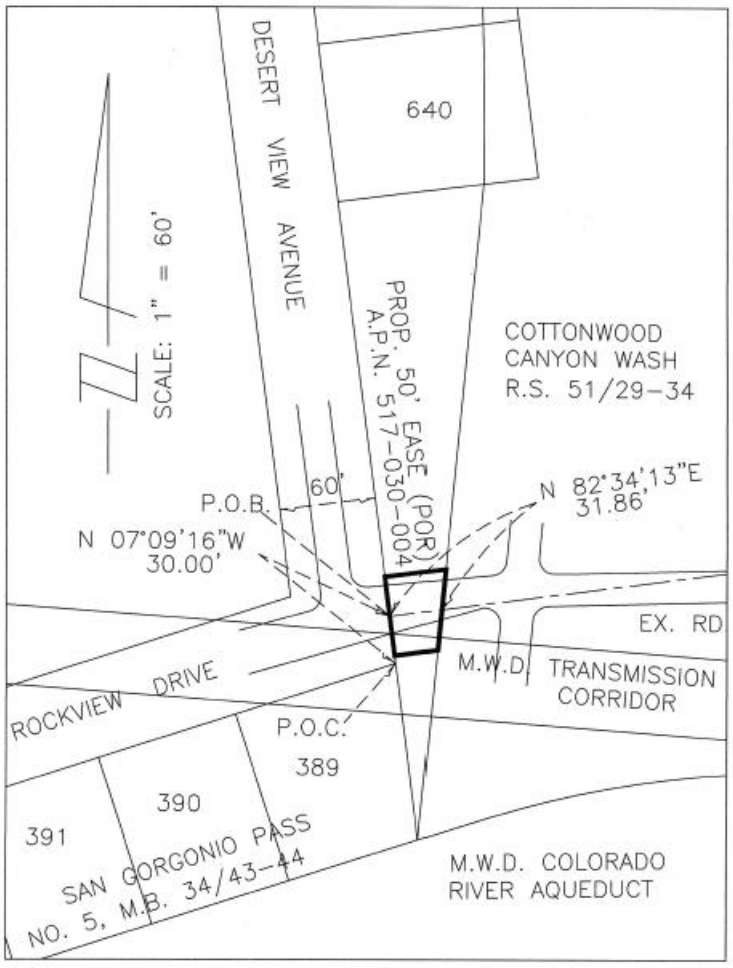
Thence N 82°34'13" E a distance of 31.86 feet to a point in the West line of the Cottonwood Canyon Wash as shown by map on file in Book 51, pages 29 through 34 of Records of Survey, Official Records of Riverside County, California, said point being the end of this centerline description.

Contains 1,593 square feet or 0.04 acres.

3/29/12

Neil C. McAnally, P.L.S. No. 4820 (exp 9-30-2012)

LEGAL DESCRIPTION AND/OR DEPICTION OF THE EASEMENT AREA


DESERT VIEW AVENUE
640
SCALE: 1" = 60'
PROP. 50' EASE (POR)
A.P.N. 517-030-004
COTTONWOOD
CANYON WASH
R.S. 51/29-34
P.O.B.
60'
N 07°09'16"W
30.00'
N 82°34'13"E
31.86'
EX. RD
M.W.D. TRANSMISSION
CORRIDOR
ROCKVIEW DRIVE
P.O.C.
389
390
391
SAN GORGONIO PASS
NO. 5, M.B. 34/43-44
M.W.D. COLORADO
RIVER AQUEDUCT

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of RIVERSIDE }

On OCTOBER 4, 2012 (Date) before me, GREGORY C. BURR, NOTARY PUBLIC (Here Insert Name and Title of the Officer)

personally appeared SEYMOUR LAZAR AND ALYCE LAZAR (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) ~~is/~~are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Gregory C. Burr (Signature of Notary Public)

GREGORY C. BURR
Commission # 1987981
Notary Public - California
Riverside County
My Comm. Expires Sep 10, 2016

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: EASEMENT DEED

Document Date: OCTOBER 4, 2012 Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: SEYMOUR LAZAR
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☐ Attorney in Fact
- ☒ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing: LAZAR FAMILY TRUST

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Signer's Name: ALYCE LAZAR
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☐ Attorney in Fact
- ☒ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing: LAZAR FAMILY TRUST

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Riverside } SS.

On 10-15-12 (DATE), before me, Philip Goodge, Notary Public,

personally appeared Thomas B. Dugan, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

PHILIP GOODGE
Comm. 1883302
Notary Public-California
Riverside County
Comm. Expires Apr 7, 2014

Philip Goodge
NOTARY'S SIGNATURE

PLACE NOTARY SEAL IN ABOVE SPACE

OPTIONAL INFORMATION

The information below is optional. However, it may prove valuable and could prevent fraudulent attachment of this form to an unauthorized document.

CAPACITY CLAIMED BY SIGNER (PRINCIPAL)

- ☐ INDIVIDUAL
- ☒ CORPORATE OFFICER — Staff Attorney (TITLE(S))
- ☐ PARTNER(S)
- ☐ ATTORNEY-IN-FACT
- ☐ TRUSTEE(S)
- ☐ GUARDIAN/CONSERVATOR
- ☐ OTHER: _____

DESCRIPTION OF ATTACHED DOCUMENT

Easement Deed
TITLE OR TYPE OF DOCUMENT

12
NUMBER OF PAGES

pp 10-4-12
DATE OF DOCUMENT

OTHER

SIGNER (PRINCIPAL) IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

This must be in red to be a
"CERTIFIED COPY"

I hereby certify the foregoing instrument to which this stamp has been affixed consisting of _____ pages to be a full, true and correct copy of the original on file and of record in my office.

Larry W Ward

Assessor - County Clerk - Recorder

County of Riverside, State of California

Dated: 10/16/12

ASSESSOR - COUNTY CLERK - RECORDER
ACR
RIVERSIDE COUNTY, CALIFORNIA

Certification must be in red to be a
"CERTIFIED COPY"

222516

When recorded return to:

United States Department
of the Interior
Bureau of Land Management
1900 E. Tahquitz-McCallum Way, Suite B-1
Palm Springs, CA 92262
Attn: Peter Kempenich

RECEIVED FOR RECORD
Min. Past ___ o'clock ___ M

AUG - 8 1988
Recorded in Official Records
of Riverside County, California
RECORDER
Fees $ ___

NONEXCLUSIVE ROAD EASEMENT

KNOW ALL PERSONS BY THESE PRESENTS, that for and in consideration of their goodwill and other valuable considerations,

Seymour Lazar and A. J. Lazar, husband and wife,

hereinafter called Grantor do hereby contribute, under the authority of Section 307 of the Federal Land Policy and Management Act of 1976 (43 USC 1737), to the UNITED STATES OF AMERICA, and its assigns, a nonexclusive easement to use, maintain, improve, repair and reconstruct an existing road located on the following described real property situated in the County of Riverside, State of California, to wit:

That portion of the east half of the Southeast Quarter of Section Five (5), Township Three South, Range Three East, S.B.B.M., contained within a strip of land being 100 feet in width, 50 feet to each side of the unsurveyed centerline, and providing access to lands owned by the U. S. Government and administered by the Department of Interior-Bureau of Land Management. Exhibit A dated July 25, 1988, attached hereto and made a part hereof, more properly denotes and describes the access location. The above described real property is denoted on Riverside County Assessor's records as Assessor's Parcel Number (APN) 517-030-003.

Provisions:

The easement herein contributed and granted is for the full use as a road by the UNITED STATES OF AMERICA, its permittees and licensees, and does not provide for the right of access for the public. It is subject to the effect of reservations and leases, if any, of oil, gas, and minerals in and under said land.

BLM agrees that the road located on the above described right-of-way shall be maintained in good repair during periods of use by the Grantee, its permittees or licensees.

EXHIBIT "A"

222516

The Grantor reserves the right to use said road for purposes consistent with the uses made of said road by Grantee. However, in the event of simultaneous use of the road by both parties, the Grantor and Grantee shall enter into a cooperative road maintenance agreement, which will designate maintenance responsibilities. The party performing the road maintenance shall be entitled to collect the pro rata share of maintenance costs from the other party.

This easement shall commence on the first day of September, 1988 and continue in perpetuity.

Grantor convenants and warrants that they are lawfully seized and possessed of the land aforesaid and has the full right, power, and authority to execute this conveyance, and that said land is free and clear of liens, claims, or encumbrances except as shown on record, and that they will defend the title to the easement conveyed herein and quiet enjoyment thereof against the lawful claims and demands of all persons.

The grantor acknowledges they are aware of Public Law 91-646 entitled "Uniform Relocation and Real Property Acquisition Policy's Act of 1970" and hereby waives and declines payment of full consideration in making this contribution to the United States of America.

Dated this 27 day of July, 1988

Seymour Lazar

A. J. Lazar

Accepted subject to approval
of title by the Dept. of Justice by:

Leslie M. Cone

Leslie M. Cone, Area Manager
Indio Resource Area
Bureau of Land Management

OFFICIAL SEAL
FAYE M. BURNS
NOTARY PUBLIC - CALIFORNIA
RIVERSIDE COUNTY
My Comm. Expires Apr. 18, 1989

STATE OF CALIFORNIA :
COUNTY OF Riverside

On 7/27/88, 19___, before the undersigned, a Notary Public in and for said County and State, personally appeared Seymour Lazar and A. J. Lazar, proved to me on the basis of satisfactory evidence to be the persons whose names subscribed to this instrument and acknowledged to me that they executed it.

Notary's Signature

222516

LAZAR

NON-EXCLUSIVE

ROAD EASEMENT

N

No. 6-0-140-1537

COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

ENCROACHMENT PERMIT

Bureau of Land Management
Palm Springs - South Coast Resource Area
400 South Farell Drive, Suite B-205
Palm Springs, CA 92262

Riverside, California

December 19, 19 90

In compliance with your request of December 5, 19 90 and subject to all the terms, conditions and restrictions written below or printed as general or special provisions on any part of this form

PERMISSION IS HEREBY GRANTED TO

construct, operate, and maintain one 16-foot wide access road across the District's right of way for Cottonwood Canyon Wash at approximate Station 91+00. All construction shall be performed in accordance with the plan labeled Cottonwood Canyon Wash Crossing, 1 sheet, prepared by ASL Consulting Engineers, as revised on November 28, 1990, and with the following:

All construction shall be performed in accordance with the appropriate provisions of the Standard Specifications for Public Works Construction, latest edition, unless otherwise stated below.

Prior to beginning construction, the Permittee or the contractor performing the work shall furnish a certificate of insurance with comprehensive liability limits of $2,000,000 per occurrence, naming the Permittee, the District, the County of Riverside, and any municipal corporation within which the work is to be performed, as additional insured. This insurance shall remain in effect for the duration of the work.

Permittee's attention is called to all General and Special Provisions found on the reverse side of Sheet 1 of this permit. The District requires 5 days notice prior to commencing work. Notice may be given by calling the Permit section at 714/275-1279.

This permit is to be strictly construed and no work other than that specifically mentioned above is authorized hereby. Performance of the work shall be deemed to be acceptance by the Permittee of all terms and conditions of this permit.

This permit shall be voided unless work herein contemplated shall have been completed before June 30, 19 91.

District Drawing No. 6-181, Sheet 8

RECOMMENDED FOR APPROVAL:

By Howard L. Dickinson
PERMIT ENGINEER

By Donald J. Greywood
CHIEF OF OPERATIONS

HLD:mcy

APPROVED:

Kenneth Edwards
KENNETH L. EDWARDS
CHIEF ENGINEER

950-3 (8/83)

GENERAL PROVISIONS

1. ACCEPTANCE OF PROVISIONS. It is understood and agreed by the Permittee that the performance of any work authorized under this permit shall constitute an acceptance of the provisions contained herein, and failure to comply with said provisions shall result in revocation of this permit by the Riverside County Flood Control and Water Conservation District.

2. NO PRECEDENT ESTABLISHED. This permit is granted with the understanding that this action is not to be considered as establishing any precedent on the question of the expediency of permitting any certain kind of encroachment to be erected within right of way of the Riverside Flood Control and Water Conservation District.

3. KEEP PERMIT ON WORK. This permit shall be kept at the site of the work and must be shown to any representative of the Riverside County Flood Control and Water Conservation District upon request.

4. PERMITS FROM OTHER AGENCIES. The party or parties to whom this permit is issued shall, whenever the same is required by law, secure the written order or consent to any work hereunder from the Public Utilities Commission of the State of California or any other public Board having jurisdiction, and this permit shall be suspended in operation unless and until such order or consent is obtained.

5. CLEAN UP RIGHT OF WAY. Upon completion of the work, all brush, timber, scraps and material shall be entirely removed and the right-of-way left in as presentable condition as before work started.

6. STANDARDS OF CONSTRUCTION. All work shall conform to recognized standards of construction.

7. SUPERVISION OF GRANTOR. All the work shall be done subject to the supervision of, and to the satisfaction of, the Riverside County Flood Control and Water Conservation District.

8. FUTURE MOVING OF INSTALLATION. It is understood by the Permittee that whenever construction, reconstruction or maintenance work on the right of way may require, the installation provided for herein shall, upon request of the Riverside County Flood Control and Water Conservation District, be immediately moved by, and at the sole expense of, the Permittee.

9. LIABILITY FOR DAMAGES. The permittee shall indemnify and hold the Riverside County Flood Control and Water Conservation District, its officers, agents, employees and independent contractors free and harmless from any liability whatsoever, based or asserted upon any act or omission of permittee, its officers, agents, employees, subcontractors, independent contractors, guests and invitees, for property damage, bodily injury or death or any other element of damage of any kind or nature related to or in anywise connected with or arising from the permittee's use of the premises, including, but not limited to, the construction, operation and maintenance of the installation provided for herein on the District's right-of-way or any such claims that may arise out of the failure of such installation, the condition thereof or the obligations to be performed by the permittee herein. The permittee shall defend, at its expense, including attorney's fees, the Riverside County Flood Control and Water Conservation District, its officers, agents, employees and independent contractors, in any claim or legal action based upon such alleged acts or omissions.

10. SURVEY MONUMENTS. Riverside County Flood Control and Water Conservation District monuments and/or right-of-way markers placed for the convenience of the permittee and monuments or right-of-way markers destroyed or requiring placement during or after completion of the work shall be done by the Riverside County Flood Control and Water Conservation District's survey crews and the permittee shall pay to the Riverside County Flood Control and Water Conservation District any and all costs incurred in the placement or replacement of District monuments and/or right-of-way markers within 30 days of billing from the Riverside County Flood Control and Water Conservation District.

11. MAKING REPAIRS. The permittee shall replace and restore the right of way at the place of the excavation to its condition prior to the making of the excavation.

12. CARE OF DRAINAGE. If the work herein contemplated shall interfere with the established drainage, ample provision shall be made by the Permittee to provide for it as may be directed by the grantor.

13. MAINTENANCE. The permittee agrees by the acceptance of this permit to exercise reasonable care to maintain properly any encroachment placed by it in the right of way and to exercise reasonable care in inspecting for and immediately repairing and making good any injury to any portion of the right of way as a result of the work done under this permit, including any and all injury to the right of way which would not have occurred had such work not been done or such encroachment not placed therein.

14. PERFORMANCE WARRANTY. Bond may be required of the permittee whenever in the judgment of the Riverside County Flood Control and Water Conservation District, it becomes necessary or advisable to guarantee performance.

15. DURATION. This permit may be cancelled by the Riverside County Flood Control and Water Conservation District upon thirty days written notice to permittee.

SPECIAL PROVISIONS

☑ 1. INSPECTION FEE REQUIRED BY GRANTOR. The permittee shall deposit a sum in the amount of $ 500.00 with the Riverside County Flood Control and Water Conservation District at least five working days prior to the anticipated start of work covered by this permit. Said amount is to cover the estimated cost of inspection, investigation, testing, etc., by the District of the work proposed under the permit.

☐ 2. NOTICE OF BEGINNING OF WORK. The permittee shall advise the Chief Engineer in writing of the anticipated start of work covered by this permit. Said notice shall be delivered to the office of the Riverside County Flood Control and Water Conservation District at least five working days prior to the start of work.

Attachment B

Hazardous Materials Business Plan

CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS)

CONSOLIDATED EMERGENCY RESPONSE / CONTINGENCY PLAN

Prior to completing this Plan, please refer to the INSTRUCTIONS FOR COMPLETING A CONSOLIDATED CONTINGENCY PLAN

A. FACILITY IDENTIFICATION AND OPERATIONS OVERVIEW

FACILITY ID #

1. CERS ID: 10611985

A1. DATE OF PLAN PREPARATION/REVISION: 8/15/2014 A2.

BUSINESS NAME *(Same as Facility Name or DBA - Doing Business As)*: Mesa Windfarm 3.

BUSINESS SITE ADDRESS: No phyiscal address (33.951799°, -116.664992°), 103.

BUSINESS SITE CITY: White Water 104.

CA

ZIP CODE: 92282 105.

TYPE OF BUSINESS (e.g., Painting Contractor): Power Generation A3.

INCIDENTAL OPERATIONS (e.g., Fleet Maintenance): A4.

THIS PLAN COVERS CHEMICAL SPILLS, FIRES, AND EARTHQUAKES INVOLVING: (Check all that apply) A5.

☒ 1. HAZARDOUS MATERIALS; ☒ 2. HAZARDOUS WASTES

B. INTERNAL RESPONSE

INTERNAL FACILITY EMERGENCY RESPONSE WILL OCCUR VIA: (Check all that apply) B1.

☒ 1. CALLING PUBLIC EMERGENCY RESPONDERS (i.e., 9-1-1)
☒ 2. CALLING HAZARDOUS WASTE CONTRACTOR
☐ 3. ACTIVATING IN-HOUSE EMERGENCY RESPONSE TEAM

C. EMERGENCY COMMUNICATIONS, PHONE NUMBERS AND NOTIFICATIONS

Whenever there is an imminent or actual emergency situation such as an explosion, fire, or release, the Emergency Coordinator (or his/her designee when the Emergency Coordinator is on call) shall:

1. Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
2. Notify appropriate local authorities (i.e., call 9-1-1).
3. Notify the California Emergency Management Agency at (800) 852-7550.

Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall notify the California Department of Toxic Substances Control (DTSC), the local Unified Program Agency (UPA), and the local fire department's hazardous materials program that the facility is in compliance with requirements to:

1. Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from an explosion, fire, or release at the facility; and
2. Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.

INTERNAL FACILITY EMERGENCY COMMUNICATIONS OR ALARM NOTIFICATION WILL OCCUR VIA: (Check all that apply) C1.

☒ 1. VERBAL WARNINGS; ☐ 2. PUBLIC ADDRESS OR INTERCOM SYSTEM; ☒ 3. TELEPHONE;
☐ 4. PAGERS; ☐ 5. ALARM SYSTEM; ☐ 6. PORTABLE RADIO

NOTIFICATIONS TO NEIGHBORING FACILITIES THAT MAY BE AFFECTED BY AN OFF-SITE RELEASE WILL OCCUR BY: (Check all that apply) C2.

☒ 1. VERBAL WARNINGS; ☐ 2. PUBLIC ADDRESS OR INTERCOM SYSTEM; ☒ 3. TELEPHONE;
☐ 4. PAGERS; ☐ 5. ALARM SYSTEM; ☐ 6. PORTABLE RADIO

EMERGENCY RESPONSE PHONE NUMBERS:

AMBULANCE, FIRE, POLICE AND CHP	9-1-1
CALIFORNIA EMERGENCY MANAGEMENT AGENCY (CAL/EMA)	(800) 852-7550
NATIONAL RESPONSE CENTER (NRC)	(800) 424-8802
POISON CONTROL CENTER	(800) 222-1222
LOCAL UNIFIED PROGRAM AGENCY (UPA/CUPA)	(951) 358-5055 C3.
OTHER (Specify): C4.	C5.

NEAREST MEDICAL FACILITY / HOSPITAL NAME: Desert Regional Medical Center C6. (760) 323-6511 C7.

AGENCY NOTIFICATION PHONE NUMBERS:

CALIFORNIA DEPT. OF TOXIC SUBSTANCES CONTROL (DTSC)	(916) 255-3545
REGIONAL WATER QUALITY CONTROL BOARD	(760) 346-7491 C8.
U.S. ENVIRONMENTAL PROTECTION AGENCY (US EPA)	(800) 300-2193
CALIFORNIA DEPT OF FISH AND GAME (DFG)	(916) 358-2900
U.S. COAST GUARD	(202) 267-2180
CAL/OSHA	(916) 263-2800
STATE FIRE MARSHAL	(916) 445-8200
OTHER (Specify): C9.	C10.
OTHER (Specify): C11.	C12.

D. EMERGENCY CONTAINMENT AND CLEANUP PROCEDURES

SPILL PREVENTION, CONTAINMENT, AND CLEANUP PROCEDURES: (Check all boxes that apply to indicate your procedures for containing spills, releases, fires or explosions; and. preventing and mitigating associated harm to persons, property, and the environment.)

D1.

- ☒ 1. MONITOR FOR LEAKS, RUPTURES, PRESSURE BUILD-UP, ETC.;
- ☒ 2. PROVIDE STRUCTURAL PHYSICAL BARRIERS (e.g., Portable spill containment walls);
- ☒ 3. PROVIDE ABSORBENT PHYSICAL BARRIERS (e.g., Pads, pigs, pillows);
- ☒ 4. COVER OR BLOCK FLOOR AND/ OR STORM DRAINS;
- ☒ 5. BUILT-IN BERM IN WORK / STORAGE AREA;
- ☒ 6. AUTOMATIC FIRE SUPPRESSION SYSTEM;
- ☒ 7. ELIMINATE SOURCES OF IGNITION FOR FLAMMABLE HAZARDS (e.g. Flammable liquids, Propane);
- ☒ 8. STOP PROCESSES AND/OR OPERATIONS;
- ☐ 9. AUTOMATIC / ELECTRONIC EQUIPMENT SHUT-OFF SYSTEM;
- ☒ 10. SHUT-OFF WATER, GAS, ELECTRICAL UTILITIES AS APPROPRIATE;
- ☒ 11. CALL 9-1-1 FOR PUBLIC EMERGENCY RESPONDER ASSISTANCE / MEDICAL AID;
- ☒ 12. NOTIFY AND EVACUATE PERSONS IN ALL THREATENED AREAS;
- ☒ 13. ACCOUNT FOR EVACUATED PERSONS IMMEDIATELY AFTER EVACUATION CALL;
- ☐ 14. PROVIDE PROTECTIVE EQUIPMENT FOR ON-SITE RESPONSE TEAM;
- ☒ 15. REMOVE OR ISOLATE CONTAINERS / AREA AS APPROPRIATE;
- ☒ 16. HIRE LICENSED HAZARDOUS WASTE CONTRACTOR;
- ☒ 17. USE ABSORBENT MATERIAL FOR SPILLS WITH SUBSEQUENT PROPER LABELING, STORAGE, AND HAZARDOUS WASTE DISPOSAL AS APPROPRIATE;
- ☒ 18. SUCTION USING SHOP VACUUM WITH SUBSEQUENT PROPER LABELING, STORAGE, AND HAZARDOUS WASTE DISPOSAL AS APPROPRIATE;
- ☐ 19. WASH / DECONTAMINATE EQUIPMENT W/ CONTAINMENT and DISPOSAL OF EFFLUENT / RINSATE AS HAZARDOUS WASTE;
- ☒ 20. PROVIDE SAFE TEMPORARY STORAGE OF EMERGENCY-GENERATED WASTES;
- ☐ 21. OTHER (Specify):

D2.

E. FACILITY EVACUATION

THE FOLLOWING ALARM SIGNAL(S) WILL BE USED TO BEGIN EVACUATION OF THE FACILITY (CHECK ALL THAT APPLY): E1.

- ☐ 1. BELLS;
- ☐ 2. HORNS/SIRENS;
- ☒ 3. VERBAL (I.E., SHOUTING);
- ☐ 4. OTHER (Specify): E2.

THE FOLLOWING LOCATION(S) IS/ARE EVACUEE EMERGENCY ASSEMBLY AREA(S) (i.e., Front parking lot, specific street corner, etc.) E3.

Parking lot southwest of O&M Building

Note: The Emergency Coordinator must account for all on site employees and/or site visitors after evacuation.

☒ EVACUATION ROUTE MAP(S) POSTED AS REQUIRED E4.

Note: The map(s) must show primary and alternate evacuation routes, emergency exits, and primary and alternate staging areas, and must be prominently posted throughout the facility in locations where it will be visible to employees and visitors.

F. ARRANGEMENTS FOR EMERGENCY SERVICES

Explanation of Requirement: Advance arrangements with local fire and police departments, hospitals, and/or emergency services contractors should be made as appropriate for your facility. You may determine that such arrangements are not necessary.

ADVANCE ARRANGEMENTS FOR LOCAL EMERGENCY SERVICES (Check one of the following) F1.

- ☒ *1.* HAVE BEEN DETERMINED NOT NECESSARY; *or*
- ☐ 2. THE FOLLOWING ARRANGEMENTS HAVE BEEN MADE (Specify):

F2.

G. EMERGENCY EQUIPMENT

Check all boxes that apply to list emergency response equipment available at the facility and identify the location(s) where the equipment is kept and the equipment's capability, if applicable. [e.g., ☒ CHEMICAL PROTECTIVE GLOVES | Spill response kit | One time use, Oil & solvent resistant only.]

TYPE	EQUIPMENT AVAILABLE G1.	LOCATION	CAPABILITY *(If applicable)*
Safety and First Aid	1. ☐ CHEMICAL PROTECTIVE SUITS, APRONS, OR VESTS	G2.	G3.
	2. ☒ CHEMICAL PROTECTIVE GLOVES	G4. O&M Building	G5.
	3. ☐ CHEMICAL PROTECTIVE BOOTS	G6.	G7.
	4. ☒ SAFETY GLASSES / GOGGLES / SHIELDS	G8. O&M Building	G9.
	5. ☒ HARD HATS	G10. O&M Building	G11.
	6. ☐ CARTRIDGE RESPIRATORS	G12.	G13.
	7. ☐ SELF-CONTAINED BREATHING APPARATUS (SCBA)	G14.	G15.
	8. ☒ FIRST AID KITS / STATIONS	G16. O&M Building	G17.
	9. ☒ PLUMBED EYEWASH FOUNTAIN / SHOWER	G18. O&M Building	G19.
	10. ☒ PORTABLE EYEWASH KITS	G20. O&M Building	G21.
	11. ☐ OTHER	G22.	G23.
	12. ☐ OTHER	G24.	G25.
Fire Fighting	13. ☒ PORTABLE FIRE EXTINGUISHERS	G26. O&M Building	G27.
	14. ☒ FIXED FIRE SYSTEMS / SPRINKLERS / FIRE HOSES	G28. O&M Building	G29.
	15. ☐ FIRE ALARM BOXES OR STATIONS	G30.	G31.
	16. ☐ OTHER	G32.	G33.
Spill Control and Clean-Up	17. ☒ ALL-IN-ONE SPILL KIT	G34. O&M Building	G35.
	18. ☒ ABSORBENT MATERIAL	G36. O&M Building	G37.
	19. ☒ CONTAINER FOR USED ABSORBENT	G38. O&M Building	G39.
	20. ☒ BERMING / DIKING EQUIPMENT	G40. O&M Building	G41.
	21. ☒ BROOM	G42. O&M Building	G43.
	22. ☒ SHOVEL	G44. O&M Building	G45.
	23. ☒ SHOP VAC	G46. O&M Building	G47.
	24. ☐ EXHAUST HOOD	G48.	G49.
	25. ☐ EMERGENCY SUMP / HOLDING TANK	G50.	G51.
	26. ☐ CHEMICAL NEUTRALIZERS	G52.	G53.
	27. ☐ GAS CYLINDER LEAK REPAIR KIT	G54.	G55.
	28. ☐ SPILL OVERPACK DRUMS	G56.	G57.
	29. ☐ OTHER	G58.	G59.
Communi-cations and Alarm Systems	30. ☒ TELEPHONES (Includes cellular)	G60. O&M Building	G61.
	31. ☐ INTERCOM / PA SYSTEM	G62.	G63.
	32. ☐ PORTABLE RADIOS	G64.	G65.
	33. ☐ AUTOMATIC ALARM CHEMICAL MONITORING EQUIPMENT	G66.	G67.
Other	34. ☐ OTHER	G68.	G69.
	35. ☐ OTHER	G70.	G71.

H. EARTHQUAKE VULNERABILITY

Identify areas of the facility that are vulnerable to hazardous materials releases / spills due to earthquake-related motion. These areas require immediate isolation and inspection.

VULNERABLE AREAS: (Check all that apply)	H1.	LOCATIONS (e.g., shop, outdoor shed, forensic lab)	
☒ 1. HAZARDOUS MATERIALS / WASTE STORAGE AREA		O&M Building and Substation	H2.
☐ 2. PROCESS LINES / PIPING			H3.
☐ 3. LABORATORY			H4.
☐ 4. WASTE TREATMENT AREA			H5.

Identify mechanical systems vulnerable to releases / spills due to earthquake-related motion. These systems require immediate isolation and inspection.

VULNERABLE SYSTEMS: (Check all that apply)	H6.	LOCATIONS	
☒ 1. SHELVES, CABINETS AND RACKS		Shop	H7.
☐ 2. TANKS (EMERGENCY SHUTOFF)			H8.
☒ 3. PORTABLE GAS CYLINDERS		Shop	H9.
☐ 4. EMERGENCY SHUTOFF AND/OR UTILITY VALVES			H10.
☐ 5. SPRINKLER SYSTEMS			H11.
☐ 6. STATIONARY PRESSURIZED CONTAINERS (e.g., Propane dispensing tank)			H12.

I. EMPLOYEE TRAINING

Explanation of Requirement: Employee training is required for all employees handling hazardous materials and hazardous wastes in day-to-day or clean-up operations including volunteers and/or contractors. Training must be:

- Provided within 6 months for new hires;
- Amended as necessary prior to change in process or work assignment;
- Given upon modification to the Emergency Response / Contingency Plan, and updated/refreshed annually for all employees.

Required content includes all of the following:

- Material Safety Data Sheets;
- Hazard communication related to health and safety;
- Methods for safe handling of hazardous substances;
- Fire hazards of materials / processes;
- Conditions likely to worsen emergencies;
- Coordination of emergency response;
- Notification procedures;
- Applicable laws and regulations;
- Communication and alarm systems;
- Personal protective equipment;
- Use of emergency response equipment (e.g. Fire extinguishers, respirators, etc.);
- Decontamination procedures;
- Evacuation procedures;
- Control and containment procedures;
- UST monitoring system equipment and procedures (if applicable).

INDICATE HOW EMPLOYEE TRAINING PROGRAM IS ADMINISTERED (Check all that apply) I1.

☒ 1. FORMAL CLASSROOM; ☒ 2. VIDEOS; ☒ 3. SAFETY / TAILGATE MEETINGS;

☐ 4. STUDY GUIDES / MANUALS (Specify): _____ I2.

☐ 5. OTHER (Specify): _____ I3.

☐ 6. NOT APPLICABLE BECAUSE FACILITY HAS NO EMPLOYEES

Large Quantity Generator (LQG) Training Records: Large quantity hazardous waste generators (i.e., who generate more than 270 gallons/1,000 kilograms of hazardous waste per month) must retain written documentation of employee hazardous waste management training sessions which includes:

- A written outline/agenda of the type and amount of both introductory and continuing training that will be given to persons filling each job position having responsibility for the management of hazardous waste (e.g., labeling, manifesting, compliance with accumulation time limits,etc.).
- The name, job title, and date of training for each hazardous waste management training session given to an employee filling such a job position; and
- A written job description for each of the above job positions that describes job duties and the skills, education, or other qualifications required of personnel assigned to the position.
- Current employee training records must be retained until closure of the facility.
- Former employee training records must be retained at least three years after termination of employment.

J. LIST OF ATTACHMENTS

(Check one of the following) J1.

☒ *1.* NO ATTACHMENTS ARE REQUIRED; *or*

☐ 2. THE FOLLOWING DOCUMENTS ARE ATTACHED: J2.

K. SIGNATURE / CERTIFICATION

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete, and that a copy is available on site.

SIGNATURE OF OWNER/OPERATOR	DATE SIGNED K1.
	2/26/2015
NAME OF SIGNER (print) K2.	TITLE OF SIGNER K3.
Diane Barr	Compliance Manager

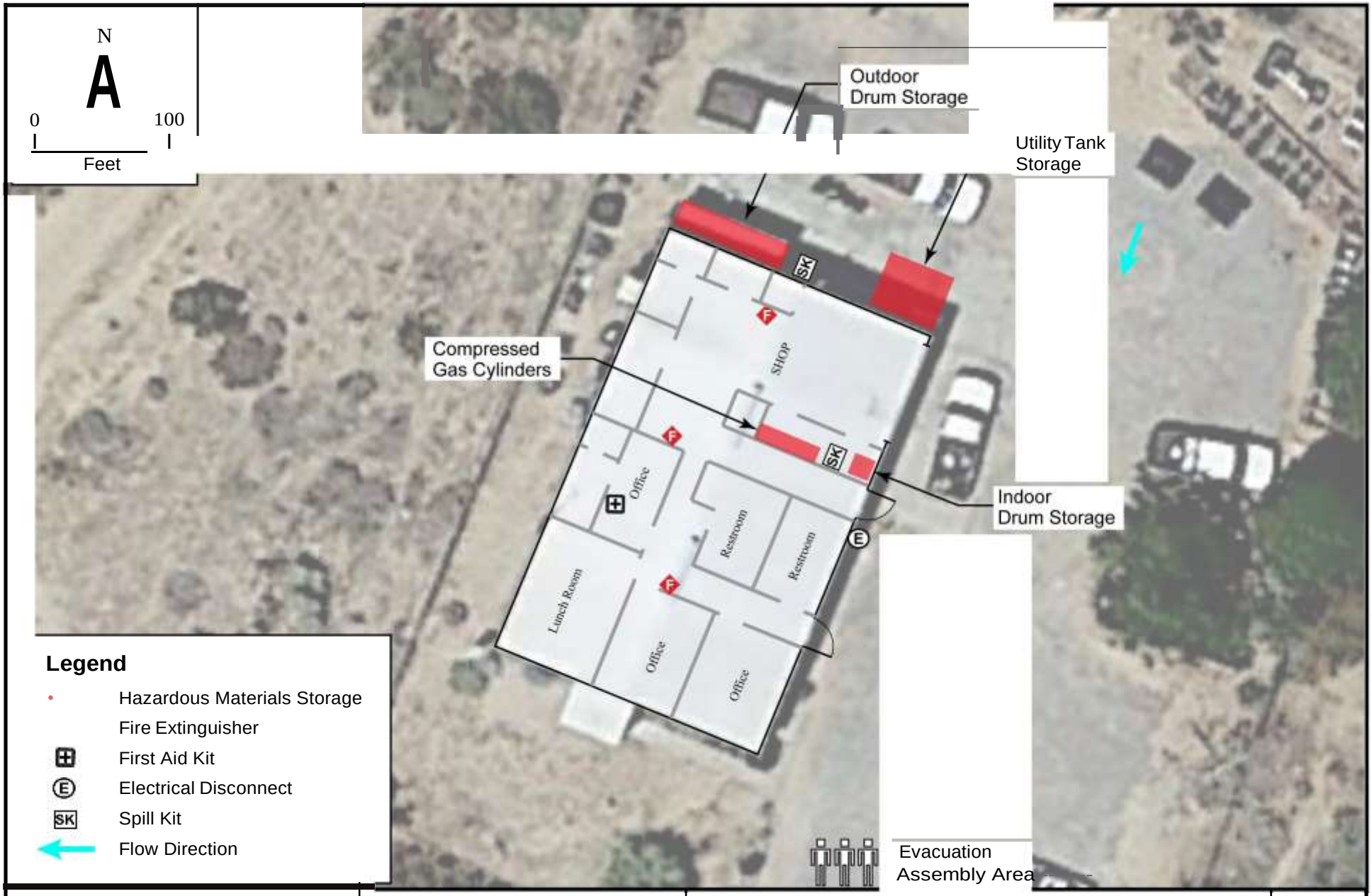
1-)

PROJECT NO: 239496-001	
DATE: 9 DECEMBER 2014	
FILE: Mesa_Substation.mxd	
DRAWN BY: HR	
CHECKED BY: MH	

SITE LOCATION MAP
Brookfield Mesa Substation and Operations and Maintenance Building
WHITEWATER, CALIFORNIA

FIGURE

1



1-)

PROJECT NO: 239496-001
DATE: 9 DECEMBER 2014
FILE: Mesa_O&M_Bldg.mxd
DRAWN BY: HR
CHECKED BY: MH

SITE DETAIL MAP
Brookfield Mesa Operations and Maintenance Building
WHITEWATER, CALIFORNIA

FIGURE
3

1-)

PROJECT NO: 239496-001
DATE: 9 DECEMBER 2014
FILE: Mesa_Substation.mxd
DRAWN BY: HR
CHECKED BY: MH

SITE DETAIL MAP
Brookfield Mesa Substation
WHITEWATER, CALIFORNIA

FIGURE
2

California Environmental Reporting System (CERS) — Business Activities

Site Identification

Mesa Windfarm
11001 Whitewater Cayon Rd
Whitewater, CA 92282
County
Riverside

CERS ID
10611985
EPA ID Number
CAL000386992

Submittal Status

Submitted on 2/1/2019 by *John Burkhart* of Brookfield Renewable Energy (Mojave, CA)
Submittal was ***Accepted***; Processed on 2/7/2019 by *Joel Harris* for Riverside County Department of Environmental Health

Hazardous Materials

Does your facility have on site (for any purpose) at any one time, hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or is regulated under more restrictive inventory local reporting requirements (shown below if present); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	**Yes**

Underground Storage Tank(s) (UST)

Does your facility own or operate underground storage tanks?	**No**

Hazardous Waste

Is your facility a Hazardous Waste Generator?	**Yes**
Does your facility treat hazardous waste on-site?	**No**
Is your facility's treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	**No**
Does your facility consolidate hazardous waste generated at a remote site?	**No**
Does your facility need to report the closure/removal of a tank that was classified as hazardous waste and cleaned on-site?	**No**
Does your facility generate in any single calendar month 1,000 kilograms (kg) (2,200 pounds) or more of federal RCRA hazardous waste, or generate in any single calendar month, or accumulate at any time, 1 kg (2.2 pounds) of RCRA acute hazardous waste; or generate or accumulate at any time more than 100 kg (220 pounds) of spill cleanup materials contaminated with RCRA acute hazardous waste.	**No**
Is your facility a Household Hazardous Waste (HHW) Collection site?	**No**

Excluded and/or Exempted Materials

Does your facility recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	**No**
Does your facility own or operate ASTs above these thresholds? Store greater than 1,320 gallons of petroleum products (new or used) in aboveground tanks or containers.	**No**
Does your facility have Regulated Substances stored onsite in quantities greater than the threshold quantities established by the California Accidental Release prevention Program (CalARP)?	**No**

Additional Information

To access site: Take exit 110, Haugen Lehman Way, off of I-10, Right on Cottonwood Dr, right on Rockview Dr, left on Desert View Rd. and right on the wash that leads to the O&M building.

This facility stores 1,305 gallons petroleum products regulated by APSA. This does not include 7,660 gallons of mineral oil contained in electrical transformers that are exempt from APSA.

Facility/Site

Mesa Windfarm
11001 Whitewater Cayon Rd
Whitewater, CA 92282

CERS ID
10611985

Submittal Status

Submitted on 2/1/2019 by *John Burkhart* of Brookfield Renewable Energy (Mojave, CA)
Submittal was ***Accepted***; Processed on 2/7/2019 by *Joel Harris* for Riverside County Department of Environmental Health

Identification

MESA WIND POWER CORPORATION

Operator Phone	Business Phone	Business Fax	Beginning Date	Ending Date	
(760) 320-2394	(661) 823-2100				
Dun & Bradstreet	**SIC Code**	**Primary NAICS**			
961924706	4911	221119			

Facility/Site Mailing Address

6703 Oak Creek Road
Mojave, CA 93501

Primary Emergency Contact

Jared Cooley
Title
Operations Manager

Business Phone	24-Hour Phone	Pager Number
(661) 823-2115	(661) 557-8451	

Owner

Brookfield Renewable Energy
(661) 823-2100
6703 Oak Creek Road
Mojave, CA 93501

Secondary Emergency Contact

Brian Goodwin
Title
Supervisor, Operations

Business Phone	24-Hour Phone	Pager Number
(661) 823-2114	(661) 808-0291	

Billing Contact

Accounts Payable
(884) 223-0255 ap@brookfieldrenewable.com
41 Victoria Street
Gatineau, QC J8X 2A1 Canada

Environmental Contact

Jonathan Kirby
(604) 489-2205 jonathan.kirby@brookfieldrenewable.com
6703 Creek Road
Mojave, CA 93501

Name of Signer	Signer Title	Document Preparer
Jonathan Kirby	Manager, Compliance and Licensing	Jonathan Kirby

Additional Information

Locally-collected Fields

Some or all of the following fields may be required by your local regulator(s).

Property Owner
Bureau of Land Management

Phone

Mailing Address

Palm Springs, CA

Assessor Parcel Number (APN)

Number of Employees
12

Facility ID
FA0018361

Location Information					Chemical Identification			
1a*	201	202	203	204	205	206	207*	208
CERSID	**ChemicalLocation**	**CLConfidential**	**MapNumber**	**GridNumber**	**ChemicalName**	**TradeSecret**	**CommonName**	**EHS**
10611985	Substation	N			Oil, Hydrotreated Light Napthenic Dist		Transformer Oil	N
10611985	Outside Oil Storage	N			Oil, Hydrotreated Light Napthenic Dist		Used Oil	N
10611985	Shop	N			Gear Lubricant-Vario	N	Lube Oil	N
10611985	Shop	N			Nitrogen		Nitrogen	N
10611985	Outside Oil Storage	N					Used Oil Filters (Drai	N
10611985	Utility Tank Storage				Diesel Fuel No. 2		Diesel Fuel No. 2	N
10611985	Utility Tank Storage				Gasoline		Gasoline	N

	Fire Code Hazard Class Informati				
209	210a	210b	210c	210d	210e
CASNumber	PFCodeHazardClass	SFCodeHazardClass	TFCodeHazardClass	FFCodeHazardClass	FifthFireCodeHazardClass
64742-47-8		4			
64742-47-8		4			
		4			
7727-37-9					
68476-34-6		2			
86290-81-5		10			

on					
210f	210g	210h	211	212	213
SixthFireCodeHazardClass	SeventhFireCodeHazardClass	EighthFireCodeHazardClass	HMType	RadioActive	Curies
			a	N	
			a	N	
			b	N	
			a	N	
			b	N	
			a	N	
			a	N	

214*	215	216a	216b	216c	216d	216e
PhysicalState	LargestContainer	FHCFire	FHCReactive	FHCPressureRelease	FHCAcuteHealth	FHCChronicHealth
b	3830	N	N	N	N	N
b	55	N	N	N	N	N
b	55	N	N	N	N	N
c	304	N	N	N	N	N
b	250	N	N	N	N	N
b	100	N	N	N	N	N
b	105	N	N	N	N	N

216f	216g	216h	216i	216j	216k
FHCPhysicalFlammable	**FHCPhysicalGasUnderP**	**FHCPhysicalExplosive**	**FHCPhysicalSelfHeating**	**FHCPhysicalPyrophoric**	**FHCPhysicalOxidizer**
Y	N	N	N	N	N
Y	N	N	N	N	N
Y	N	N	N	N	N
N	Y	N	N	N	N
N	N	N	N	N	N
Y	N	N	N	N	N
Y	N	N	N	N	N

Fire Hazard Category Information					
216l	216m	216n	216o	216p	216q
FHCPhysicalOrganicPer	FHCPhysicalSelfReactiv	FHCPhysicalPyrophoric	FHCPhysicalCorrosiveTo	FHCPhysicalContactWat	FHCPhysicalCombustibl
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N

216r	216s	216t	216u	216v	216w
FHCPhysicalHazardNotOF	HCHealthCarcinogenici	FHCHealthAcuteToxicity	FHCHealthReproductive	FHCHealthSkinCorrosio	FHCHealthRespiratoryS
N	N	N	N	N	N
N	N	N	N	Y	Y
N	N	N	N	Y	Y
N	N	N	N	N	N
N	N	N	N	N	N
N	N	Y	N	Y	N
N	N	Y	N	Y	N

216x	216y	216z	216aa	216bb	216cc
FHCHealthSeriousEyeDa	FHCHealthSpecificTarge	FHCHealthAspirationHa	FHCHealthGermCellMut	FHCHealthSimpleAsphy	FHCHealthHazardNotOt
N	N	Y	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	Y	N
N	N	N	N	N	N
N	N	N	N	N	N
N	N	N	N	N	N

217	218*	219	220	221*	222
AverageDailyAmount	MaximumDailyAmount	AnnualWasteAmount	StateWasteCode	Units	DaysOnSite
7660	7660			a	365
220	880	220	221	a	365
165	220			a	365
608	1216			b	365
2	10	250	223	c	29
100	100			a	365
105	105			a	365

223a	223b	223c	223d	223e	223f	223g
SCAboveGroundTank	**SCUnderGroundTank**	**SCTankInsideBuilding**	**SCSteelDrum**	**SCPlasticNonMetallicDrum**	**SCCan**	**SCCarboy**
N	N	N	N	N	N	N
N	N	N	Y	N	N	N
N	N	N	Y	N	N	N
N	N	N	N	N	N	N
N	N	N	Y	N	N	N
N	N	N	N	N	N	N
N	N	N	N	N	N	N

Storage Container Information*								
223h	223i	223j	223k	223l	223m	223n	223o	223p
SCSilo	SCFiberDrum	SCBag	SCBox	SCCylinder	SCGlassBottle	SCPlasticBottle	SCToteBin	SCTankTruckTankWagon
N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N
N	N	N	N	Y	N	N	N	N
N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	Y
N	N	N	N	N	N	N	N	Y

223q	223r	223r-1	224	225	226	227
SCTankCarRailCar	**SCOther**	**OtherStorageContainer**	**StoragePressure**	**StorageTemperature**	**HC1PercentByWeight**	**HC1Name**
N	Y	Transformer Case	a	a		
N	N		a	a		
N	N		a	a	85.00	VARIOUS LUBR
N	N		b	a		
N	N		a	a	100.00	Waste Petrole
N	N		a	a		
N	N		a	a		

							Hazardous Component Information		
228	229	230	231	232	233	234	235	236	237
HC1EHS	HC1CAS	HC2PercentByWeight	HC2Name	HC2EHS	HC2CAS	HC3PercentByWeight	HC3Name	HC3EHS	HC3CAS
N	6474X-XX-X	15.00	ADDITIVE PACKAGE, INCLU	MIXTURE		2.00	ZINC ALKYLDITHIOPHOSPH		68649-42-3
N	Mixture								

238	239	240	241	242	243	244	245
HC4PercentByWeight	HC4Name	HC4EHS	HC4CAS	HC5PercentByWeight	HC5Name	HC5EHS	HC5CAS

246	247	250	251	252
ChemicalDescriptionComment	**AdditionalMixtureComponents**	**CCLID**	**USEPASRSNumber**	**DOTHazardClassificationID**
				3
				3
			153122	2.2
Filters are placed on a drain above a 55 gallon drum. Once drained, the filters are placed in a separate 55 gallon d				9
		103045		3
		104159	599746	3

This worksheet provides look-up values for the "Chemical Inventory"

Fire Code Hazard Classes	
1	Carcinogen
2	Combustible Liquid, Class II
3	Combustible Liquid, Class III-A
4	Combustible Liquid, Class III-B
5	Corrosive
6	Cryogen
7	Explosive
8	Flammable Gas
9	Flammable Liquid, Class I-A
10	Flammable Liquid, Class I-B
11	Flammable Liquid, Class I-C
12	Flammable Solid
13	Highly Toxic
14	Irritant
15	Liquified Petroleum Gas
16	Magnesium
17	Oxidizing, Class 1
18	Oxidizing, Class 2
19	Oxidizing, Class 3
20	Oxidizing, Class 4
21	Oxidizing Gas, Gaseous
22	Oxidizing Gas, Liquified
23	Organic Peroxide, Class I
24	Organic Peroxide, Class II
25	Organic Peroxide, Class III
26	Organic Peroxide, Class IV
27	Other Health Hazard
28	Pyrophoric
29	Radioactive
30	Sensitizer
31	Toxic
32	Unstable(Reactive), Class 1
33	Unstable(Reactive), Class 2
34	Unstable(Reactive), Class 3
35	Unstable(Reactive), Class 4
36	Water Reactive, Class 1
37	Water Reactive, Class 2
38	Water Reactive, Class 3
39	Other

DOT Hazard Classes	
1.1	MASS EXPLOSIVE HAZARD
1.2	PROJECTION HAZARD
1.3	FIRE AND/OR MINOR BLAST/PROJECTION HAZARD
1.4	MINOR EXPLOSION HAZARD
1.5	VERY INSENSITIVE WITH MASS EXPLOSION HAZARD
1.6	EXTREMELY INSENSITIVE; NO MASS EXPLOSION HAZARD

2.1	FLAMMABLE GASES
2.2	NONFLAMMABLE GASES
2.3	TOXIC GASES
3	FLAMMABLE AND COMBUSTIBLE LIQUIDS
4.1	FLAMMABLE SOLIDS
4.2	SPONTANEOUSLY COMBUSTIBLE
4.3	DANGEROUS WHEN WET
5.1	OXIDIZING SUBSTANCES
5.2	ORGANIC PEROXIDES
6.1	TOXIC SUBSTANCES
6.2	INFECTIOUS SUBSTANCES
7	RADIOACTIVE MATERIAL
8	CORROSIVES (LIQUIDS AND SOLIDS)
9	MISC. HAZARDOUS MATERIALS

Attachment C

Spill Prevention, Control, and Countermeasures

Spill Prevention, Control, and Countermeasure Plan

Mesa Substation and
Operations and Maintenance Building
Western U.S. Regional Operations Center Tehachapi

Prepared for:

Brookfield

Brookfield Renewable Energy Group

February 2015

Prepared by:

2365 Iron Point Road, Suite 300
Folsom, CA 95630
(916) 817-4700

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

Record of Changes

By signing below, the reviewer is certifying the following, "I have completed the review and evaluation of the SPCCP for the facility and will (will not) not amend the Plan as a result." Complete the table below indicating required changes/amendments. If no changes/amendments are required, write "No changes or amendments required" under the "Nature of Change/Amendment" column.

Review Date	Signature of Reviewer	Nature of Change/Amendment (include page number)	PE Certification Required? (Yes/No)

10 INTRODUCTION

11 General

The facility is owned and operated by Brookfield Renewable Energy Group (BREG), which operates windfarms throughout the western United States. The windfarms are routinely monitored to ensure turbine equipment operation. Wind turbine components filled with oil include hydraulic rotor brake controls, hydraulic turbine blade pitch angle controls, and oil-filled gearbox drive systems converting the low speed of the rotor shaft into a high revolution that drives a generator. Preventative maintenance on these hydraulic and lubrication systems is critical to maintaining productivity and safety.

Past operating history of wind turbines suggests that incidents associated with the hydraulic system are more prevalent than brake issues. While gearbox issues are the least prevalent, the worst case discharge would be an instantaneous release of lubricating oils from the gearbox of a wind turbine. The most likely spill would be less than 50 gallons. Preventative maintenance in line with the manufacturer's service manual will reduce this likelihood further.

As part of the windfarm operation, BREG also operates distribution facilities. Operation of these facilities within the realm of technological and economic feasibility requires the use of relatively large autotransformers and power transformers with and without load tap changers. This equipment is filled with highly refined transformer oil for the purpose of providing insulation between electrically energized internal parts. The insulating oil in each of these devices is vital to its continued performance as an essential link in the electrical facilities. For this reason, precautions are taken to ensure that insulating oil is maintained at the proper level in each of these devices.

Past operating history of oil-filled electrical devices, both in this system and industry wide, indicates that the probability of an oil spill of such magnitude and proximity as to cause damage to U.S. waters or shores is extremely remote. Recent advances in substation electrical equipment design, which include pressure relief devices, tank design and size, protection schemes, etc., will help reduce this probability even further.

A small probability of an oil leak from electrical facilities is the result of high quality equipment design and operation, good maintenance procedures and the frequent routine inspections of all substation equipment by personnel to detect oil leaks before they become significant. An approximate loss of 10% of the oil in one of these devices would result in an electrical failure of the device. This failure would be detected immediately by the resulting loss of electrical service. Response to this loss of service includes an immediate dispatch of maintenance personnel to the substation to fix the problem. Dispatched personnel would perform all necessary tasks to contain and clean up any possible spill in accordance with the procedure outlined in this SPCC plan.

12 Federal Regulations

Spill Prevention, Control and Countermeasure (SPCC) regulations were first established in 1973 to require facilities to implement more stringent procedures and programs on oil management. These regulations were expanded and modified in 2002, 2006, 2008, and again in 2009. Any facility that stores 1,320 gallons or more of oil aboveground in 55-gallon or greater sized containers that may, if spilled, discharge oil to "navigable" waters must comply with these regulations under 40 CFR 112.

40 CFR 112.2 defines "oil" to mean oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil. Preparation and implementation of this Plan are required by the SPCC regulations. The official copy of this Plan is kept in the BREG field office.

13 State and Local Regulations

Oil storage activities in California are regulated by Section 25270 of the California Health and Safety Code, also known as the Aboveground Petroleum Storage Act (APSA). The APSA requires that oil storage facilities prepare and implement a SPCC Plan in accordance with 40 CFR 112. SPCC regulations are enforced and administered on the local level by 83 government agencies certified by the Secretary of California EPA as Certified Unified Program Agencies (CUPAs).

14 Management Approval and Designated Person

An accidental oil release from an electrical apparatus or turbine may result in serious consequences to BREG regardless of the spill proximity to nearby navigable waters. Damage suits, legal fees and cleanup expenses arising from oil released onto neighboring properties could have an enormous financial impact on BREG and could hinder future abilities to obtain zoning changes and other permits required for future expansion. BREG is firmly committed to maintaining good public relations with its customers and protecting the environment.
The Person signed below is accountable for Oil Spill Prevention at BREG and has the authority to commit the necessary resources to implement the Plan as described.

Signature: _____

Name (Please type or print): _____

Title: _____

Date: _____

15 Certification

The owner or operator of a facility certifies that each of the following is true:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the qualification criteria under §112.3(g)(1)):
   a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
   b. The facility has had no single discharge exceeding 1,000 gallons and no two discharges exceeding 42 gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date;
7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include an exemption/measures pursuant to §112.9(c)(6) for produced water containers and any associated piping and appurtenances downstream from the container; and,
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Approved By: _____

Signature: _____

Title: _____

Date: _____

20 SPILL PREVENTION

The general mechanisms of spill prevention that are practiced by BREG are briefly discussed below. Spill prevention mechanisms specific to the site are discussed in Section 5.0.

21 Material Compatibility

Compatibility is the ability of a substance to exist in contact with a container or another substance in a chemically and physically stable state. For two substances to be compatible, there must be no increase in hazard when the two are in contact. When the substances are in contact or mixed under uncontrolled conditions, there must be no reactions leading to production of heat, pressure, fire, explosion, violent reaction, toxic dusts, mists, or hazardous substances with the materials of construction that store or transport them. All petroleum is stored in containers constructed of compatible material.

22 Housekeeping

Good housekeeping is the practice of maintaining a clean and orderly work environment, thereby reducing the possibility of accidental spills caused by mishandling of equipment and materials and facilitating the detection of spills and leaks. All small oil leaks and spills are cleaned up immediately with dry absorbent. Leaking containers are addressed immediately by repair of the container or transfer of oil to a secure container. Leaking equipment is scheduled for maintenance as soon as possible to minimize risk of large leaks.

23 Inspections, Tests, and Records

Facility operators routinely inspect all BREG substations and windfarms in order to identify potential hazards, deficiencies, non-standard construction conditions, and any other problematic maintenance conditions within the substations and windfarms. These monthly inspections include all structures, equipment, fences, ground grid, oil containments, and yards in the BREG substation and windfarm systems. The substation and windfarm inspector(s) record all substation and windfarm maintenance issues and report them to the appropriate supervisory personnel for action. The inspector(s) also address whatever “light” maintenance issues that are within their range of resources and abilities while on-site. Inspection data collected during the monthly inspections are recorded on hardcopy forms/reports and stored by the operations supervisor.

24 Personnel Training and Discharge Prevention Briefings

The SPCC Plan regulatory requirements for training are specified in 40 CFR 112.7(f). This subsection addresses these requirements by describing the training program for SPCC Plan compliance.

All oil-handling personnel must be trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; general facility operations; and the contents of this Plan. These training requirements are addressed through discharge prevention briefings. BREG conducts discharge prevention briefings for oil-handling personnel **at least once a year** to ensure adequate understanding of this Plan. The briefings must highlight and describe all of the following that might apply:

1. Known changes to the Plan;
2. Discharges or failures and how to prevent similar future incidents;
3. Malfunctioning components or structural failures that have occurred and how to remedy and prevent them;
4. Recently developed precautionary measures; and
5. Changes to facilities, structures and equipment related to petroleum storage, handling and response.

The briefing can take place during one of the periodic safety meetings, or at any other time.

25 Oil Handling and Loading Procedures

Oil handling and loading operations are not routinely conducted at BREG. Windfarm maintenance activities are conducted on a 3-year maintenance cycle. All oils within a windfarm turbine are tested and changed (if necessary) every 3 years. All personnel who transfer or manage oil take all reasonable measures to prevent and clean up spills. These procedures are reviewed during discharge prevention briefings.

3.0 SPILL DETECTION AND RESPONSE

3.1 Release Detection by Personnel

Small and slow leaks would be detected and corrected during routine inspections, which are conducted at least monthly. Large releases of oil from electrical oil-filled operational equipment (OFOE) will typically result in failure of that piece of equipment. Such failures would be detected by the facility's supervisory control and data acquisition (SCADA) system and operators would be immediately dispatched to determine the cause of failure and take corrective steps, including the control of any oil spill that may have occurred. After normal business hours and on holidays, personnel are on call for emergency service.

3.2 Spill Response

Procedures outlining the Brookfield's response to spills and other emergencies are documented in Brookfield Renewable Energy Group's environmental procedure BREG-EP4, Incident Reporting and Investigation (Environment). Emergency procedures specific to BREG facilities are documented in the Emergency Action Plan, document number EHS-BTEAP-1.0. Emergency response procedures are summarized below. Refer to BREG-EP4 and EHS-BTEAP-1.0 for full procedures.

3.2.1 Initial Response Actions

In general, the following steps are taken in response to a spill:

1. If possible and safe to do so, identify and shut down source of the discharge to stop the flow;
2. Contain the discharge with absorbent pads, booms or other material; and
3. If the spill is beyond the capabilities of on-site staff to control and clean up, immediately evacuate the area and notify the Fire Department (call 911).

   Be prepared to provide the following information:

   a. Name, facility address, facility phone number
   b. Date and time of discharge
   c. Type of material discharged
   d. Estimate of the total quantity discharged
   e. Source of the discharge
   f. Description of all affected media (e.g., water, land, air)
   g. Cause of the discharge
   h. Damages or injuries caused by the discharge
   i. Actions being used to stop, remove, and mitigate the effects of the discharge
   j. Whether an evacuation has occurred
   k. Names of other individuals or organizations contacted

3.2.2 Internal Notifications

Upon the implementation of the above emergency response procedures, the employee(s) that discovers a release must immediately notify the Facility Manager. If the Facility Manager cannot be contacted, employee(s) should contact the Compliance Manager or the Brookfield National Systems Control Center (NSCC).

Travis Dees Facility Manager	(661) 823-2101	Travis.Dees@brookfieldrenewable.com
Diane Barr Compliance Manager	(661) 754-6808	Diane.Barr@brookfieldrenewable.com
Brookfield National Systems Control Center	(508) 251-7744	(508) 251-7745

The following information should be provided to the Facility Manager:

- Location of the release
- Type and name of the material released
- Quantity of material released
- Isolation and containment measures being implemented

The Facility Manager will make the decision whether to evacuate any areas. All unqualified employees should remain clear of any spill or release of any hazardous material. If evacuation procedures have been initiated, ALL EMPLOYEES MUST LEAVE THE FACILITY and proceed to the designated meeting area. NO ONE MAY ENTER THE RELEASE/SPILL/AFFECTED AREAS WITHOUT PROPER PERSONAL PROTECTIVE EQUIPMENT AND MANAGEMENT PERMISSION. Personal protective equipment (PPE) is required at all times until the hazard has been dissipated with proof by proper testing procedures. Facility Manager or designated lead will activate the Emergency Response Team if required and direct spill containment and clean-up procedures. The Facility Manager or designated lead will also determine if the spill must be reported to external agencies.

3.2.3 External Notifications

Upon determining a spill must be reported to external agencies, the Facility Manager or designated lead will notify the NSCC. The NSCC Load Dispatcher shall then take responsibility for notifying any state or federal authorities as required. This section provides a list of regulatory agencies that may need to be notified in the event of a discharge. Table 3-1, Spill Notification Requirements, summarizes reporting requirements for certain release scenarios that could occur.

Letter codes for Agencies to Contact in Table 3-1 are given below.

A. National Response Center (NRC)
(800) 424-8802

B. US EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105
(800) 300-2193 (24-hour spill reporting number) or (213) 244-1800

C. California Office of Emergency Services (OES)
3650 Schriever Ave.
Mather, CA 95655
(800) 852-7550 or (951) 940-6949

D. Riverside County Department of Environmental Health
4065 County Circle Drive, Room 104
Riverside, CA 92503
Phone: (951) 358-5055 Fax: (951) 358-5017

Table 3-1. Spill Notification Requirements

SCENARIO NO.	BASIS FOR REPORTING *[Regulatory Citation]*	AGENCIES TO CONTACT*	TIME FRAME FOR CONTACT	INFORMATION TO BE PROVIDED
1	**Knowledge of a release or threat of a release (regardless of quantity). NOTE:** Immediate reporting is not required if there is a **reasonable belief** that the release or threatened release poses no **significant** present or potential hazard to human health and safety, property or the environment. *[19 CCR §2703]*	C, D	Upon Discovery	• Identity of caller • Location, date and time of spill, release or threatened release • Location of threatened or involved waterway or storm drains • Substance and quantity involved • Chemical name (if known, it should be reported if the chemical is extremely hazardous) • Description of what happened • Any injuries or chemical exposures • How and by whom the release was cleaned up
2	**A spill or other release of one barrel (42 gallons) or more to land or ANY amount to waters of the state.** Waters of the state includes surface waters and groundwater, including saline groundwater. *[19 CCR §2703]* *[California Health and Safety Code § 25270.8]* *[California Water Code §13272]*	C, D	Upon Discovery	• Identity of caller • Location, date and time of spill, release or threatened release • Location of threatened or involved waterway or storm drains • Substance and quantity involved • Chemical name (if known, it should be reported if the chemical is extremely hazardous) • Description of what happened

SCENARIO NO.	BASIS FOR REPORTING *[Regulatory Citation]*	AGENCIES TO CONTACT*	TIME FRAME FOR CONTACT	INFORMATION TO BE PROVIDED
3	**Discharge of petroleum product to surface water** into or on any waters of the State – Any discharge of petroleum product that causes a sheen on surface waters or adjoining shorelines must be reported. Includes groundwater and saline waters. *[40 CFR §110.3]*	A, C, D	Upon Discovery	• Identity of caller • Facility name and address • Substance and quantity involved • Location, date and time of spill • Is spill continuing? • Current response action • Name of receiving water
	[40 CFR §304]	B, C, D	14 days	Written report that describes: • Facility Name • Name(s) of the owner or operator of the facility • Location, date and time of spill • Substance and quantity involved • Actions taken to respond to and contain the release • Any known or anticipated acute or chronic health risks associated with the release • When applicable, advice regarding medical attention for exposed individuals

SCENARIO NO.	BASIS FOR REPORTING *[Regulatory Citation]*	AGENCIES TO CONTACT*	TIME FRAME FOR CONTACT	INFORMATION TO BE PROVIDED
4	**Discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in the following quantities:** • More than 1,000 U.S. gallons of oil in a single discharge or • More than 42 U.S. gallons of oil in each of two discharges, occurring within any 12-month period. *[40 CFR §112.4(a)]*	B, C	Within 60 days	• Facility name and address • Name(s) of the owner or operator of the facility • Maximum storage or handling capacity of the facility and normal daily throughput • Corrective action and countermeasures taken, including a description of equipment repairs and replacements • An adequate description of the facility, including maps, flow diagrams and topographical maps, as necessary • The cause of the discharge, including failure analysis of the system or subsystem in which the failure occurred • Additional preventive measures taken or contemplated to minimize a the possibility of recurrence • Such other information as the EPA Regional Administrator may reasonably require pertinent to this SPCC Plan or discharge

3.3 General Clean-up Procedures

The following procedures should be followed to clean up a release:

Step 1. Contain the release with absorbent booms or pads, sandbags, straw or dirt. **Do not allow the release to enter storm drains or sanitary sewers.** Do not use flushing to dissipate the oil.

Step 2. If oil enters the storm sewers or ditches, block or dam downstream.

Step 3. Use absorbents to soak up liquid residues. Used absorbents contaminated with oil will be stored in drums and disposed of as hazardous waste.

Step 4. Other wastes, including contaminated soil and vegetation, will be transferred into new, empty, Department of Transportation (DOT)-transportable drums. Label and identify contents.

4.0 PLAN REVIEW AND UPDATES

This Plan shall be revised as specified in this section. Per 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every 5 years. Use the Record of Changes Form to document any changes/amendments to the Plan.

4.1 Plan Amendments

In accordance with 40 CFR 112.5(a), the SPCC Plan will be amended whenever there is a change in facility design, construction, operation or maintenance that affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines. Such amendments will be made as soon as possible or within 6 months after such change occurs. Examples of changes that may require an amendment to the Plan include, but are not limited to:

a. Commissioning or decommissioning containers.
b. Replacement, reconstruction, or movement of containers.
c. Reconstruction, replacement, or installation of piping systems.
d. Construction or demolition that might alter secondary containment structures.
e. Changes of product or service.
f. Revision of standard operation or maintenance procedures at the facility.

Note that administrative changes, such as names or phone numbers, should be made immediately upon knowledge of the change.

5.0 FACILITY INFORMATION

5.1 Location

The facility is located approximately 10 miles west of the city of Desert Hot Springs, (Figure 1). The facility consists of the Mesa Substation and an operations and maintenance building.

5.2 Oil Storage

A summary of oil storage containers with a capacity of 55 gallons or greater appears in Table 5-1. Oil storage locations are depicted on Figures 2 and 3.

Table 5-1 Oil Storage Containers

Location	Container	Description	Capacity (gallons)	Product(s) Stored
Substation	T-1 Transformer	OFOE	3,830	Mineral Oil
Substation	T-2 Transformer	OFOE	3,830	Mineral Oil
O&M Building Inside Drum Storage Area	Up to four 55-gal Drums	Portable	220	Used Oil, Hydraulic Fluid, Lube Oil
O&M Building Outside Drum Storage Area	Up to sixteen 55-gal Drums	Portable	880	Used Oil, Hydraulic Fluid, Lube Oil
Utility Tank Storage Area	Diesel Tank	Portable	100	Diesel
Utility Tank Storage Area	Gasoline Tank	Portable	105	Gasoline
		TOTAL	**8,965**	**-**

5.3 Evaluation of Discharge Potential

The largest single volume of oil on the property is 3,830 gallons (transformers T-1 and T-2); however, it is not likely that the full capacity of the transformer would be lost during a spill or leak event. The most likely spill event is a discharge from a pressure release device, which would be approximately 30 gallons.

The reasonable spill events for drum storage areas include spilling during transfer of oil from a drum to a secondary container for use; waste oil spilled during the consolidation process into a drum; and spills happening due to the damaging or otherwise mishandling of drums while delivering them to, transporting them on, or removing them from storage areas. Spills during transfer to and from drums are expected to be small, less than 5-gallons. Dropping, puncturing, or otherwise damaging a drum during transfer could release the entire contents (55-gallons).

The facility has two utility tanks designed to be placed in the back of pickup trucks. The most common spill event associated with these tanks is a spill during fuel transfer. Assuming a fuel transfer rate of 10 gallons per minute and a 15 second response time, a spill during transfer could release approximately 2.5 gallons.

5.4 Distance to Navigable Waters and Flow Paths

No public storm drains exist in the vicinity of the facility. The topography of the substation is covered with gravel and slopes gently to the southwest. A very low potential exists for a release to reach navigable waters via storm drainage.

5.5 Containment

Adequate containment for the transformers T-1 and T-2 is provided by active containment methods. There is sufficient spill response equipment located at the operations and maintenance building to contain the most likely spill amounts from typical failures modes. The substation's SCADA system monitors all oil-filled operational equipment 24-hours a day and any equipment malfunction significant enough to cause a sizeable discharge of oil would result in an alarm, ensuring a prompt response from response personnel.

Drums at the operations and maintenance building are stored on spill pallets and are either indoors or under cover. When not in use, the utility tanks are stored on a plastic containment structure with a capacity of approximately 275 gallons. This amount is sufficient to hold the contents of the single largest container (105 gallons) plus adequate freeboard for precipitation. Adequate containment for fuel transfer operations is provided by spill kits located inside each truck.

5.6 Periodic Integrity Testing

The utility tanks and drums are inspected following a regular schedule in accordance with the Steel Tank Institute SP001 (September 2011). In accordance with the standard, these containers undergo a documented visual inspection at least monthly.

5.7 Oil Discharge History

There have been no spills to navigable waters in the facility's history.

5.8 Security

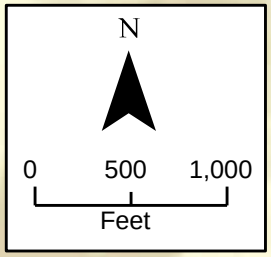
Both the substation and operations and maintenance building are surrounded by an eight-foot high, chain-link fence topped with barbed wire and lockable entry gates. The facility has adequate lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

5.9 Implementation Schedule

The items in the Implementation Schedule are the upgrades needed to minimize release potential and bring the facility into compliance with the applicable regulations and with this Plan. The requirements contained in this Plan must be implemented as indicated on the table. Revise and update the schedule as tasks are completed and as new tasks arise.

Table 5-2. Implementation Schedule

Action Required	Date(s) Required	Regulatory Reference	Plan Reference
None			



MESA OPERATIONS AND MAINTENANCE

MESA SUBSTATION

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

HDR	PROJECT NO: 239496-001 DATE: 9 DECEMBER 2014 FILE: Mesa_Substation.mxd DRAWN BY: HR CHECKED BY: MH	**SITE LOCATION MAP** **Brookfield Mesa Substation and Operations and Maintenance Building** MORONGO VALLEY, CALIFORNIA	FIGURE **1**

1-)

PROJECT NO: 239496-001
DATE: 9 DECEMBER 2014
FILE: Mesa_Substation.mxd
DRAWN BY: HR
CHECKED BY: MH

SITE DETAIL MAP
Brookfield Mesa Substation
MORONGO VALLEY, CALIFORNIA

FIGURE
2

1-)

PROJECT NO: 239496-001
DATE: 9 DECEMBER 2014
FILE: Mesa_O&M_Bldg.mxd
DRAWN BY: HR
CHECKED BY: MH

SITE DETAIL MAP
Brookfield Mesa Operations and Maintenance Building
MORONGO VALLEY, CALIFORNIA

FIGURE
3

Appendix A

EPA Cross-Reference for SPCCPs

40 CFR §	Requirement	SPCC PLAN Section(s)
112.3(e)	Location of SPCCP	1.2
112.3(g)(2)	Qualified Facilities	5.2, 5.7
112.4	Amendment of the Plan by EPA Regional Administrator	4.1
112.5	Plan Review	4.0
112.6(b)	Tier II Qualified Facilities Plan Requirements	
112.6(b)(1)	Self-Certification of the Plan	1.5
112.6(b)(2)	Technical Amendments	4.1
112.6(b)(3)	Applicable Requirements	Refer to Provisions under 112.7
112.6(b)(4)	Professional Engineer Certification of Portions of a Qualified Facility's Self-Certified Plan	Not applicable
112.7	Management Approval	1.4
112.7(a)(1)	Cross-Reference with SPCC Rule	Appendix A
112.7(a)(2)	Environmental Equivalency	N/A – this facility does not deviate from the requirements contained in 40 CFR 112.7(g), (h)(2) and (3), and (i).
112.7(a)(3)	General Facility Information	1.1, 2.5, 3.0, 5.1, 5.5, Figure 1, Figure 2, Figure 3
112.7(a)(4)	Discharge Notification	3.2
112.7(a)(5)	Discharge Response	3.2
112.7(b)	Potential Discharge Volumes and Direction of Flow	5.3, 5.4
112.7(c)	Containment and Diversionary Structures	5.5
112.7(d)	Practicability of Secondary Containment	5.5
112.7(e)	Inspections, Tests, and Records	2.3, 5.6
112.7(f)(1)	Personnel, Training and Discharge Prevention Procedures	2.4
112.7(f)(2)	Designated Person Accountable for Discharge Prevention	1.4
112.7(f)(3)	Discharge Prevention Briefings	2.4
112.7(g)(1)	Fencing	5.8
112.7(g)(2)	Master Flow and Drain Valves	Not applicable
112.7(g)(3)	Starter Controls	Not applicable
112.7(g)(4)	Loading/Unloading Connections of Oil Pipelines	Not applicable
112.7(g)(5)	Facility Lighting	5.8
112.7(h)(1)	Loading/Unloading Racks - Containment Systems	Not applicable

40 CFR §	Requirement	SPCC PLAN Section(s)
112.7(h)(2)	Loading/Unloading Racks - Vehicle Departure Preventive Devices	Not applicable
112.7(h)(3)	Loading/Unloading Racks - Inspection of Drain and Outlets	Not applicable
112.7(i)	Brittle Fracture Evaluation	Not applicable
112.7(j)	Conformance with Applicable State and Local Requirements	1.3
112.7(k)(1)	Oil-filled Operational Equipment (OFOE) – Qualification Criteria	5.6
112.7(k)(2)	OFOE – Alternative Requirements to General Secondary Containment	Not applicable
112.8(b)(1)	Drainage from Diked Storage Areas	Appendix C
112.8(b)(2)	Valves for Diked Areas	Appendix C
112.8(b)(3) & (4)	Drainage from Undiked Areas	Not applicable
112.8(b)(5)	Facility Drainage Systems	Not applicable
112.8(c)(1)	Material Compatibility	2.1
112.8(c)(2)	Secondary Containment	5.5
112.8(c)(3)	Drainage from Diked Storage Areas	Appendix C
112.8(c)(6)	Integrity Testing	5.6
112.8(c)(11)	Portable and Mobile Containers	5.5
112.8(d)(1)	Buried Piping	Not applicable
112.8(d)(2)	Out-of-Service or Standby-Service Piping	Not applicable
112.8(d)(3)	Pipe Supports	Not applicable
112.8(d)(4)	Aboveground Piping Inspections and Buried Piping Integrity and Leak Testing	Not applicable
112.8(d)(5)	Vehicle Warning of Aboveground Piping	Not applicable
112.20(e)	Certification of Substantial Harm Determination	Appendix B

APPENDIX B

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST

Facility Name: Mesa Substation and Operations and Maintenance Building
Facility Address: Riverside County, CA

Does the facility transfer product over water to or from vessels *and* does the facility have a total product storage capacity greater than or equal to 42,000 gallons?

YES_____ NO__X__

Does the facility have a total product storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground product storage tank plus sufficient freeboard to allow for precipitation within any aboveground product storage tank area?

YES_____ NO__X__

Does the facility have a total product storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the formula in Attachment C-III, Appendix C, 40 Code of Federal Regulations (CFR) 112 or a comparable formula[1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to the Department of Commerce/National Oceanic and Atmospheric Administration's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (Section 10, Appendix E, 40 CFR 112 for availability) and the applicable Area Contingency Plan.

YES_____ NO__X__

Does the facility have a total product storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula[1]) such that a discharge from the facility would shut down a public drinking water intake[2]?

YES_____ NO__X__

Does the facility have a total product storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable product spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

YES_____ NO__X__

CERTIFICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

_____ _____
Signature Title

_____ _____
Name (Please type or print) Date

[1] If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.
[2] For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2c.

APPENDIX C

DRAINING STORM WATER FROM CONTAINMENT AREAS

Containment areas should be routinely inspected for accumulated storm water. Containment areas with visible amounts of accumulated storm water should be drained. Accumulated storm water may be released through valves or pumps. Valves used to release storm water should be of manual, open-and-closed design. Pumps used to release storm water must be manually activated.

Draining storm water should be conducted according to the following procedure:

1. Inspect containment area(s) for accumulated storm water.

2. If storm water has accumulated, observe the water in the containment area from several locations around the periphery of the area.

3. If oil sheen is observed on the water surface, use absorbent pads or an equivalent method to pick up or skim the oil sheen off top of the water PRIOR to draining the containment.

4. If there is no oil sheen and the water in the containment area looks reasonably clean, open the drain valve and allow the water to drain. If the containment area does not have a drain valve and must be pumped, it is recommended the water be directed to area where it can infiltrate into the soil. It is not recommended to pump the water directly into a storm sewer or onto pavements. Note: Drainage and/or pumping activities must be supervised until complete.

5. When water has been drained as much as possible from the containment area, close the drain valve.

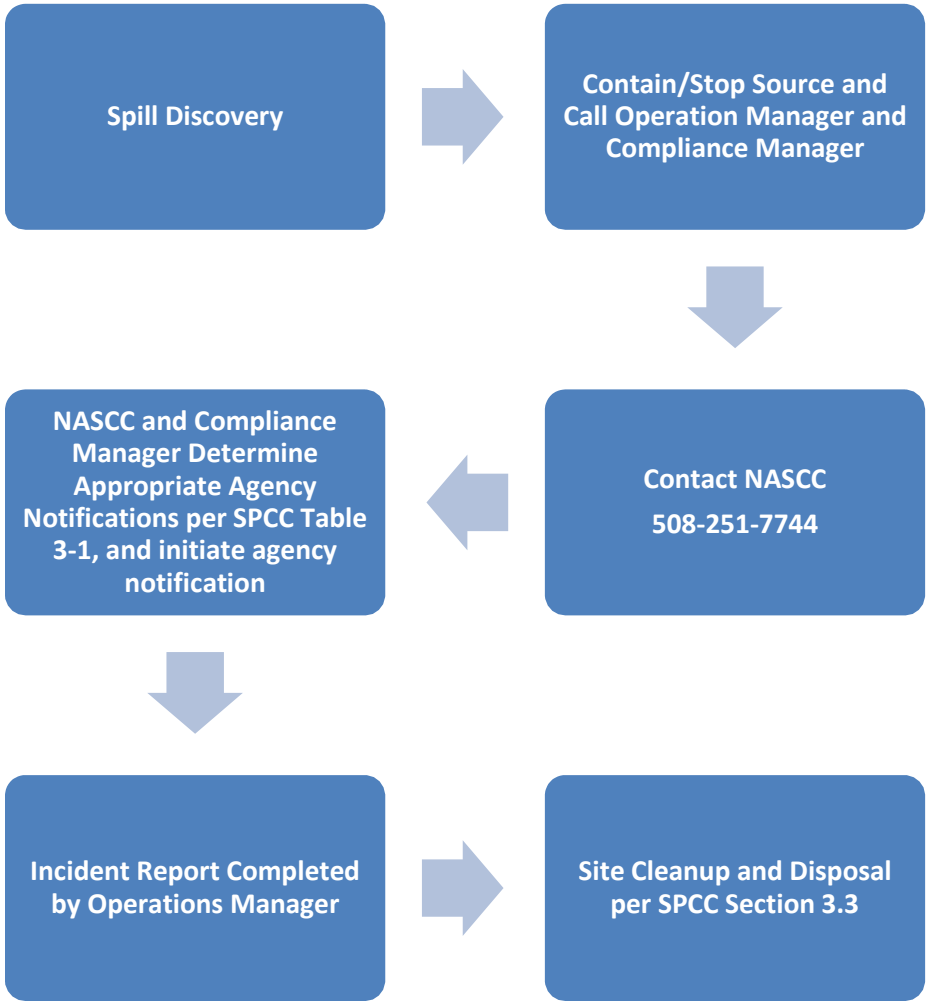
6. Document the drainage activities on the designated log sheet (example is attached). Keep drainage records for at least three years. Records must be available for review and provided upon request.

Containment Drainage Log

Substation: _____

Date	Location of Containment	Presence of Oil Sheen?	Time of Drainage	Name	Signature	Comments

Appendix D: Spill Response Flow Chart



Call 911 if spill release is catastrophic or unsafe to you or the public

Appendix E

STI SP001 Inspection Forms

STI SP001 Portable Container Monthly Inspection Checklist

General Inspection Information:

Inspection Date: _____ Retain Until Date: _____ (36 months from inspection date)

Prior Inspection Date: _____ Inspector Name: _____

Containers Inspected (ID #'s): _____

Inspection Guidance:

- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic AST Inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems.
- (*) designates an item in a non-conformance status. This indicates that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in AST design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for 36 months.

Item	Area: _____	Area: _____	Area: _____	Area: _____
1.0 AST Containment/Storage Area				
1.1 ASTs within designated storage area?	· Yes · No*	· Yes · No*	· Yes · No*	· Yes · No*
1.2 Debris, spills, or other fire hazards in containment or storage area?	· Yes* · No	· Yes* · No	· Yes* · No	· Yes* · No
1.3 Water in outdoor secondary containment?	· Yes* · No	· Yes* · No	· Yes* · No	· Yes* · No
1.4 Drain valves operable and in a closed position?	· Yes · No*	· Yes* · No	· Yes* · No	· Yes* · No
1.5 Egress pathways clear and gates/doors operable?	· Yes · No*	· Yes* · No	· Yes* · No	· Yes* · No

Item	Area: _____	Area: _____	Area: _____	Area: _____
2.0 Leak Detection				
2.1 Visible signs of leakage around the container or storage area?	· Yes* · No	· Yes* · No	· Yes* · No	· Yes* · No
3.0 Container				
3.0 Noticeable container distortions, buckling, denting or bulging?	· Yes* · No	· Yes* · No	· Yes* · No	· Yes* · No

Comments:

Attachment D

Fire Management Plan

MESA WIND FARM

FIRE MANAGEMENT PLAN

Brookfield Renewable Energy Group

Right-of-Way Grant CA-11688-A

April 2015

Brookfield

TABLE OF CONTENTS

APPENDICES

FIGURES

TABLES

THIS PAGE INTENTIONALLY LEFT BLANK

ABBREVIATIONS AND ACRONYMS

ac	acre(s)
BREG	Brookfield Renewable Energy Group
BLM	Bureau of Land Management
CAL FIRE	California Department of Forestry and Fire Protection
CDD	California Desert District
CFC	California Fire Code
CVAG	Coachella Valley Association of Governments
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
DPA	Direct Protection Areas
FMP	Fire Management Plan
ft	foot/feet
ft^2	square foot/feet
IFC	International Fire Code
kV	kilovolt(s)
NFPA	National Fire Protection Association
O&M	Operations and Maintenance
PRC	Public Resources Code

THIS PAGE INTENTIONALLY LEFT BLANK

1. Fire Prevention and Risk Reduction Responsibilities

All Mesa Wind Farm employees and contractors are required to demonstrate knowledge of the elements of the FMP and to carry out responsibilities as outlined below.

The BREG *Operations Manager* or designee shall:

- Develop and administer a fire risk reduction and fire prevention training program
- Ensure that fire control equipment and systems are properly maintained
- Manage fire fuel source hazards
- Conduct fire risk surveys and address issues identified
- Monitor fire weather conditions (red flag days) and restrict activities during such conditions
- Maintain contacts with area fire agencies.
- Ensure that appropriate training for all employees and regular site contractors is implemented annually to ensure all personnel are adequately prepared in the event of an emergency, and document that training has occurred.(See Appendix B for Fire Risk Reduction Training Log)

On-site *Supervisors* shall:

- Ensure that employees have received fire safety training prior to working independently on site
- Notify the Operations Manager of any changes in operations or site conditions that could increase the risk of fire.
- Execute duties as outlined in this Fire Management Plan

Employees and *contractors* shall:

- Complete all required training before working without supervision
- Conduct operations safely to limit the risk of fire
- Report potential fire hazards to their supervisors
- Follow fire emergency procedures.

2. Plan Summary

General

Designated responsible personnel shall:

- Provide the Bureau of Land Management (BLM) and California Department of Forestry and Fire Protection (CAL FIRE) with the latest versions of spatial data for the facility in digital format to include access routes, roads, gates, buildings, underground feeder lines, overhead lines, turbines, and substation locations.
- Monitor site weather and wind conditions.

All personnel shall:

- Any fire restrictions issued by local authorities will be followed at all times.
- Report any unusual activity that could be arson-related.
- Be aware of site weather and wind conditions and any applicable restrictions related to work activities, such as Red Flag status.

Wind Turbines

Designated responsible personnel shall:

- Ensure timely machine maintenance, proper welding practices, inspect for electrical shorts, and ensure equipment does not strike power lines.
- Ensuring that all equipment is grounded to reduce lightning strike damage.
- Ensure that appropriately rated fire extinguishers are available and marked.
- Follow manufacturer recommendations if any type of fire is in or near the turbine.
- If safe to do so, attempt to access the main circuit breaker but if that is impossible, contact the power station for a disconnection from the grid.
- Examine lightning protection installed on each wind turbine, from the blade's receptor to the grounding electrode, so that any bad connections or partially broken cables are identified and repaired. The inspection interval on lightning protection should be no longer than 2 years.
- Conduct regular turbine maintenance ensuring turbines are in good working order. The maintenance plan is defined by the turbine manufacturer.
- Coordinate with the BLM to manage vegetation not previously managed, to ensure sensitive resources are not adversely affected by management actions.
- Maintain a vegetation-free area 5 ft around each turbine's cement pad.
- Dispose of cleared vegetation so that it is not piled, which creates additional fire risk.
- After any brush is removed, annual grasses that replace the brush need to be managed. Raking this grass should suffice. The vegetation collected needs to be removed and not piled.

O&M Building and Substation

The designated personnel shall:

- Remove all vegetation within 30 feet of the O&M building. Trees may remain if their canopies do not come into contact with any infrastructure and if dead or dying parts are removed.
- Remove dead vegetation from a minimum of 50 ft around the building.
- Manage vegetation within 50 feet of the substation. Vegetation may remain in the 50 foot area if it is modified so that combustible vegetation does not occupy more than 50 percent of the area.
- Coordinate with the BLM to manage vegetation not previously managed to ensure sensitive resources are not adversely affected by management actions.

- Dispose of cleared vegetation so that it is not piled, creating more fire risk. Cleared, dead, and decaying vegetation shall either be removed or chipped and spread onsite in piles no higher than six (6) inches
- After the brush is removed from these areas, the annual grasses that will replace the brush will need to be managed.
- Inspect and maintain smoke detectors and fire extinguishers.
- Do not rely on extension cords if wiring improvements are needed, and do not overload circuits with multiple pieces of equipment.
- If mechanical equipment (e.g., mowers, chainsaws, weed-whackers, etc.) is use to remove vegetation, operators must be aware of the risk of sparks being created from striking hard surfaces or rocks. Appropriate fire suppression equipment (water or extinguisher) must be at hand during use of such equipment.
- Turn off electrical equipment when not in use.
- Ensure the key box on exterior by main door and at gate are up to date.
- Inspect and maintain the north side of the O&M building, which is designated for the storage of oils, flammable liquids, hazardous materials, and vehicle fuels.
- Comply with the Hazardous Materials Management Plan, which establishes standard procedures for reporting, handling, disposal, and cleanup of hazardous material spills and releases

Substation Transformers

- Remove vegetation within 10 ft of substation or per BLM's direction.
- Manage vegetation within 50 ft of the substation – vegetation may remain in the area between 10 and 50 ft from the substation if the vegetation is modified so that combustible vegetation does not occupy more than 50 percent of the square footage of this area.
- Dispose of cleared vegetation so that it is not piled, creating a fire risk.
- If mechanical equipment (mowers, chainsaws, weed-whackers, etc.) is use to remove vegetation, operators must be aware of the risk of sparks from striking hard surfaces or rocks. Appropriate fire suppression equipment (water or extinguisher) should be at hand.
- Coordinate with the BLM to manage vegetation that has not previously been managed to ensure sensitive resources are not impacted by management actions.
- Inspect, test, and maintain transformers according to manufacturer requirements in order to reduce the risk of a transformer fire.
- Implement a Hazardous Materials Management Plan that establishes standard procedures for reporting, handling, disposal, and cleanup of hazardous material spills and releases.

Electrical Collection and Transmission System

- Appropriately ground electrical systems and comply with industry standards to minimize stray voltage.
- As needed, communicate with Southern California Edison about managing woody and fine fuel (vegetation) in the area 10 ft around each transmission pole to be compliant with Public Resource Code (PRC) 4292.
- Ensure that cleared vegetation is not piled, creating a fire risk.
- After the brush is removed from these areas, the annual grasses that will replace the brush will need to be managed.
- If mechanical equipment (mowers, chainsaws, weed-whackers, etc.) is use to remove vegetation, operators must be aware of the risk of sparks from striking hard surfaces or rocks. Appropriate fire suppression equipment (water or extinguisher) should be at hand.

Storage, Use and Handling of Oils, Flammable Liquids, Hazardous Materials, and Vehicle Fuels

- Refer to the Hazardous Materials Management Plan, which establishes standard procedures for reporting, handling, disposal, and cleanup of hazardous material spills and releases.

Operations, Maintenance, and Decommissioning Activities

- Train all workers to prevent fires and to respond quickly and effectively if an incident occurs.
- Inspect and maintain a fire extinguisher and any other BLM-required fire prevention equipment in each vehicle.
- Prohibit smoking outside of designated smoking areas.
- Perform "hot work" (i.e., welding or working with an open flame or other ignition sources) in controlled areas. Hot work areas will be wetted down as necessary before hot work is performed.
- Welding, cutting, grinding, or other flame- or spark- producing operations near the turbines should be minimized and, if required, closely supervised, with fire extinguishing equipment at hand.
- Schedule maintenance activities outside of the fire season when possible, to minimize activity during high fire risk days.
- During Red Flag Warning events, as issued daily by the National Weather Service, cease non-essential activities. To mitigate fire risk, the Mesa Wind monitors weather conditions on site and adjusts operations and activities based on those conditions. Fire danger potential can be monitored using the following hyperlinked websites:

  Remote Automated Weather Station (White Water California, 22-C)
  http://raws.wrh.noaa.gov/cgi-bin/roman/meso_base.cgi?stn=WWAC1&time=GMT

  CAL FIRE Red Flag Warnings and Fire Weather Watches
  http://www.fire.ca.gov/communications/communications_firesafety_redflagwarning.php

  National Weather Service Fire Weather Hazards
  http://www.nws.noaa.gov/largemap.php

  National 7-day Significant Fire Potential Outlook, California – South Area (Lower Deserts, SC12) http://psgeodata.fs.fed.us/7day/action/forecast/8

  Southern California Fire Weather Planning Forecast (National Weather Service Zone 261).
  http://www.wrh.noaa.gov/firewx/cafw/display_cafwfzone.php?sid=sgx&zone=261

- A Hazardous Materials Management Plan, which establishes standard procedures for reporting, handling, disposal, and cleanup of hazardous material spills and releases, is in place.
- Keep equipment in good working order (i.e., inspect electrical wiring and appliances regularly and keep motors and tools free of dust and grease).
- Ensure that all exit or evacuation routes are free of obstructions.
- Prohibit non-essential heavy equipment operations for road maintenance during Red Flag Warning events.
- Turn off idling vehicles.
- Do not park over dry vegetation and inspect under parked vehicles before moving them to ensure desert tortoises are not present.

3. Wildfire Detection and Suppression

Detection and Reporting

- Should fire or smoke be observed or any suspicious activity occur, the facility's Operation Manager will be contacted to deploy to the site to investigate.
- All vehicles/personnel shall be provided with radio and cellular telephone access that is operational throughout the site to allow for immediate reporting of fires. Communication pathways and equipment shall be periodically tested and confirmed operational.
- Each vehicle 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 shall be updated and redistributed to all crewmembers as needed, and outdated cards destroyed
- All fires shall be reported to the fire agencies with jurisdiction in the project area immediately.
- Contact emergency services in the event of any fire or medical emergency (See Emergency Contacts Table)

Emergency Contacts Table

CONTACT	PHONE	PROCEDURE
Emergency Facility Contacts		
Operations Manager	760-954-8327 rowland.griese@greenenergymaintenance.com	Wildfire within 2 miles: call 911 and notify by phone or email immediately Fire threatening site: call 911 and notify by phone immediately
Operations Maintenance	661-342-0235 Chris.licon@brookfieldrenewable.com	
HSSE Specialist	213-509-9697 patricia.becker@brookfieldrenewable.com	
Adjacent Landowner(s)		
TenderLand Power Co. – Alta Mesa Site	513-381-3126 daniel@tenderland.com info@tenderland.com	
Resource Contacts		
Federal Interagency Communications Center	909-383-5652	ALL fires (on and within sight of the facility) shall be immediately reported. When reporting an incident you need the following information: • Type of incident (fire, explosion, etc.) • Location of incident • Time of incident • Information on any injury or fatality Name and phone number for callback

Southern California Edison Project Manager – Generator Outage Coordination	626-308-6739 Steven.rutledge@sce.com	Contact as needed
Emergency Contacts		
Fire	**911** 951-657-2161 emergency, 951-940-6949 for non-emergency	ALL fires (on and within sight of the facility) shall be immediately reported. When reporting an incident you need the following information: • Type of incident (fire, explosion, etc.) • Location of incident • Time of incident • Information on any injury or fatality • Name and phone number for callback
Ambulance	**911**	
CAL FIRE Fire/Incident Investigations	951-943-4970	
CAL FIRE Arson Hotline	800-468-4408	
Riverside Co Emergency Operations Center	951-955-4700	
Riverside Co Fire Information	951-940-6985	

Suppression and Response – Internal

- If it is safe to do so, extinguish a fire using on-site fire extinguishers and appropriate tools.
- Notify emergency services immediately, even if the fire appears out.
- Initiate emergency procedures, as appropriate, including electrical isolation.
- If a fire occurs in a turbine, emergency procedures are to be undertaken to isolate the turbine from the power grid and fire response services contacted to manage any spot fires that may result.
- If an off-site wildfire threatens the facility while personnel are on site, evacuate the site if it is safe to do so, meet at a predetermined location to ensure that all personnel have safely evacuated.

Suppression and Response – External

- The Operations Manager will remain available to the incident commander in person or by phone in case information about the facility is needed that would benefit the suppression activities.
- If it is safe to do so, a designated facility representative shall be present at the facility during the incident.
- Upon arrival at the incident scene, the facility representative will contact the incident commander to advise of the representative's availability and location.
- In the case of turbine fire, ground-based firefighting equipment is unlikely to reach the fire. Responders and facility personnel are to be positioned a safe distance to avoid injury from any falling material. This safety zone should extend a distance from the base of the turbine to twice the mast height of the turbine (approximately 200 ft) unless otherwise determined by the incident commander.
- CAL FIRE will coordinate with BLM when ground disturbance, such as blading, is deemed a necessary fire suppression tactic. Permission from the BLM Field Manager is required before the use of heavy equipment.
- BLM and CAL FIRE locks are required on the gates located at 33° 56.967' -116° 41.0742 and 33° 56.1894 -116° 41.0718.

Evacuation

Personnel are to evacuate the area when a wildfire approaches, they feel threatened, or they are directed to evacuate by public safety officials. Officials will determine the areas to be evacuated and the routes to use.

When a wildfire approaches a structure, personnel are to:

- Park vehicles facing outward with windows rolled up and keys left in the ignition
- Close windows and turn off heating and air conditioning
- Leave electricity and interior and exterior building lights on
- Cover up by wearing 100 percent cotton long pants, long sleeved shirt, goggles, hat and bandana for the face
- Leave a note attached to door for officials advising of the evacuation destination and contact information.
- Officials will determine when it is safe to return to the facility. Upon return to the facility, staff should be alert for hazards and check the area for hidden embers or smoldering fires.

Evacuation centers will be announced on public radio at the time of the fire, or contact the Riverside County Fire Department

4. Background

4.1 Plan Purpose

The Mesa Wind Farm Fire Management Plan (FMP), prepared by Brookfield Renewable Energy Group (BREG), to help prevent fire-related loss of life, property and resource damage and to manage fire risk at Mesa Wind Farm. The FMP:

- Identifies the duties and responsibilities of employees and contractors with regard to fire prevention management
- Identifies practices to eliminate or minimize potential fire ignition sources and to manage potential fuels
- Identifies site facilities that may affect or be affected by fire
- Describes procedures to follow in the event of a fire

4.2 Plan Implementation

Implementation of the FMP is the responsibility of all facility employees and contractors, in cooperation with CAL FIRE and the BLM. This plan is subject to revision if there is a change of ownership, a natural disaster, and/or construction or decommissioning activities that have the potential to alter site conditions in ways that affect fire risk and fire management.

4.3 Facility Description

Location. The approximately 477-acre Mesa Wind Farm is on BLM land north of Interstate 10 in Riverside County, approximately 1.2 miles north of Palm Springs city limits. The wind farm operates under a BLM Right-of-Way Grant CA-11688-A. The site is at the western edge of the Coachella Valley (**Figure 1**). A small low-density residential community lies to the west of the facility and another smaller community, Bonnie Bell, lies to the east of the facility, in Whitewater Canyon. Directly adjacent to the Mesa Wind Farm is the Alta Mesa wind farm, owned and operated by TenderLand.

Facilities. The facilities comprising the Mesa Wind Farm include:

- 460 Vestas V15, 65-kilowatt wind turbines
- An Operations and Maintenance (O&M) building and yard
- Three small substations, one of which is operated by BREG
- An electrical collection and transmission system
- Access roads and gates

Environmental Setting. The wind farm is situated in an arid desert terrain, with temperatures in the region reaching over 120 degrees Fahrenheit in summer and dipping to near freezing in winter. Average annual precipitation is less than 5 inches. Strong, steady winds from the west are common,, making the location ideal for a wind energy facility. However, dry windy conditions also make it subject to wildfire. Plant material on site can serve as fuel for a fire once ignited and wind can quickly spread the fire. Plant communities present in the area include desert scrub and chaparral (Figure 2). The site is within Riverside County's Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and the threatened desert tortoise (*Gopherus agassizii*), a federally-listed species, is present on the site.

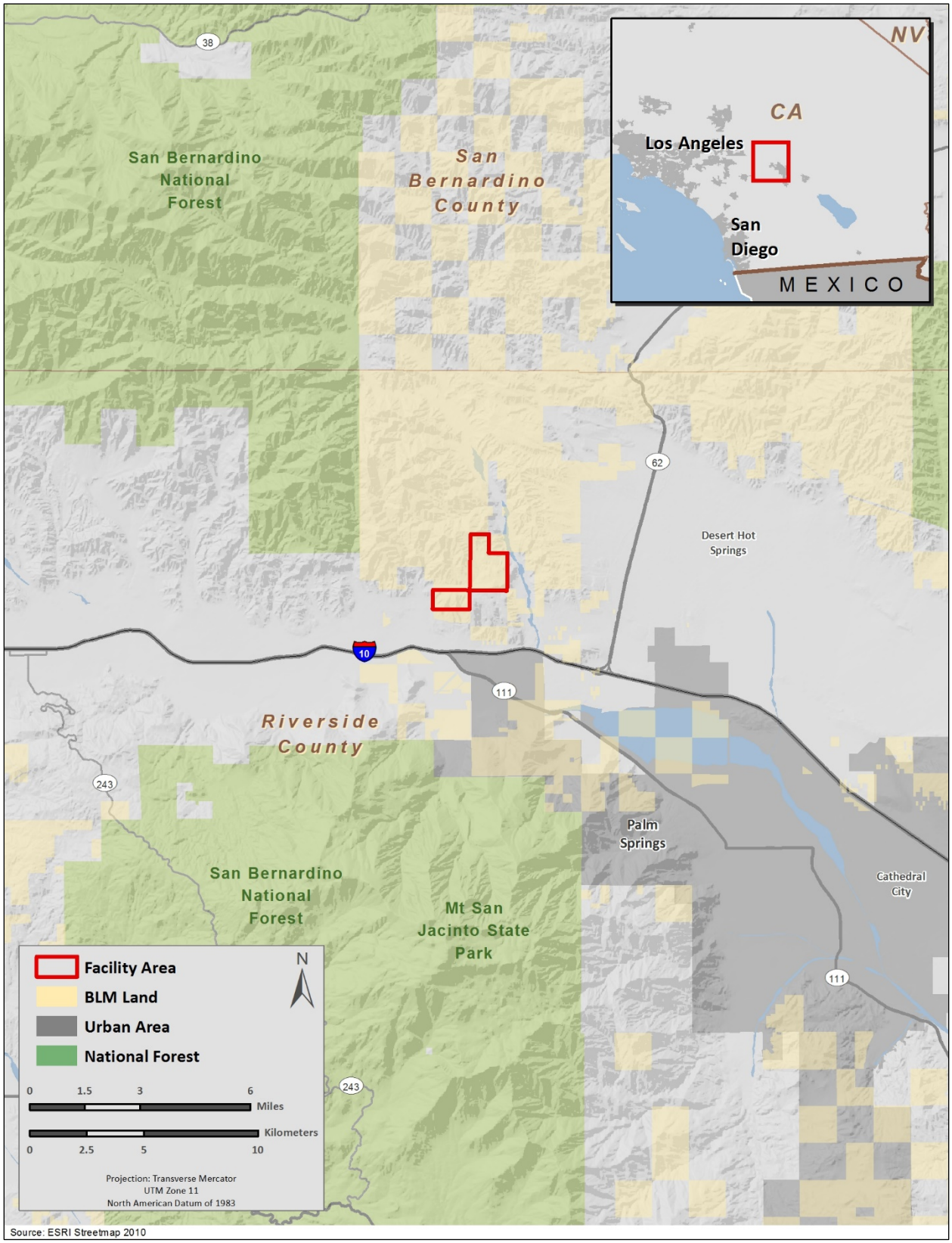


Figure 1. Region and Vicinity of Facility

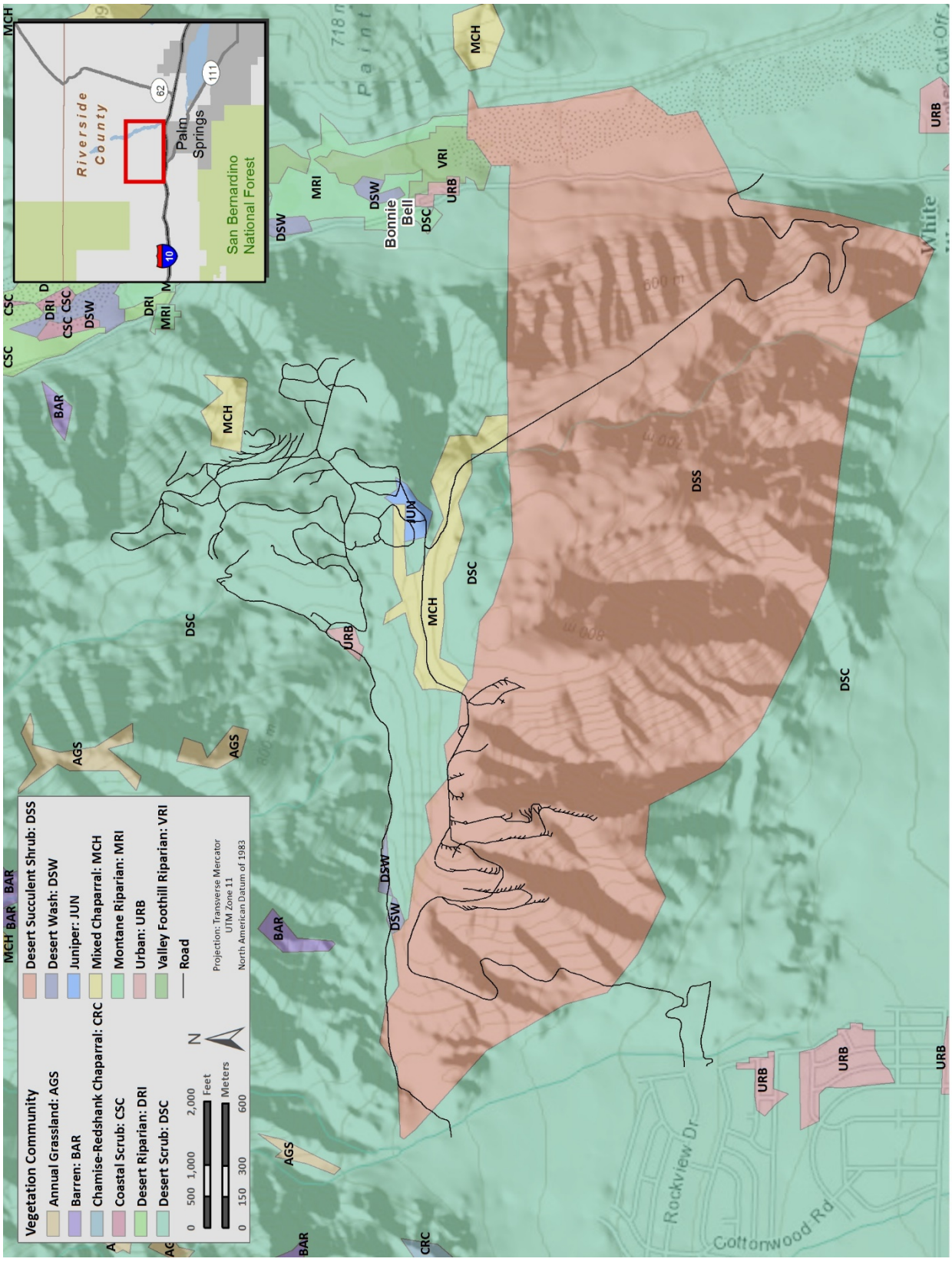


Figure 2. Vegetation Communities

5. Fire Response and Access

5.1 Fire Response Services

CAL FIRE's Riverside Unit, Beaumont Battalion is the primary responder and is supported by other responders through interagency agreements. The BLM provides firefighting support and can provide a Resource Advisor should ground disturbance be ordered, such as use of a bulldozer that could adversely affect resources. It is BLM policy to take all necessary actions to protect human life, public lands and resources, and improvements by preventing wildfires. BREG supports this policy.

5.2 Facility Access

Roads. Figure 3 shows vehicle access routes to the facility. Two access routes enter on the west side from Desert View Avenue. Deserve View Avenue is reached from the Haugen-Lehmann exit on Interstate 10. A third potential access route is from Whitewater Canyon Road to the east of the site.

Primary fire access is a service road off Desert View Avenue. This route is wide enough for two-way traffic and its relatively gentle curves and grade can accommodate large vehicles.

A second access route is Gold Canyon Road at the north side of the site. It provides more direct access to the substations and the O&M building, but it is suitable only for one-way traffic and has limited pull-outs to allow vehicles to pass each other. A wood pole transmission line is located along this road.

A private road from the east passing through the Alta Mesa Wind Farm also provides a route to the Mesa Wind Farm from Whitewater Canyon Road.

Spatial data of the maintained routes into and within the facility depicted in Figure 3 have been provided to CAL FIRE in a digital format. Many of the roads within the facility contain underground 12-kilovolt (kV) feeder lines. Blading within or beside these roads, such as to create firebreaks, could sever these lines. Overhead distribution and transmission lines also are present (Figure 4).

Gates. All facility gates have multiple owner/operator/administrative locks. Emergency responder access is provided by key boxes located at each gate. BREG notifies CAL FIRE when new keys are secured in the key boxes. A private road from the east passing through the Alta Mesa Wind Farm also provides a route to the Mesa Wind Farm via Whitewater Canyon Road. However, there are three locked gates on this route, none of which is managed by BREG.

Response Time. Approximate response times to the center of the facility by emergency responders are shown in Table 1.

Table 1. Fire Department Locations and Estimated Response Times

Fire Department	Resources	Estimated Response Time (to Center of Wind Farm)
CAL FIRE: Cabazon	1 engine	15 minutes
USFS: Cabazon	1 engine* (+ 5 engines)	15 minutes
CAL FIRE: Beaumont	3 engines; 1 dozer	25 minutes
CAL FIRE: North Palm Springs	1 engine	25 minutes
CAL FIRE: Hemet	helicopter; 2 air tankers	15 minutes

*Available during fire season.

5.3 Water Availability

CAL FIRE would transport water to the site in the event of a fire.

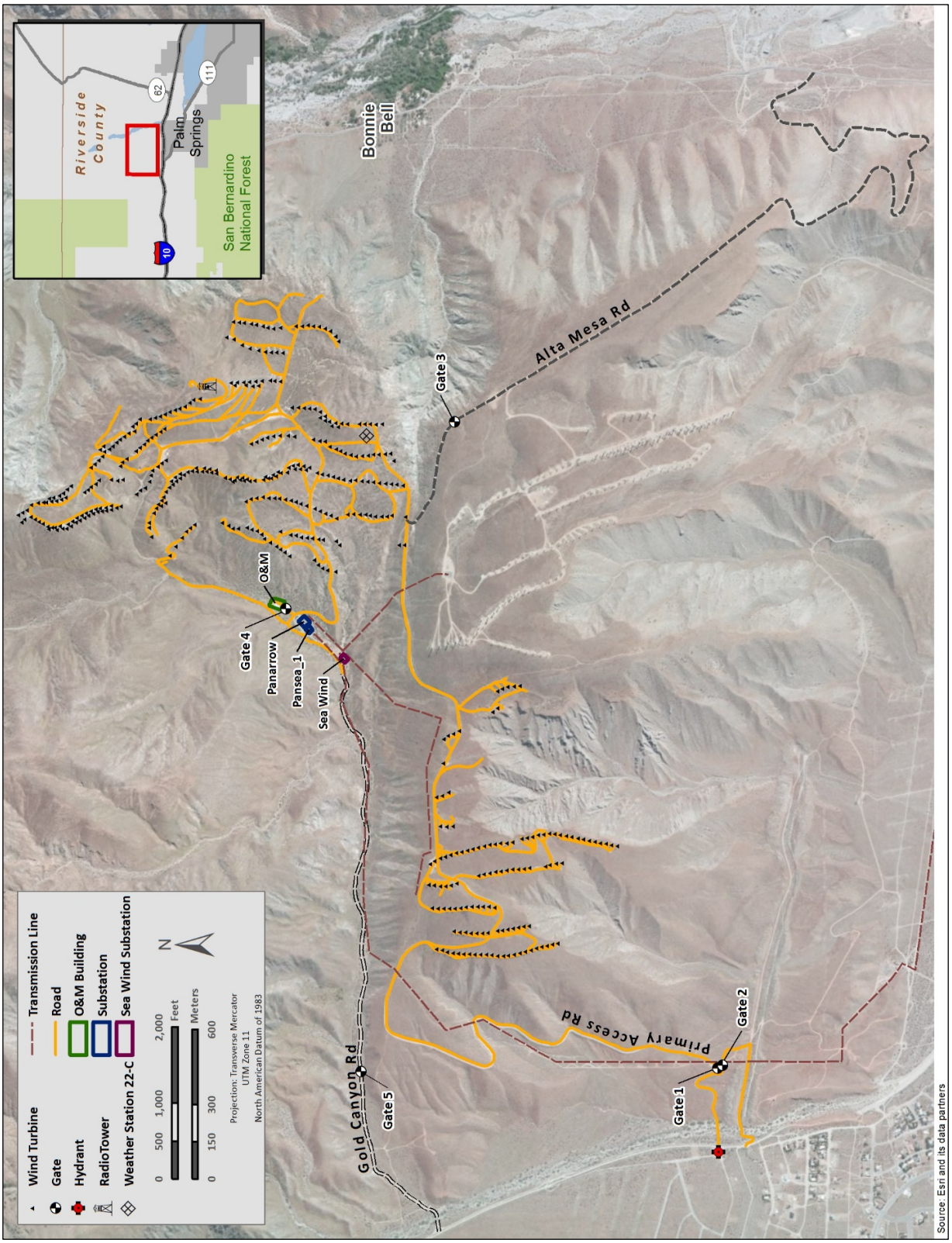


Figure 3. Facility Access Routes, Gates, and Infrastructure

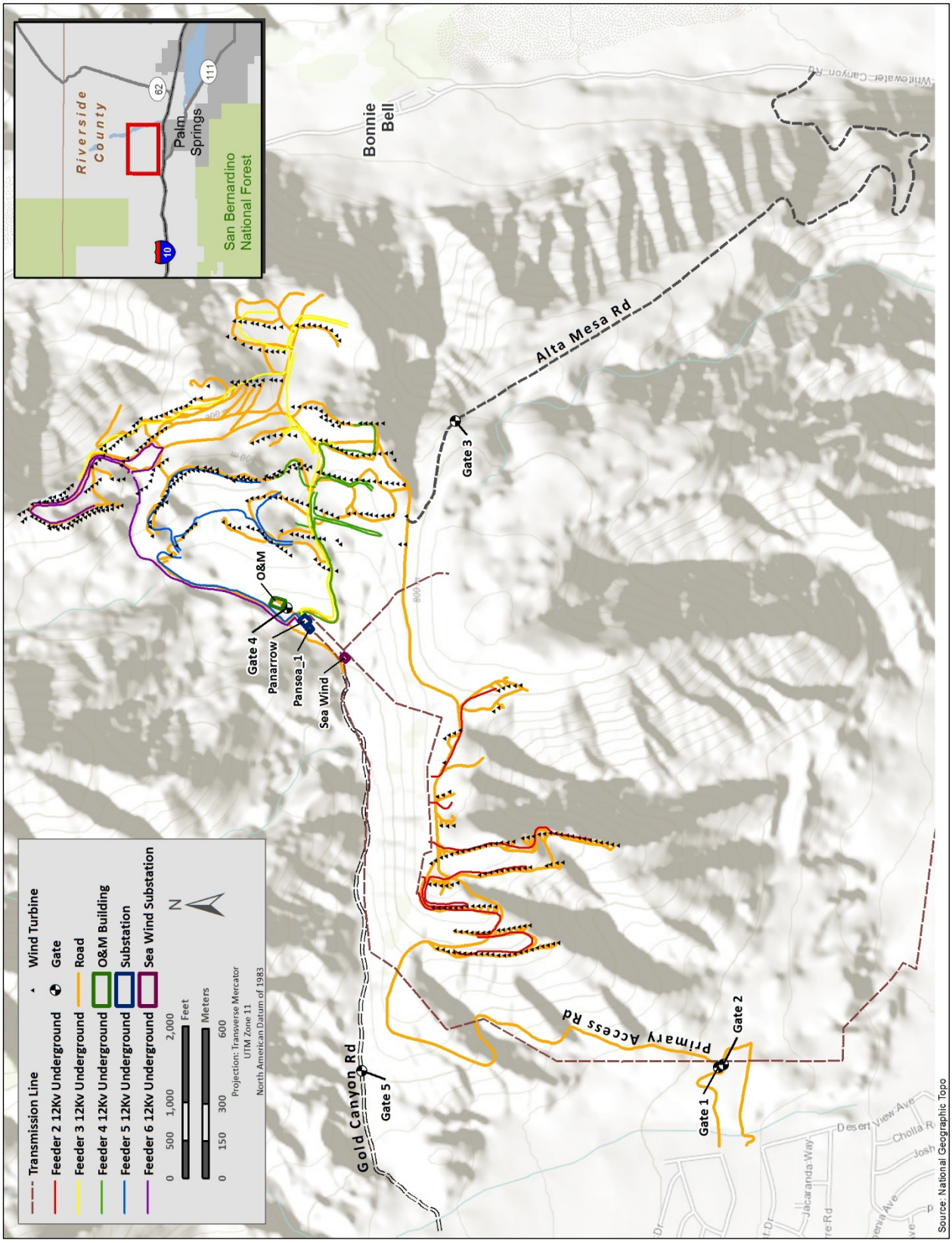


Figure 4. Overhead Transmission and Underground Feeder Lines

6. Wildland Fire Context

CAL FIRE's Fire Hazard Severity Zone map for the area indicates that a portion of the property is rated as a Very High Fire Hazard Severity Zone and the rest is rated as a High Fire Hazard Severity Zone. Under both designations, fire hazard is of concern.

Wildland Fire History. Four reportable wildfires that were entirely or partially within a 2-mile radius of this facility have been recorded over the last five years. However, within the past 50 years fires have burned the entire site and its vicinity. Some areas in the region have burned multiple times.

Wildland Fuel. Vegetation communities on the site are desert scrub and chaparral. The very dry conditions at the site support sparse vegetation, a condition that historically was a limiting factor for wildfire ignition and spread. However, invasive annual grasses are establishing throughout the fireshed, causing a shift to more frequent and larger fires. In addition, population growth and increased human activity on the landscape contributes more ignition sources.

Terrain. The steep slopes on the site have the potential to increase the rate of fire spread. Narrows canyons in and near the site can influence the incidence of fire moving from one slope to the next by radiant heat, blowing embers, and localized channeling of wind. Steep slopes also make firefighting more difficult.

Weather. In addition to fuels and topography, weather is one of the most important factors influencing fire behavior. Hot, dry summers along with Santa Ana winds create ideal fire weather. Fire potential for the area typically is greatest from August through October when dry vegetation coexists with hot, dry winds. However, the fire season can begin much earlier and extend longer, depending on annual weather conditions and rainfall. The prevailing westerly winds are very common (over 50% of the time). This contributes to ideal wind conditions for energy production, but also creates the potential for magnifying fire behavior should a fire start. Due to topography, wind, and fuel types, fire can spread rapidly during periods of high fire danger and embers from the fire can be carried ahead of the fire, igniting new fires.

7. Facility Design Features and Fire Risk Reduction Strategies

Reducing ignition sources, managing fuel, and being adequately prepared are key to reducing fire risk.

The wind farm has a number of design features that reduce ignition sources and flammability. Ignition-resistant building materials, availability of fire protection equipment, proper use and storage of flammable materials, and general management practices by employees and contractors help reduce wildland and structure fire risk.

The BLM is responsible for enforcing the regulations and use permit stipulations associated with the right of way grant. To accomplish this, inspections would be conducted by BLM Fire Prevention staff in order to identify potential needs and/or deficiencies required to prevent wildfires. Inspections do not, however, relieve BREG of the responsibility of inspecting its own facilities. Prevention personnel will seldom make a complete inspection of the entire facility. Inspections may include spot inspections of individual turbines, transmission lines, substations, and other structures. Detailed inspections of small areas may be completed after a fire.

Establishing defensible space around structures reduces the chance for structures to become involved in a wildland fire incident and provides for safer access to by firefighters. The amount of fuel modification necessary to create defensible space considers the flammability of the structure, firefighter response time, ignition sources, topography, surrounding fuel types, and the occurrence of sensitive resources.

The most important area for fuel load modification (i.e., vegetation management) is within 30 ft of structures. However, a larger area of fuel modification reduces the chance for a structure-involved fire. Fuel modification does not eliminate the potential for structure fires, but reduces that possibility of fire spread from vegetation to the structure (and vice versa) and provides firefighters safe access.

Annual fuel management occurs outside of fire season, typically between November 1 and March 15, and more often, as needed. Vegetation management is coordinated with the BLM to minimize potential adverse effect on sensitive resources, reduce the potential for erosion, and to address potential dust issues.

Equipment, facilities, and activities associated with fire risk at the site include:

- Wind turbines
- Operations and Maintenance building and yard
- Substation transformers
- Electrical 12-kV collection and 115-kV transmission system
- Storage, use and handling of materials
- Operations and maintenance activities.

These are discussed below.

7.1 Wind Turbines

Wind turbines on-site are being retrofitted. Each turbine consists of a three-bladed, fixed pitch, up-wind rotor assembly mounted on a steel drive shaft supported by large bearings. All machinery necessary for the production of electricity, yawing, and braking is contained in the nacelle, the housing behind the turbine blades. The height of the steel lattice structure supporting the nacelle and turbine blades is approximately 74-ft tall, but may exceed 100 feet depending on site conditions (Figure 5).

Figure 5. Vesta Turbines on Steel Lattice Trestles at the Mesa Wind Facility

There are no specific requirements for the size of defensible space around each turbine; therefore, vegetation management decisions are balanced between fire risk reduction and minimizing impacts to sensitive resources. Adverse effects of clearing large areas around the turbines include an increase in erosion, reduction of desert tortoise habitat, and an increase in non-native, weedy annual grasses. Turbines that are currently in operation and those adjacent to the operational turbines have priority for vegetation management.

7.2 Operations and Maintenance Building

The O&M building is:

- 2,900 ft2
- Ignition resistant construction material: metal
- 14,000 ft2 graveled site and parking lot surrounded by a 20,550 ft2 area bounded by a gated chain link fence topped with razor wire (key box at gate)

7.3 Substation Transformers

There are three substations south of the O&M building, one of which Mesa Wind Farm operates. The Mesa Wind substation includes:

- 3,830 gallons of transformer oil
- 12,000 ft^2 graveled, fenced, and cleared area
- 23,000 ft^2 raised, rock pad site
- Wood pole transmission line runs southwest along Gold Canyon Road.

Southern California Edison (SCE) maintains and operates the other two substations within the facility area. This FMP does not apply to the operations of SCE.

7.4 Electrical Collection and Transmission System

Power generated at the site enters the California Independent System Operator transmission grid through an interconnection with transmission lines crossing the site. The site's electrical system consists of the following:

- 65 kV underground and overhead collector systems
- 30 pad mounted electrical transformer systems
- 12 kV transmission line on wood poles
- 115 kV transmission line on wood poles.

7.5 Storage, Use, and Handling of Oils, Flammable Liquids, Hazardous Materials and Vehicle Fuels

The proper storage, use, and handling of oils, flammable liquids, hazardous materials, and vehicle fuels are regulated under the California Fire Code (CFC). An area outside of the O&M building is designated for the storage of these materials. The facility stores a maximum of the following products on site:

- Gear Oil
- Fuel
- Two portable fuel tenders (105 gallons and 50 gallons).

7.6 Operations, Maintenance, and Decommissioning Activities

Typical turbine maintenance involves deploying personnel to service parts within the turbine, and may include temporarily deploying a crane within the previously disturbed construction area around the turbine, to remove turbine rotor, and replace generators and bearings. Vehicles and equipment used in O&M and maintenance activities themselves could be sources of ignition.

Periodic grading or replacement of gravel is required to maintain road quality for facility operations and to provide for accessibility by responding resources during an incident.

At some point the facility or part of the facility may be decommissioned, and existing equipment removed and return the site to a condition as close to a pre-construction state as feasible. Decommissioning activities could be a source of ignition.

7.7 Training and Documentation

Annual training will ensure all personnel are adequately prepared in the event of an emergency.

Training will include, at a minimum:

- Preventing risks of fire
- Requirements for informing visitors/contractors of fire risks and ignition control
- Functionality of fire protection systems installed as well as how to handle them
- Correct response in case of fire (e.g., reporting processes)
- Correct use of fire suppression equipment (e.g., fire extinguishers)
- Understanding of safe evacuation processes
- Protection of sensitive resources – including desert tortoise.

7.8 Special Considerations for Suppression

Suppression methods that affect sensitive habitat and species will be weighed carefully against the need to protect life and property within and adjacent to the facility. The incident commander and BLM will have primary responsibility for this.

Human Safety

All fire management efforts must consider what impacts pre-suppression and suppression activities will have on human safety. No facility employees or contractors will engage in firefighting activities for which they are not trained and/or qualified.

Natural Resources

The desert tortoise is listed as threatened under the Endangered Species Act and can be found in a variety of habitats on the Mesa Wind site, such as canyons, washes, alluvial fans, and saltbush plains (CVCC 2007). The presence of shrubs in tortoise habitat is important (Boarman 2002). The facility is within Riverside County's CVMSHCP area and therefore disturbance activities that have the potential to take place are to be assessed with the Habitat Conservation Objectives in mind (See Appendix A).

With regard to fire suppression activities at the site, the BLM will provide recommendations to assess and mitigate suppression impacts and recommend fuel management strategies and post-fire rehabilitation measures.

7.9 Post-Fire Response

The BLM will be consulted in order to evaluate fire and suppression operations effects and to determine if additional restoration is necessary.

Documentation and Reporting

An incident report will be prepared for internal use. Should authorities need to investigate the cause of any fire incident on site and/or in the surrounding area, assistance by facility personnel will be provided. A post-fire survey of the fire area will be conducted with the coordination of the BLM.

8. Persons and Organizations Contacted

CAL FIRE, Riverside, Beaumont Battalion and Banning City Fire B3113 – Battalion Chief Tim Chavez

CAL FIRE, Riverside, Beaumont Battalion and Banning City Fire B3 – Battalion Chief Michael Smith

BLM, California Desert Interagency Fire Program, Prescribed Fire and Fuels Specialist – James Gannon

BLM, California Desert Interagency Fire Program, South Zone Fire Management Officer- Jacob Gear

Green Energy Maintenance, Mesa Wind Farm Facility Operations Manager – Rowland Griese

Brookfield Renewable Energy Group, High Voltage Technician – Brian Goodwin

Brookfield Renewable Energy Group, Compliance Manager – Diane Barr

9. References

BLM 2008 — Bureau of Land Management. 2008. Proposed Mesa Repowering Turbine Replacement Project, Riverside California, Right-of-Way Grant. Palm Springs, California.

Boarman 2002 — Boarman, W. 2002. Threats to Desert Tortoise Populations: A Critical Review of the Literature. U.S. Geological Survey, Western Ecological Research Center, Sacramento, California.

CAL FIRE 2009 — California Department of Forestry and Fire Protection (CAL FIRE). 2009. *Riverside County (West) Fire Hazard Severity Zone Map, Local Responsibility Area*. Available online http://www.fire.ca.gov/fire_prevention/fhsz_maps_riversidewest.php. Accessed February 2014.

CAL FIRE 2012 — California Department of Forestry and Fire Protection (CAL FIRE). 2012. *Unit Strategic Fire Plan: Riverside Unit*. July 2012.

CAL FIRE 2013a — California Master Cooperative Wildland Fire Management and Stafford Act Response Agreement 2013-2018. CAL FIRE Agreement #7CA02025 and DUNS #79-2358095.

CAL FIRE 2013b — California Department of Forestry and Fire Protection (CAL FIRE) Fire Resource and Protection Program (FRAP). 2013. FRAP Fire Perimeters Version 12_1. Available online http://frap.fire.ca.gov/data/frapgisdata-sw-fireperimeters_download.php. Accessed February 2014.

CVAG 2007 — Coachella Valley Association of Governments (CVAG). 2007. Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Final Recirculated CVMSHCP. Available online http://www.cvmshcp.org. September.

CVCC 2011 — Coachella Valley Conservation Commission (CVCC). 2011. Draft Reserve Management Unit Plan Valley Floor Reserve Management Unit. April. Available online http://www.cvmshcp.org/pdf%20files/Valley%20Floor%20Reserve%20Management%20Plan.pdf. Accessed February 2014.

Lovich and Daniels 2000 — Lovich, J.E. and R. Daniels. 2000. Environmental characteristics of desert tortoise (Gopherus agassizii) burrow locations in an altered industrial landscape. Chelonian Conservation and Biology 3(4): 714-721.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A. HABITAT CONSERVATION OBJECTIVES FOR THE CALIFORNIA DESERT CONSERVATION AREA PLAN AMENDMENT FOR THE COACHELLA VALLEY

Habitat Conservation Objectives for the California Desert Conservation Area Plan Amendment for the Coachella Valley

In accordance with the Coachella Valley Plan, future activities on BLM lands are required to conform to the habitat conservation objectives established in each one of the eight plant community types within the Coachella Valley. Activities that cannot meet the habitat conservation objectives, either through avoidance or mitigation measures, would be disallowed.

The implementation of this Fire Management Plan will not affect any of the plant community types. No ground disturbance is outlined in this plan. Plant community types, sensitive species, and habitat conservation objectives that are not within the facility boundaries are indicated by a dash ("—").

Plant Community Type	Conformance with Plan?
Desert Scrub Communities	
Blackbrush Scrub	—
Mojave Mixed Steppe	—
Mojave Mixed Woody Scrub	—
Riversidean Sage Scrub	—
Sonoran Creosote Bush Scrub	YES
Sonoran Mixed Woody and Succulent Scrub	YES
Desert Scrub Sensitive Species	
Peninsular Ranges bighorn sheep	—
Coachella Valley round-tailed ground squirrel	—
Palm Springs pocket mouse	—
Desert Tortoise	YES
Flat-tailed Horned Lizard	—
Le Conte's thrasher	YES
Burrowing Owl	YES
Coachella Valley giant sandtreader cricket	—
Coachella Valley grasshopper	—
Casey's June beetle	—
Coachella Valley milk-vetch	—
Triple-ribbed Milk-vetch	—
Mecca aster	—
Orocopia sage	—
Desert Scrub Habitat Conservation Objectives	
Conserve at least 99% of extant desert scrub communities	YES
Minimize habitat loss and fragmentation in bighorn sheep essential habitat.	—
Suppress fire in Sonoran scrub communities to maintain bighorn sheep and desert tortoise habitat	—

Plant Community Type	Conformance with Plan?
Desert Scrub Habitat Conservation Objectives (continued)	
Exclude bighorn sheep from urban areas /provide alternative water sources	—
Prohibit artificial illumination of mountain slopes on public lands	—
Prohibit use of pesticides harmful to wildlife	—
Maintain, and enhance where feasible, aeolian (windblown) and fluvial (water borne) sand transport systems	—
Avoid disturbance and compaction of sandy habitats associated with giant sandtreader cricket, CV milk-vetch	—
Avoid crushing of sensitive plant and animal species	YES
Protect *Tiquilia palmeri* sites, host plant for CV grasshopper	—
Avoid disturbance to existing /potential Casey's June beetle habitat	—
Reduce/control spread of non-native plants like Russian thistle, Saharan mustard, and to the extent feasible, exotic annual grasses and forbs to protect desert tortoise forage species.	YES
Reduce/control spread of exotic animals such as non-native ants and brown-headed cowbirds	—
Avoid overgrazing, soil compaction and erosion caused by domestic animals to protect desert tortoise forage species	—
Minimize poaching, crushing and illegal collection of desert tortoise	YES
Avoid crushing of burrows, especially for burrowing owl, sandtreader cricket, desert tortoise , and Round-tailed ground squirrel	YES
Rehabilitate disturbed areas with native vegetation only	YES
Minimize loss of native vegetation, minimize habitat fragmentation and maintain habitat patch connectivity	YES
Prohibit uncontrolled household pets on public lands to minimize predation of reptiles, small mammals and birds	YES
Chaparral Communities	
Chamise Chaparral	YES
Interior Live Oak Chaparral	—
Mixed Montane Chaparral	—
Northern Mixed Chaparral	—
Redshank Chaparral	—
Scrub Oak Chaparral	—
Semi-Desert Chaparral	—
Upper Sonoran Manzanita	—
Chaparral	—
Upper Sonoran Mixed Chaparral	—

Plant Community Type	Conformance with Plan?
Chaparral Communities Sensitive Species	
Peninsular ranges bighorn	–
gray vireo	–
triple-ribbed milk-vetch	–
desert tortoise	YES
Pratt's dark aurora blue butterfly	–
Chaparral Communities Habitat Conservation Objectives	
Conserve at least 99% of extant chaparral communities	YES
Manage fire to avoid senescence of vegetation due to fire suppress ion	–
Minimize habitat loss and fragmentation in bighorn sheep essential habitat	–
Exclude bighorn sheep from urban areas/ provide alternative water sources	–
Avoid artificial illumination of mountain slopes on public land	–
Prohibit use of pesticides harmful to wildlife	–
Avoid trampling of sensitive plant species	–
Avoid disturbance to endemic species	–
Reduce/control spread of non-native plants like Russian thistle, Saharan mustard, and to the extent feasible, exotic annual grasses and forbs to protect desert tortoise forage species	YES
Reduce/control spread of exotic animals such as non-native ants and brown-headed cowbirds.	–
Avoid overgrazing by domestic animals, soil compaction and erosion to protect desert tortoise forage species	–
Avoid crushing of desert tortoise burrows	YES
Minimize poaching, crushing and illegal collection of desert tortoise	YES
Rehabilitate disturbed areas with native vegetation only	YES
Maintain habitat patch connectivity	YES
Prohibit uncontrolled household pets on public lands to minimize predation of reptiles, small mammals and birds	YES

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B. FIRE RISK REDUCTION TRAINING LOG

Fire Risk Reduction Training Log

Appropriate training for all employees and regular site contractors will be implemented annually to ensure all personnel are adequately prepared to reduce fire risk at the facility and are aware of actions to be taken in the event of a fire emergency.

Instructor Only – This training event included the following subject matters (check box beside those that apply):

- ☐ Preventing risks of fire
- ☐ Requirements for informing visitors/contractors of fire risks and ignition control
- ☐ Functionality of fire protection systems and installations as well as how to handle them
- ☐ Correct response in case of fire, e.g., reporting processes
- ☐ Correct use of fire suppression equipment, e.g., fire extinguishers
- ☐ Understanding of safe evacuation processes
- ☐ Sensitive resources – desert tortoise

Instructor Name: _____ Signature: _____ Date: _____

Student Printed Name	Student Signature	Company	Date

THIS PAGE INTENTIONALLY LEFT BLANK

Attachment E

Decommissioning Plan

MESA WIND PROJECT REPOWER
Decommissioning Plan

Prepared for:

Brookfield Renewable

Prepared by:

Aspen Environmental Group
235 Montgomery Street, Suite 640
San Francisco, CA 94104

February 2020

Contents

1. Introduction

The Mesa Wind Project is an existing wind farm that has been in continuous operations since the mid-1980s. As part of the proposed repower of the existing facility, Mesa Wind Power Corporation (Mesa Corp), a subsidiary of Brookfield Renewable Energy (Brookfield), intends to decommission and remove the existing 400+ legacy turbines. The decommissioning of the legacy turbines would occur prior to commencing construction of the proposed Mesa Wind Project Repower which will consist of up to 11 new turbines. The new turbines are anticipated to have a lifespan of 30 years after which they would be repowered or decommissioned.

The decommissioning plan describes the work associated with both phases of decommissioning: for removal of the legacy turbines and after the 30-year life of the repowered turbines. The construction methods will likely have improved by the end of the useful life of the repowered project, and the decommissioning plan would be updated based on the newer technologies.

This decommissioning plan generally outlines the procedures for decommissioning and removing the existing turbines, and for restoring lands to their original condition after the useful life of the repowered project. Decommissioning procedures involve the physical removal of certain facilities, structures and components associated with the project, the disposal of solid and hazardous waste, and identification of physical elements that may remain on the property. Restoration includes the stabilization or revegetation of the project site to minimize dust, erosion, and weed infestations.

1.1 Existing Mesa Wind Project

Mesa Corp currently operates the existing 30 MW Mesa Wind Project located on approximately 40 acres within a 401 acre site on federal lands near the towns of Bonnie Bell and Whitewater, CA. The site is located on lands managed by Bureau of Land Management (BLM) under the jurisdiction of the Palm Springs–South Coast Field Office. The project originally consisted of 460, 65 kW, lattice tower wind turbines. Some of the towers have been removed over the past several years during maintenance activities. There are currently over 400 towers remaining on site. The site includes collection lines, access roads, a substation an O/M building and a gen-tie line.

1.2 Proposed Mesa Wind Project Repower

Implementing the proposed Mesa Wind Project Repower involves decommissioning and removal of the existing turbines. Contingent upon receiving the requested right-of-way (ROW) grant amendment and a long-term Power Purchase Agreement (PPA), Mesa Corp would repower Mesa Wind with up to 11 new WTGs (for up to 30 MW). Each new WTG would be mounted on a new, reinforced concrete foundation. New WTGs would consist of the following main above-ground components: the WTG tower, the nacelle, the hub, and the rotor. The maximum height (top of foundation to blade tip at apex) for each turbine would be 150 meters. The Mesa Wind substation and transmission line that ties into Southern California Edison's (SCE) Pan Aero Substation would not be upgraded and could accommodate the repowered project.

2. Decommissioning Method

Decommissioning is a step-by-step deconstruction process that involves carefully and safely removing, salvaging, recycling and disposing of the infrastructure and appurtenant facilities. It includes the physical removal of facility-associated structures and components (including portions of the foundations) from the area.

Decommissioning would be completed in compliance with revised BLM wind energy policies (BLM 2008)[1] and best management practices ("BMPs") specific to decommissioning, as summarized here:

- Prior to termination of the ROW authorization, a Decommissioning Plan would be developed and approved by BLM. The plan would include site reclamation and monitoring.
- All management plans, BMPs, and other stipulations developed for the repower construction phase would be applied to similar activities during decommissioning.
- All WTGs and other Project structures would be removed from the site.
- All foundations to a certain depth would be removed.
- All areas of disturbed soil would be reclaimed.
- All vegetation cover, composition, and diversity would be naturally restored.

It is assumed that the Mesa Wind Project Repower will incur costs for removal and disposal of the proposed new wind turbines, wind turbine foundations, and other Project facilities, as well as for the restoration of the site following the removal of equipment, although the above-grade steel, aluminum, and copper equipment could potentially have scrap value to a salvage contractor. All recyclable materials will be recycled to the extent possible, while all other non-recyclable waste materials will be disposed of in accordance with state and federal law. The BLM would require a bond be put in place in order to ensure completion of the decommissioning plan and restoration of the repowered site.

2.1 Removal of the Legacy Turbines

The 460 legacy turbines have an 8-meter rotor diameter on lattice towers. Currently, 129 WTGs are operable. These legacy turbines are much smaller in size compared to modern turbines and have hub heights of 80 feet or 140 feet high from ground level. The concrete foundations associated with each turbine are approximately 15 feet by 15 feet. Ground disturbing activities would be cleared and monitored by an approved biologist for desert tortoise and other Threatened/Endangered or Sensitive species as appropriate.

Turbines and Towers. The legacy turbines will have their nacelles and rotors removed by a small crane. It is anticipated that the crane would potentially require some road widening to reach the towers. The lattice towers will be disassembled at their bases with a shearing tool attached to an excavator. The towers would then be pushed or pulled over in a safe, controlled manner. The towers could be further disassembled by hand when on the ground and then hauled off in dumpsters.

Fluids located within the turbine nacelle, including oils, fuels, solvents and process chemicals, would be drained during disassembly and disposed of offsite. Other equipment for disposal includes decommissioned gearboxes, transformers, and hydraulic systems, which will be drained of fluids, put into appropriate containers before dismantling. The transport and offsite disposal of solid waste and hazardous waste would be in accordance with state and federal regulations.

A private contractor would collect and transport solid waste to a landfill authorized to accept the material, primarily metals. The metal recovered from the turbines, towers, and ancillary equipment would be recycled to offset the costs of demolition and hauling.

[1] Bureau of Land Management (BLM) IM-2009-043: Wind Energy Development Policy. 2008.

Underground power cables and communication lines to the existing turbines will be decommissioned in place. Underground cables will be cut off at ground surface. Transformers will be removed from the site for disposal or recycling.

Concrete Foundations. The foundations would be decommissioned in a phased manner, beginning with the repower and taking up to 5 years to complete. Brookfield would break up and remove 12 inches of the foundation below surface and cover the area with native soil.

Material Disposal. All WTGs and debris that cannot be resold or refurbished would be hauled off to appropriate disposal facilities for scrap or waste. Alternate disposal or recycling methods for blades will also be explored.

Road Improvement. Some of the spur access roads that were originally used for construction and operations of the legacy turbines may need some improvement to gain access to specific towers, while most have adequate access from existing site access roads.

2.2 Removal of the New Turbines

Decommissioning the proposed Mesa Wind Project Repower would occur after the useful life of the repowered project. Because the proposed turbines would use updated technology, they would be up to 500 feet in height, with an anticipated lifespan of 30 years. As such, the decommissioning methods would be different and would be updated based on the technology and best practices available at the time of decommissioning

Pre-decommissioning activities consist of preparing the site for dismantling and removal of equipment. These activities include scouting the access roads and other disturbed areas for remaining materials or products, such as diesel fuel, gasoline, and other materials (to the extent feasible) in order to reduce potential personnel and environmental exposure and to facilitate decommissioning. Surveys would be completed as necessary to identify sensitive resources. Sensitive cultural and biological resources potentially impacted by decommissioning activities would be avoided to the extent practicable through flagging or temporary fencing. Cultural and biological resources monitors would further help reduce impacts sensitive resources.

Turbines and Towers. The wind turbine blades will be removed from the nacelle using a crane, cut into manageably-sized sections, loaded onto a trailer, and hauled to a local landfill for disposal; the wind turbine blades are constructed from a composite material that is assumed to have no salvage value at the time of decommissioning. The turbine nacelles will be removed from the towers with a crane. The towers and nacelle will then be dismantled, cut onsite, and hauled off to a scrap yard.

Concrete Foundations. Similar to the legacy turbines, the new turbine foundations will be removed to a depth of 12 inches below grade and covered with natural soil. Voids left from the removal of the concrete footings will be backfilled with surrounding subsoil and topsoil and fine graded to provide suitable drainage.

Substation Removal. The Mesa Wind substation will be removed from the site, including all above-grade equipment (e.g., transformers, breakers, busbars), buildings, crushed rock surfacing, and fencing. All below-grade equipment (e.g., foundations) will be removed to a depth of 12 inches below grade.

Material Disposal. All crushed rock surfacing will be removed from the Project's access roads. The removed crushed rock will be loaded into dump trucks and hauled offsite for disposal. The cost to remove the crushed rock, load it into dump trucks, and haul it to the final destination will be at the expense of the

Mesa Wind Project Repower at which point the ownership of the crushed rock will be transferred to the demolition contractor. Crushed rock can be recycled and reused and typically has a salvage value as a commodity equal to or greater than the cost to haul to an end user.

Road Reclamation. Following the removal of crushed rock surfacing, a layer of topsoil will be added to replace the removed rock. The areas where crushed rock has been processed will be fine graded to provide suitable drainage. In areas disturbed by access roads and turbine sites, the ground will be seeded to prevent dust, erosion, and weed infestations.

3. Schedule

The activities associated with decommissioning the legacy turbines or the repowered turbines, as described above, would be completed within a 6-month timeframe, according to the following estimated schedule:

- Decommissioning Planning & Permitting: 2 months
- Demolition: 3 months
- Site Restoration: 1 month

Additional time may be required for post-decommissioning activities, including monitoring of new vegetation. However, this timetable should provide sufficient time to comply with any applicable health and safety regulations.

The wind turbines proposed for use in the repowered project are expected to have an operational life of 30 years. It is anticipated that as these turbines reach the end of their expected life, technological advances may allow for a repowering where the existing turbines would be replaced with more efficient and cost-effective generators that extends the life of the project. Many older wind energy facilities have been repowered by upgrading or replacing existing towers and other infrastructure with more efficient turbines and related equipment.

At the time of terminating operation of the repowered project, the owner would provide BLM and the County with a written Notice of Termination of Operations. The date of the Notice of Termination of Operations will be the Termination Date that indicates the start of permanent decommissioning. The notice will be provided within 30 days of terminating operation of the system. The project will be removed in accordance with the terms of the ROW grant. Decommissioning and reclamation prior to the end of the life-expectancy of the project could occur under certain unlikely conditions such as condemnation or the cessation of power generation by the project.

4. Environmental and Wildlife Monitoring

The highest concerns for wildlife impacts at this location are primarily related to desert tortoise. Mesa Corp would utilize a BLM authorized biologist to provide tortoise clearances and biological monitoring during the decommissioning activity.

The authorized biologist will also be responsible for monitoring of additional wildlife activity that could potentially be impacted by this activity, such as birds that are protected under the Endangered Species Act, Migrating Bird Treaty Act, Bald and Golden Eagle Protection Act, and/or the California Endangered Species Act and other wildlife that could potentially be in the vicinity of construction activity. The occurrence of nesting birds is unlikely, as the proposed activity would occur outside of the migratory bird breed-

ing season at this location. The authorized biologist would have full stop-work authority if a protected species is encountered. The authorized biologist would also provide daily construction monitoring reports to the BLM and Mesa Corp. The authorized biologist or other monitors would report on spills and spill cleanup, invasive weed monitoring/compliance, and general compliance with ROW compliance.

Prior to commencing activities associated with foundation removal, crushed rock surfacing removal, or any other earthwork, an approved erosion control plan will need to be developed by the demolition contractor. Best management practices ("BMPs") applicable at the time that decommissioning activities occur will need to be implemented by the contractor for control of storm water runoff; since decommissioning activities are not anticipated to occur for 20 years or more, BMPs may differ from current standards. However, if decommissioning takes place in the near future, BMPs such as silt fencing and proper compaction, seeding, and mulching practices would be implemented. To the extent necessary, permits relating to decommissioning activities will need to be obtained, including permits from the U.S. Environmental Protection Agency and the United States Army Corps of Engineers, or successor agencies.

5. Reclamation

In the context of this decommissioning plan, reclamation is the process of restoring lands affected by the project or its dependent components to a land use condition that satisfies the terms of the ROW grant and complies with BLM requirements. The process may require grading, contouring, removal of compacted soils, stabilization, re-vegetation, and drainage control.

Disturbed soils and vegetation will be reasonably restored to their original condition. Reclamation procedures will be based on site-specific requirements and techniques commonly employed at the time the area is reclaimed. If the land is to be reclaimed to its natural state, reclamation will include re-grading, seedbed preparation, and revegetation with native seed. The proposed seed mix will be genetically and ecoregionally appropriate and will be based on the vegetation communities identified in the Biological Resources Technical report. Following removal of project access roads, these roads will be scarified, decompacted, and recontoured as needed to provide a condition that will facilitate revegetation, allow for proper drainage, and prevent dust, erosion, and weed infestations. Areas disturbed by access roads and turbine sites will be reseeded with native grass seed.