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Bureau of Land Management**

**Environmental Assessment
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Mesa Wind Repower Project

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1.0 INTRODUCTION

1.1 Background

This Environmental Assessment (EA) has been prepared by the Bureau of Land Management (BLM) Palm Springs–South Coast (PSSC) Field Office to review the effects of a proposed wind project repower.

This EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in compliance with other laws and policies affecting the alternatives. This EA is a site-specific analysis of potential impacts that could result from implementation of any of the proposed alternatives. If the BLM determines there may be a significant impact, an Environmental Impact Statement (EIS) would be prepared for the project. If it is determined there are no significant impacts, an EIS would not be prepared and a decision would be issued along with a Finding of No Significant Impact (FONSI) documenting the reasons why implementation of the selected alternative would not result in significant environmental impacts.

Mesa Wind Power Corporation (Mesa Corp), a subsidiary of Brookfield Renewable Energy (Brookfield), as owner of the Mesa Wind Power Project (Project), 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-013980 (access roads and transmission granted April 12, 1984 and renewed in November 2018).

1.2 Project Location

The wind farm is located on 401 acres of BLM-administered lands in Riverside County, 11 miles northwest of the City of Palm Springs, in southern California (see Figure 1-1 in Appendix A). The Project area is rural, open space that is sparsely populated. Local land uses include existing wind farms, off-highway vehicle trails, and protected space including an Area of Critical Environmental Concern (ACEC), and congressionally designated wilderness areas. The Pacific Crest Trail (PCT) 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 of Snow Creek, located 3.3 miles south of the Project. Interstate 10 is located 1.2 miles south of the southern edge of the site running east/west.

The ROW CACA 55718 describes the Project location as:

- San Bernardino Meridian, California
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, and N1/4SE1/4NW1/4.

The legal land description for ROW CACA-013980 is:

- Access Road
San Bernardino Meridian, California
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, and 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, California
T.2S., E.3E.,
sec. 33, SE1/4SE1/4;
sec. 34, SW1/4SW1/4; and
T.3S., R.3E.,
sec. 4, lot 1.

Containing 0.28 acres more or less (1,200 feet long and 10 feet wide)

1.3 Purpose and Need

The purpose of the Federal action is to respond to a request for a ROW grant amendment under 43 Code of Federal Regulations (CFR) 2800 to repower the Project to increase efficiency of the existing site and produce up to 30 MW of renewable energy. The need for action is established by the BLM's responsibility under Section 501 (a)(4) of the Federal Land Policy and Management Act of 1976 (FLPMA), which authorizes the BLM to issue ROW grants on public lands for systems for generation, transmission, and distribution of electric energy, except that the applicant shall also comply with all applicable requirements of the Federal Energy Regulatory Commission under the Federal Power Act, including part I thereof (41 Stat. 1063, 16 U.S.C. 791a-825r)[P.L. 102-486, 1992].

1.3.1 Decision to be Made

Given the purpose and need, the deciding official reviews the proposed action and the other alternatives in order to make the following decision(s):

This EA provides a step toward implementing the decision on whether to approve, modify, or deny the ROW application for the wind energy development and associated facilities on public lands. The BLM will determine the impacts from the removal of old wind turbines and the installation of the new wind turbines and associated facilities by analyzing fully the Proposed Action, changes to design features, alternatives, and mitigation.

1.4 Scoping and Issues

The Council on Environmental Quality regulations states that the BLM should focus on "issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1). An "issue" is a point of disagreement, debate, or dispute with the proposed action based on some anticipated environmental effect. Issues identified for analysis in this assessment include

issues that could potentially be significantly affected by one of the proposed alternatives, where analysis is necessary to determine significance of impacts, or if analysis of an issue is necessary to make a reasoned choice between alternatives. The BLM interdisciplinary team identified resource concerns for the proposed action and alternatives through a preliminary review process and by soliciting scoping comments from the public.

The following lists the scoping activities:

- Initial Scoping Mailer sent November 12, 2019 to 430 members of the public, right of way holders, and other constituents outlining the application received and requesting comments, questions or concerns relating to the Project.
- November 26, 2019 Stakeholder Meeting with State, local, and Federal partners to discuss the alternatives including studies and reports concluded at that time; meeting included an afternoon site visit.
- January 8, 2020 Tribal Stakeholder Meeting with interested tribes to discuss the alternatives including the cultural reports and visual simulations; meeting included an afternoon site visit.
- February 12, 2020 Open House. Mailer sent to 430 members of the public and interested parties. Open House presented the Mesa Project and provided an opportunity for nearby community members to see visual simulations and ask questions about the repower.
- May 20, 2020 through June 19, 2020. Public Comment period on draft EA. See section 4.1 and Appendix I for a summary of comments and responses.

Additional information on Tribal consultation is available in section 4.4.

The BLM received 12 scoping letters and several phone calls regarding the Project. Concerns raised by the public are:

- The visual effects of the larger (up to 499 feet) turbines compared with the existing visual effects, the effects of turbine shadows, and the effects of flashing lights at night
- Noise from the new turbines
- Project and cumulative effects to migratory birds and bats
- Project and cumulative effects to federally listed and BLM determined sensitive species
- Effects to property values
- Malfunction of the proposed turbines during natural disasters and the increase threat of fire

1.4.1 Issues for Detailed Analysis

The following resources/issues have been identified for detailed analysis:

Table 1-1: Resources/Issues Identified for Detailed Analysis

Issue	Section
<i>Air Quality/Greenhouse Gas Emissions</i>	Impacts described in Section 3.2
<i>Cultural Resources</i>	Impacts described in Section 3.3
<i>Fuels and Fire</i>	Impacts described in Section 3.4
<i>Socioeconomics</i>	Impacts described in Section 3.5
<i>Noise</i>	Impacts described in Section 3.6

Issue	Section
<i>Soils</i>	Impacts described in Section 3.7
<i>Special Designations/Lands with Wilderness Characteristics</i>	Impacts described in Section 3.8
<i>Vegetation and Wildlife Resources (including Wetlands and Riparian Vegetation)</i>	Impacts described in Section 3.9
<i>Visual Resources</i>	Impacts described in Section 3.10

1.4.2 Issues Eliminated from Detailed Analysis

The following resources were eliminated from detailed analysis.

Table 1-2: Issues Eliminated from Detailed Analysis

Resource	Rationale
Caves/Karst	No Caves/Karst are located at or near the Project site.
Environmental Justice	As defined in EO 12898, minority, low income populations, and disadvantaged groups may live adjacent to/in proximity to the Project (for example, the Morongo tribe) but the repower would not be likely to result in any disproportionately high and adverse effects on minority or low income populations.
Farmlands	No farmlands are present in the Project site.
Fisheries	No fish habitat is present in the Project site.
Geology/Minerals/Energy	The Project area is crossed by the San Andreas Fault zone. The area geology will not be changed or impacted by the wind repower. The development will abide by all codes to ensure safety of the repower and will be built in accordance with the appropriate engineering for the site geology based on turbine specific geotechnical work. There are no active mines on the land and the potential for mineral development in the future after the use of the site for a wind project will remain the same. The Project will result in more energy produce within the same footprint resulting in a more efficient use of the BLM-administered land.
Lands and Realty	The Project would occur on an existing wind ROW so would not affect the use of the land or the access and property boundary. The ROW boundary would remain the same. Adjacent ROW holders were notified of the Project and have expressed no concerns.
Livestock Grazing	Grazing does not occur on the site. The potential for future grazing would be the same with the repower as with the current Project.
National Historic Trails	There are no National Historic Trails near the site.

Resource	Rationale
Paleontology	<p>No known paleontological resources have been identified in the Project area or within one mile of the Project area (CPUC 2015; Western Science Center, 2020). The geology underlying the site has very low sensitivity in the northern polygon of the ROW and moderate/unknown paleontological sensitivity in the southern polygon of the ROW (Western Science Center, 2020).</p> <p>The BLM uses the Potential Fossil Yield Classification System (PFYC), which classifies geologic units based on the likelihood of the occurrence of scientifically significant vertebrate, invertebrate or plant fossils. Recent analysis by Paleo Solutions (2015) identified the PFYC value as 3, or moderate, for this area. The Class 3 rating is based on the geology rather than having produced any fossils¹. However, the geology in the Project area exhibits very coarse and poorly sorted boulders, cobbles, gravels and sand deposits produced during high to very high energy depositions. These conditions do not produce good fossil preservation or yield, and a PFYC rating of 2-3 may be more appropriate. A reconnaissance site visit by a BLM permitted paleontologist confirmed this conclusion.</p> <p>While the Project has the potential to destroy buried paleontological resources given the PFYC, Project Design Features are included in the alternatives to protect any paleontological discoveries so the likelihood of significant impacts to paleontology is minimal.</p>
Public Health and Safety	<p>Construction and operation of the alternatives could result in effects to public health and safety due to accidents during construction or operations or failure of the wind turbines. During construction of the Proposed Action or Alternatives, there will be transportation of routinely used hazardous materials associated with construction, such as gasoline, diesel fuel, lubricants, and other products used to operate and maintain construction equipment. The Project uses a Hazardous Materials Business Plan (HMBP) and Spill Prevention, Control, and Countermeasures Plan which contain information regarding the presence and storage of hazardous materials. During all phases, the transport and offsite disposal of hazardous waste would be in accordance with state and federal regulations. The Applicant would follow all Federal, state, and county laws and would implement Best Management Practices over the life of the Project. The nearest residence would be half a mile from the proposed turbine sites. This is more than the acceptable risk of 3 to 3.5 times the overall turbine height for acceptable risk (see Analysis of</p>

¹ The Project areas south of the San Andreas Fault (which coincides with the southern polygon within the ROW) are entirely Quaternary Cabazon fan conglomerates (<2 million years ago). The conglomerates are alluvial in origin and scientifically significant paleontological resources have been recovered from Quaternary alluvial deposits elsewhere in Riverside County. These localities have yielded fossils of terrestrial mammals including mammoths, mastodons, ground sloths, dire wolves, saber-toothed cats, large and small horses, large and small camels, and bison in addition to plant and microvertebrate fossils.

Resource	Rationale
	<p>blade fragment risk at a wind energy facility at https://docs.wind-watch.org/Larwood-2018-blade-throw.pdf). Even if accidents happened with the towers, they would be far enough away to not impact the existing residences. Fire is addressed separately in the EA.</p> <p>Any construction has the potential to disturb dust and result in the release of coccidioidomycosis spores (Valley Fever). Riverside County has a low rate of Valley Fever (5-9 cases per 100,000 persons) so would not be considered at a high risk for this disease. The project would be required to use dust suppressant or watering to reduce dust during construction including ensuring dust is not leaving the project boundary. The risks of Valley Fever to nearby communities due to construction activities are minimal. Under Cal/OSHA safety guidelines employers have responsibilities to control workers' exposure to hazardous materials, including Valley Fever. Applicable regulations with regard to Valley Fever protection and exposure can be found in the California Code of Regulations, Title 8, Section 342, 3203, 5141, 5144, and 14300.</p> <p>Concern has been expressed about the possibility of wind turbines triggering epileptic seizures in people with photosensitive epilepsy. In order for this to occur, the turbines would need to rotate at speeds faster than 3 hertz (flashes per second). The turbines proposed for this project would rotate at no more than 1 hertz; and all current commercial wind turbines rotate at speeds under 2 hertz so would not trigger epileptic seizures (Epilepsy Society, 2019).</p>
Recreation	<p>Although no recreation occurs on the Project site, recreation occurs on adjacent and nearby BLM land. Any direct effects such as noise and increased dust to nearby recreation areas during construction would be negligible and Project Design Features would reduce them further. No closure of nearby trails is anticipated and any unanticipated effects to trails would be coordinated with the BLM and appropriately signed as required by Project Design Features. Visual effects to sensitive receptors, including recreationists is addressed in Section 3.9.</p>
Travel and Transportation Management	<p>The repower would not change the access at or near the site. Transportation of construction vehicles and equipment would be on existing roads and would require permits from the California Department of Transportation for any oversized or specialized vehicles. Travel on local roads would require the applicant to follow County regulations, including ensuring all roads are at the same or better level of service after construction of any alternative. Effects to travel and transportation would be minimal.</p>
Waste and Hazardous Materials	<p>Construction of an alternative would result in wastes (hazardous and solid) but would be addressed by following existing federal and state laws, including to remove the existing turbines to authorized facilities. Solid wastes would be recycled whenever feasible including the blades if possible.</p>

Resource	Rationale
Water Resources	<p>The Project is in the Whitewater Hydrologic Unit and the Coachella Valley Basin Planning area. The site is on mountainous terrain intersected by small local drainageways which carry runoff toward the Whitewater River either directly to the east or via Cottonwood Creek to the west and the San Gorgonio River to the south². None of the drainageways on the site carry sufficient water to generate runoff except during infrequent rains. The streams are ephemeral. The three southernmost turbine pads (1, 2, and 3) and associated access roads are above the Coachella Valley Groundwater Basin (CVGB), which is primarily below the valley floor south of the Project. This basin has a storage capacity of 36,500,000 acre feet, with an annual deficit in groundwater volume of at least 137,000 acre feet per year (as of 1999) due to withdrawals for human use (CVRWMG, 2010). The other turbine pads and associated infrastructure are not above any designated groundwater basin. As the alternatives are primarily along the top of ridges there is no appreciable offsite drainage nor are there designated flood zones. The existing Project access road from the west crosses Cottonwood Creek which would have an unmapped floodplain of unknown extent.</p> <p>Potential threats to surface water during construction would be minor and limited by measures required to prevent contamination of surface and ground water. Should contaminant spills occur during construction, these would be cleaned up prior to water being contaminated and conveyed to downstream waters such as the Whitewater River. Any contamination of surface waters from most of the site which drains to Cottonwood Creek or the San Gorgonio River is also unlikely due to dry conditions. Contamination of these downstream waters is further unlikely due to the lack of connectivity between the tributaries and the San Gorgonio River. Because the towers are on hills, 600 feet or more above the adjacent valley floor, CVGB groundwater is well below the maximum depth of excavation, resulting in little likelihood that this groundwater could be affected during construction. Secondary containment for hazardous materials such as fuels would be required by law, and a Spill Prevention Control and Countermeasure Plan (SPCCP) developed and adhered to. A site-specific Stormwater Pollution Prevention Plan (SWPPP) would be required to prevent water contamination from spills and sediment disturbance during construction.³ Areas of temporary disturbance would be revegetated.</p>

² Based on a review of topographic maps, aerial photographs and a field reconnaissance, there is no clear channel by Cottonwood Creek or any of the tributaries to the San Gorgonio River, also ephemeral in this region.

³ The SWPPP would include measures for diverting flow around disturbed areas, managing overland flow with temporary and permanent measures such as silt and straw fencing, stabilizing areas of concentrated flow, protecting inlets to culverts and catch basins, and prevention of tracking of sediment by vehicles. Site inspections would be conducted on a regular basis and after rainfall events exceeding 0.5 inches to ensure proper function of the stormwater control measures.

Resource	Rationale
	Construction water use is expected to be 67 acre-feet total. Operations water use will be approximately 1 acre foot per year. Both construction and operation water use would likely draw from the CVGB as there is no other known aquifer in the area. Water will be provided from an existing on-site well. This water use would contribute a negligible amount to the overall annual groundwater deficit of 137,000 acre feet per year (about 0.05% for construction and much less for operations). Further, the groundwater level in this area has been rising due to recharge in the Whitewater River (CVRWMG, 2010). The applicant would provide a well test and productivity report to determine if the well is suitable for the proposed use. The applicant would follow the project design features outlined in Appendix D.
Wilderness Study Areas	No Wilderness Study Areas are within the Project area.
Wild Horse and Burro	The Project is within the Morongo burro herd area (CA0661). There are an estimated 0 burros in this herd area as of March 2018. The Project would not change the management of the burros in this area nor would it impact burros.
Woodland/Forestry	There are no woodland or forestry resources on the site.

1.5 Tiering and Reference

Information regarding tiering procedures contained in this document is summarized from the BLM Handbook H-1790-1. Tiering refers to the coverage of general matters in broader environmental analysis with subsequent narrower statements or other environmental analyses. Tiering allows the tiered NEPA document to narrow the range of alternatives and concentrate solely on the issues not previously addressed in the existing NEPA documents. This allows incorporation by reference of the general discussions to concentrate on the issues specific to the statement subsequently prepared (40 CFR 1508.28).

This EA tiers from the 2007 Vegetation Treatments Using Herbicide on Bureau of Land Management Lands in 17 Western States Programmatic EIS (PEIS), as well as the 2016 Final Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States PEIS. The 2007 PEIS analyzed the effects from 14 herbicide active ingredients that were identified by the BLM as effective in treating certain types of vegetation, while the 2016 PEIS analyzed an additional three herbicide active ingredients.

The 2007 and 2016 Final PEIS documents address a wide range of issues, including the effect of these herbicides on the health of humans, vegetation, fish and wildlife, livestock, and wild horses and burros. The Final PEIS documents also consider water quality and Native American use of resources and evaluate the cumulative impact of herbicide use by the BLM and other landowners in the West. The Final PEIS provides design features that need to be adhered to when using the herbicides.

1.6 Conformance with Land Use Plans, Laws, Regulations, and Policies

The actions proposed and analyzed in this EA were developed to be consistent with the management objectives for BLM-administered public lands, as identified in the following documents:

- The California Desert Conservation Area Plan 1980 and Record of Decision, As Amended (1999) including the Desert Renewable Energy Conservation Plan Land Use Plan Amendment (DRECP) (2016)

The California Desert Conservation Act (CDCA) Plan Alternative Energy Sources Element allows for maintenance, upgrade, and improvement of existing electric generation facilities with amendments of the rights-of-way. This element was amended by the DRECP. As such, Appendix B of this EA, includes a review of the DRECP Conservation Management Actions (CMA) for the action alternatives.

California Desert National Conservation Lands Ecoregion: Coachella Valley–White-water Canyon ACEC – ACECs are closed to new renewable energy development. Wind energy development currently exists in the ACEC. Re-powering or replacement of existing wind energy facility will be considered if the re-powering development remains within the existing wind energy right-of-way boundary and would reduce the overall environmental impact of the wind energy facility.

- CDCA Plan Amendment for the Coachella Valley and Record of Decision (2002)
 - Visual Resource Management Class 4 for BLM-managed lands associated with existing and future development of wind facilities whether inside or outside the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) conservation areas.
 - Fire Management Category B where wildfire is not desired and immediate suppression is a critical element of fire management because fire historically has not played a large roles in the development and maintenance of the communities.
 - Windpark development would be permitted in designated areas (this includes the Mesa area).
- San Geronio Pass Wind Resource Study Approved Resource Management Plan Amendment and Record of Decision (1982).

In addition to the Legislative, Regulatory and Policy Direction for each Management Action outlined in the CDCA Plan, As Amended (1994), the following apply:

- National Bald Eagle Management Guidelines (2007)
- Memorandum of Understanding between the U.S. Department of the Interior Bureau of Land Management and the U.S. Fish and Wildlife Service To Promote the Conservation of Migratory Birds (2010)
- Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. U.S. Fish and Wildlife Service Biological Technical Publication BTP-R6001-2003
- BLM–California State Historic Preservation Office (SHPO) Protocol Agreement (2014)

2.0 DESCRIPTION OF ALTERNATIVES

2.1 Alternative A (No Action Alternative)

Under the No Action Alternative, the BLM Authorized Officer would deny amending the ROW grants, decommissioning the legacy turbines, and installing up to 11 new turbines as requested by the Applicant. Development activities related to the decommissioning of the existing on-site wind turbines, and construction and operation of up to 11 new wind turbines and associated improvements would not occur. The Project would continue to operate as a commercial wind energy facility, consistent with the existing conditions until the ROW expires in 2045. The current wind ROW grant area is calculated at 401 acres and disturbs approximately 40 acres. Operations and maintenance of the existing facility would continue to occur consistent with the baseline conditions. Currently 129 turbines are functioning producing up to 8 MW of renewable energy. These are projected to continue to produce under this alternative; however, given the age and condition of many of the existing wind turbines, the BLM and ROW Holder would need to determine if it is practical to continue operations. If the cost of maintaining the facility exceeded the revenue, then the existing Mesa Project would no longer be economical and it would be decommissioned according to the existing ROW Grant.

2.2 Alternative B (Proposed Action)

The Project includes the following components on BLM-administered public lands:

- Removal of all the existing WTGs, over 400 legacy turbines, per a decommissioning plan developed by Brookfield (see Attachment E of the Plan of Development [POD]).
- Repowering of the Project with up to 11 new WTGs for up to 30MW.
- Widening of portions of the existing access roads from approximately 20 feet to up to 40 feet.

The existing turbine locations are shown on Figures 2-1 and the proposed locations for up to 11 turbines are shown in Figure 2-2 in Appendix A. The nearest sensitive receptor to the new WTGs are rural residences in Bonnie Bell, California between 2,500 and 3,000 feet east of WTG 4 and WTG 9.

The total estimated permanently disturbed area for the Proposed Action would be a total of up to 30 acres. The Proposed Action would have 10 less acres of permanent disturbance compared to the 40 acres of permanent disturbance that is currently under the existing ROW. Under the decommissioning plan, the legacy turbines and their foundations would be removed and revegetated. During construction, an additional 77 acres of land will be temporarily disturbed due to turbine siting, the laydown area, widening access roads, and new collection lines. The Proposed Action would use existing disturbed areas and would avoid steep slopes whenever possible. The estimated ground disturbance is shown in Table 2-1. About 18 acres of the proposed disturbance area shown in Table 2-1 is disturbed by the existing wind Project.

Table 2-1: Proposed Project Estimate of Surface Land Disturbance

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.) These are associated with ROW CACA-013980.	18 ²	8 ²	26
Onsite access roads (improved roads up to 40 feet within the wind ROW, and minor new roads to reach the WTGs). These are associated with ROW CACA-055718.	10 ²	4 ²	14
Laydown area	15		15
Collection lines (assumes up to 15 feet width of new disturbance for collector lines; however, much of this would follow existing roads and would not be new disturbance)	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 (new minus 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)

2.2.1 Major Project Components

Descriptions of the major Proposed Action components and associated construction activities are provided in the following sections, with more detail provided in Appendix C, POD.

Decommissioning of Existing Wind Turbines

The legacy turbines will have their nacelles and rotors removed by a small crane. The crane may require some road widening to reach the towers but would remain within the existing ground

disturbance as proposed. 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 prior to or 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 and the approved Hazardous Materials Business Plan (see Attachment B of the POD).

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. Alternate disposal or recycling methods for blades will also be explored.

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.

The legacy turbine concrete foundations will be removed over a five-year period. The developer would break up and remove 12 inches of the foundation below surface and cover the area with native soil.

New Wind Turbines

The repower would consist of up to 11 new WTGs, each of which would be mounted on a reinforced concrete foundation. The new WTGs would range from 2.9 MW to 5.0 MW capacity per turbine and would be up to 499 feet tall, from top of foundation to blade tip at apex. Each WTG consists of the tower, nacelle, hub, and three blades. The tower portion consists of a tubular steel monopole and connects to the nacelle, hub, and three-bladed rotor, and would include internal access ladders and man lifts for maintenance. The nacelle would be an aerodynamic steel and fiberglass structure atop the tower, which would contain the inner mechanical workings of the new WTGs, including its power generating components. The hub is the fixture for attaching the blades to the main drive shaft and is covered by a fiberglass nose cone structure to streamline the airflow and protect the equipment. The blades and rotor have a diameter of up to 423 feet (129 meters), and each rotor is equipped with a braking system.

Additional features help the turbines operate safely. The controller is a microprocessor that automatically regulates the operation of the new WTGs, including startup, shutdown, pitch control (technology used to operate and control the angle of the blades), yaw control (mechanism used to turn the wind turbine rotor against the wind) and safety monitoring. This information would be communicated to the Operations and Maintenance (O&M) facility from the controller 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. In some cases, the system can even analyze the data and take corrective measures. At each turbine, there will be a transformer either inside the unit, or mounted next to the base, to increase the output voltage. Safety lighting would be installed on the outside of some of the nacelles in order to comply with the Federal Aviation Administration (FAA) regulations. Project specific requirements would be developed in conjunction with the FAA, as not all WTGs may need safety lighting due to spacing and proximity of

turbines. Lightning protection systems would be installed on each new WTG and connected to an underground grounding arrangement. All equipment, cables, and structures that make up the new WTGs would be connected to a metallic site-wide grounding network.

Ancillary Facilities / Electrical Collection System

The new WTGs would have new underground or overhead collector lines that would connect to the existing substation. Underground lines would be installed by trenching. Overhead lines would be placed on poles. This document conservatively assumes all collector lines would be buried and the associated disturbance would be a 15-foot wide-trench for the length of the lines (see Table 2-1 for total disturbance). In reality, wherever feasible, the collector lines would be located in existing roads and would likely require a much smaller trench. The existing Mesa substation would be upgraded to replace the existing dual 12 kV/115 kV transformers with a single 34.5/115 kV transformer. The repowered substation is likely to fit in the existing substation fence line or within the 0.1 acre of disturbed area surrounding the existing substation. This 0.1 acres would be expansion along the existing fenced boundary of the substation and is a part of the surveyed area.

Interconnection to the Electrical Grid

Currently, generated electricity feeds into the Project Substation and from there into SCE's adjacent PanAero substation, which is the point of interconnection with SCE's 115 kV distribution system. The repower would not change this interconnection nor require a repowered interconnection line.

Access Roads, Buildings, Parking Lots

The Project has two existing main access roads that are up to 30 feet wide. Gold Canyon Road leads to the existing O&M station. The second road, corresponding with ROW Grant 013980, is an unnamed access road that leads to the southern portion of the wind ROW and connects the two wind ROW polygons (see Figure 2-1). Portions of the access roads are on private land where the Project has existing easements (see Attachment A of the POD). The unnamed roadway (ROW Grant 013980) running on the southern edge of the Project would be improved during the repower construction, including potential cut and fill. Onsite access roads would be improved and/or widened up to 24 feet and including areas where turning radius needs to be widening measuring up to 40 feet wide (see figure 2-2) during construction, with permanent road widths measuring 16 feet wide. Up to 8 inches of imported weed-free gravel would be placed over compacted native material on some roads. Although existing onsite roads would be used whenever possible to access the new WTGs, WTG 5 would require a new approximately 350-foot road, and WTG 10 would require a new approximately 440-foot new road. Access roads would require periodic grading or replacement of gravel to maintain road quality for facility operations. Drainage ditches and culverts may also be installed in the road.

The existing O&M facility will continue to be used during ongoing operations and includes the building and graveled area for equipment, construction, storage, and parking. The facility may require upgrades, dependent on ultimate decision of WTG manufacturer, but any size increase in facility will remain within the existing disturbed area. The existing fence surrounding the O&M structure will be updated to include desert tortoise exclusion fencing.

Temporary Construction Workspace, Yard and Staging Areas

During the Proposed Action, the following temporary work areas and facilities would be needed and are shown on Figure 2-2 in Appendix A and included in the calculations in Table 2-1.

- One temporary construction facility totaling up to 15 acres
- WTG staging areas at each pad location, that would each be up to 3.6 acres
- Extra work areas (if needed on steep side slopes)
- Temporary road widening within the footprint of the Project.

The temporary construction facility may include:

- Temporary offices
- Tool sheds and containers
- Chemical toilets
- Additional parking for construction equipment and vehicles.

Construction Workforces and Transportation

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. The construction workforce would be expected to average 150 with a peak at around 170.

A variety of construction equipment would be required during construction. This would include component trucks to transport the wind turbines and main erector crane, concrete trucks for pouring foundations, trucks used to transport aggregate and general construction and material delivery trucks. Additional construction equipment includes the main erector crane and RT cranes.

Water Use

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 Proposed Action would use up to 330,000 gallons per year (1 acre foot), primarily at the O&M building, for site maintenance work and dust control, and contingencies.

2.2.2 Project Design Features

Project Design Features (PDFs) are measures incorporated into the site-specific design of the Project to eliminate or minimize adverse impacts on the environment. These design features would be implemented as part of any action alternative. They are listed in Appendix D, Project Design Features.

2.2.3 Monitoring

Monitoring for certain sensitive resources would be required during construction as detailed in the PDFs and required plans. Additional monitoring during operations would also be required during certain periods of the life of the Project. The BLM CDCA Plan, as amended, encourages adaptive management to ensure monitoring is appropriate throughout the life of the Project.

2.3 Alternative C (Reduced Turbine Alternative)

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The Alternative is shown on revised Figure 2-3. The Reduced Turbine Alternative would remain a 30 MW facility and the total tip height of the turbines used would remain under 499 feet. Since publication of the Draft EA, the Applicant completed additional engineering for the Reduced Turbine Alternative to consider the feasibility of the alternative and to address some of the comments provided by the public. Based on the additional engineering, the estimated ground disturbance for the Alternative is shown in Table 2-2. The total overall potential ground disturbance would be 102 acres, of which 24 acres are on areas that have been disturbed by the existing Mesa Wind Project and 78 acres would be new disturbance. The 102 acres include 20 permanent and 82 temporary acres of disturbance. Temporary impacts include 47 acres where ground disturbance is anticipated, including grading and vegetation removal associated with road improvements, turbine pads, laydown yard, and cut/fill. It also includes a 35 acre buffer area where no ground disturbance nor vegetation removal is anticipated but potential drive and crush associated with trucks backing up, or a pickup truck driving outside the graded area, could occur. This potential ground disturbance area is identified as buffer area in Table 2-2.

Table 2-2: Reduced Turbine Alternative Estimate of Surface Land Disturbance

Component	Temporary Disturbance (acres)	Permanent Disturbance (acres)	Total (acres)
Turbines and turbine pads	11.1	10	21.1
Fill Areas	5		5
Offsite access roads (includes improved areas along steep slopes leading to the wind ROW.) These are associated with ROW CACA-013980.	4.2 ²	5.1 ²	9.4
Onsite access roads (improved roads up to 40 feet within the wind ROW, and minor new roads to reach the WTGs). These are associated with ROW CACA-055718.	13.6 ²	4.5 ²	18.1
Laydown area	13		13
Buffer Area (within Wind ROW)	16.4		16.4

Component	Temporary Disturbance (acres)	Permanent Disturbance (acres)	Total (acres)
Buffer Area (associated with Offsite Access Road)	18.7		18.7
Total Disturbance	82	19.6	101.8
Total Net Permanent Disturbance (new minus existing)		-20	

Construction of Alternative C would be the same as for the Proposed Action but would require fewer access road improvements and would eliminate two turbine pad locations entirely. Overall, it would result in 5 fewer acres of potential impacts compared with the Proposed Action. It would result in a reduction in approximately 10 acres of permanent disturbance. The anticipated temporary ground disturbance would be reduced by 30 acres; however, with the buffer area, it would result in 5 additional acres of temporary ground disturbance compared with the Proposed Action.

Alternative C would include one self-supporting (un-guyed) hub height MET tower near WTGs 1 and 2 within already disturbed land.

The nearest sensitive receptors to the Reduced Turbine Alternative would remain Bonnie Bell, at between 3,600 to 4,000 feet in distance.

2.4 Alternatives Considered but Eliminated from Detailed Study

2.4.1 Alternative Site

Locating a wind project on an alternative site was suggested by the public. The action alternatives would be located on a site that already supports commercial wind energy facilities, and thus, is consistent with the BLM's envisioned use of the site. The BLM has previously approved wind energy uses on the Project site. As such, the BLM has already made a policy decision that the selected site is suitable for wind energy development.

It is unknown whether there are readily available properties (either privately-owned or public state or Federal land) within the broader San Geronio Pass area that are appropriately sized for the Project (approximately 400 acres, similar to the current Mesa site), adjacent to existing electrical substations with existing capacity, and with the same advantageous wind characteristics as the Mesa location. Even if such a property exists and is available within close proximity to the Project site, it is unlikely that any other property would offer fewer developmental or environmental constraints, or fewer physical environmental impacts, or equivalent natural wind resource as the current site. This is because the Project site is already developed with a commercial wind energy facility, so fewer environmental effects would occur by repowering the current site as compared with developing a new vacant greenfield property in an alternate location. Therefore, an alternate location was not selected for a more detailed analysis.

2.4.2 Retrofit Alternative

During the preliminary planning and design process for the Project, the Project Applicant evaluated the possibility of retrofitting the existing on-site wind turbines in lieu of decommissioning and removal. However, after extensive review, due to the age and condition of the existing on-site wind turbines, it was determined that retrofitting the turbines, including upgrading the blades and gearboxes and reinforcing the towers, was infeasible because of the lack of replacement parts for these machines, given that the models of turbines currently found on site have not been manufactured in decades. Further, affixing larger, more efficient blades to the turbines would not be technically feasible and pose a hazard to both people and property. Therefore, a retrofit alternative was not selected for a more detailed analysis.

2.4.3 Photovoltaic Solar Alternative

Replacing the existing Project with a solar photovoltaic project was suggested by the public at an Open House. The Mesa site is located in an area with abundant sunlight and little cloud cover. However, solar photovoltaic projects require locations with less than 5 percent grade overall which is not feasible at the Mesa site with its continuous rolling hills and very steep slopes. Virtually the entire ROW would need to be graded in order to construct a solar project which would result in substantially more effects than a wind repower. Therefore, a photovoltaic solar project was not selected for a more detailed analysis.

2.4.4 Shorter Turbine Alternative

Several members of the public recommended considering shorter models of turbines. 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 specific wind speed and turbulence characteristics of the site.

Turbines that are suitable for Mesa range in hub heights from 272 feet (83m) to 285 feet (87m). Tip heights range from 492 feet (150m) to 499 feet (152m). Because a shorter turbine is not feasible at the Mesa site, this alternative was not selected for a more detailed analysis.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1 Introduction to the Analysis

This section describes the affected environment—the condition and trend of issue-related elements of the human environment that may be impacted by implementing one of the alternatives. This section also describes the environmental consequences to each issue-related resource from the analyzed alternatives. It describes past and ongoing actions that contribute to present conditions, and provides a baseline for analyzing direct, indirect, and cumulative effects.

Direct effects are those caused by the action and occurring at the same time and place. Indirect effects are those caused by the action but occurring later or in a different location. Cumulative effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The cumulative effects analysis includes other BLM actions, other federal actions, and non-federal (including private) actions. Reasonably foreseeable future actions are those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

The Cumulative Assessment Area (CAA) defines the area in which cumulative impacts are considered in light of the Proposed Action. The CAA is a 10-mile radius from around the ROW. This radius contains approximately 154,000 acres of BLM-administered public lands. The timeframe for analysis is up to 30 years.

The following information regarding past, present, and future relevant actions for cumulative effects applies to all alternatives, and for all resource impacts discussed below:

Past, Present, and Reasonably Foreseeable Future Actions

- Alta Mesa Wind Repower: decommissioning 159 turbines and constructing, operating, and decommissioning 8 turbines. Located on 640 acres of private land immediately east and south of the Project ROW. This project is also being proposed by Brookfield and is under permitting by Riverside County. The construction of the two projects would overlap or be continuous.
- Coachella Wind Holdings Repower: decommissioning 146 existing wind turbines and constructing, operating, and decommissioning of three new wind turbines located on 225 acres of BLM-administered public lands within the Whitewater floodplain, northwest of Palm Springs.
- Painted Hills Wind Repower: decommissioning 291 wind turbines and installing up to 14 new turbines on 600 acres of private land west of State Route 62. Project has been approved by Riverside County.
- Morongo Canyon at Highway 62 Multi-Tenant Wireless Broadband Communications Site: one, three-legged, 196-foot-tall freestanding, self-supporting lattice communication tower on 2.2 acres of land administered by the BLM.
- Interstate 10 Bypass: a new road between the City of Banning and the unincorporated community of Cabazon. It is currently under environmental review with a final environmental document expected in early 2021, after which the design and ROW phases would begin.
- Whitewater River Groundwater Replenishment Facility ROW renewal: a request to the BLM by the CVWD to operate and maintain their existing facility on 690 acres of public lands managed by the BLM. No new construction would be required.
- Private residential and commercial development in Palm Springs, Banning, and at the Morongo Casino. Numerous private residential and commercial development projects are proposed or under construction within the 10-mile radius. Example projects include the 3,385 residential unit Rancho San Gorgonio Project partially within the 10-mile radius in Banning, the Morongo Casino Expansion, and numerous residential projects in the City of Palm Springs.
- West of Devers Upgrade Project: Southern California Edison (SCE) proposed to upgrade and adjust 48 miles of existing 220 kilovolt (KV) transmission lines between North Palm Springs and San Bernardino, in Riverside and San Bernardino Counties within a utility corridor occupied by existing transmission lines. The corridor for these upgrades crosses just south of the Mesa ROW. Construction of the turbines nearest the Project is ongoing.
- Riverside County flood berm and road work project on Whitewater Canyon Road at Horn Corner north of Bonnie Bell. Total project disturbance is 38 acres for roadwork and berm.

3.2 Issue 1: Air Quality/Greenhouse Gas Emissions

3.2.1 Affected Environment

The U.S. EPA, California Air Resources Board (ARB), and local air districts work together to regulate emissions of air pollutants and manage air quality depending on the historical levels of contaminants measured in the ambient air and the local trends of air pollutant emissions.

The Project site is located in the jurisdiction of the South Coast Air Quality Management District (SCAQMD) within the Salton Sea Air Basin, just east and downwind of the South Coast Air Basin. Air resources in this portion of Riverside County are regulated by federal, state and local air quality management agencies as noted below.

Ambient Air Quality Standards. Ambient air quality standards have been established by both Federal and state legislation. National Ambient Air Quality Standards (NAAQS) are planning standards that define the upper limits for ambient airborne concentrations of pollutants. The standards are designed to protect all aspects of the public health and welfare, with a reasonable margin of safety. At the national level, the federal Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to establish NAAQS and designate geographic areas that are either attaining or violating the standards.

The NAAQS are established for “criteria air pollutants.” These are ozone, respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. Ozone is an example of a secondary pollutant that is not emitted directly from a source (e.g., a vehicle tailpipe), but it is formed in the atmosphere by chemical and photochemical reactions. Reactive organic gases (ROG), including volatile organic compounds (VOC), are regulated as precursors to ozone formation.

Federal General Conformity Rule. The Project site is in a federal nonattainment area and requires the approval of a federal agency (BLM). Therefore, the BLM’s action is subject to the general conformity regulations (40 CFR 93, Subpart B). Specifically, *de minimis* levels are the thresholds above which a conformity determination must be performed (40 CFR 93.153). Criteria air pollutant *de minimis* rates that apply in the Coachella Valley and the Salton Sea air basin are: 25 tons per year of NO_x or VOC for the federal ozone nonattainment area (severe); and 70 tons per year of PM₁₀ for the federal PM₁₀ nonattainment area (serious).

Federal Class I Areas. Section 162(a) of the federal Clean Air Act grants special air quality protections to designated federal Class I areas. The federal Class I areas near the Project site are:

- San Geronio Wilderness approximately 2.5 miles northwest of the site access road,
- San Jacinto Wilderness approximately 3.5 miles to the south of the site, and
- Joshua Tree National Park approximately 11 miles to the east of the site.

To protect Class I areas under U.S. EPA delegation, the SCAQMD implements the Prevention of Significant Deterioration permitting program, which addresses visibility impairment from new or modified stationary sources in the region, such as power plants, mines, or other industrial sources.

Local Rules and Regulations. The Project site and activities are under the local jurisdiction of the SCAQMD. Most construction equipment items are classified as mobile sources, and thus are exempt from stationary source permit requirements. But other equipment such as generators,

compressors, pumps, and concrete batch plants are potentially subject to permit requirements as portable or stationary sources (SCAQMD Rule 219).

The ARB statewide portable engine registration program is a voluntary program that establishes uniform emission limits and other requirements for eligible equipment. ARB-registered portable equipment items are exempt from local air district regulations and permit requirements as long as the equipment does not remain at a single fixed location (other than an equipment storage area) for more than 12 months.

Construction activities would also be subject to fugitive dust control requirements (SCAQMD Rule 403). SCAQMD Rule 403 prohibits creation of dust plumes that are visible beyond the property line of the emission source, and requires all “active operations” (construction/demolition activities, earthmoving activities, heavy or light duty vehicle movements, or creation of disturbed surface areas) to implement applicable best available control measures. Enhanced dust control requirements apply if the project is considered a large operation under Rule 403, for any active operations on property that contains 50 or more acres of disturbed surface area.

Greenhouse Gas Emissions. Global climate change is influenced by anthropogenic (man-made) greenhouse gas emissions (GHGs), primarily carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). California sources of GHG emitted approximately 424 million metric tons of carbon dioxide equivalent (MMTCO₂e) in 2017 continuing a downward trend since 2008 (ARB, 2019); and this was less than ten percent of the U.S. GHG emissions total for 2017 of 6,457 MMTCO₂e.

3.2.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under the No Action Alternative, the BLM Authorized Officer would deny the application to amend the ROW grants, decommissioning the legacy turbines, and installing up to 11 new the Applicant. No repower would occur. Under this alternative, the site would continue to remain in its existing condition, with no new WTGs and no ground disturbance. As a result, no air quality or GHG emissions impacts would occur. Because of the age of the existing turbines, the No Action Alternative would result in less renewable energy production than the Proposed Action reducing the primary benefit of the Proposed Action.

Cumulative Impacts

The No Action Alternative would have no cumulative impacts to air quality or GHG because the legacy turbines would continue to operate as under the current conditions.

Alternative B (Proposed Action):

Direct and Indirect Impacts

The Proposed Action would include removing the more than 400 existing legacy turbines, installing up to 11 new WTGs and the electrical collection system, and modifying existing access roads. Removing the existing legacy turbines and construction activities related to installing new WTGs would result in emissions of the following air pollutants: VOCs, NO_x, carbon monoxide (CO), particulate matter under 10 micrometers in diameter (PM₁₀), particulate matter under 2.5 micrometers in diameter (PM_{2.5}), and sulfur oxides (SO_x).

Use of construction equipment and the on-road vehicle traffic associated with construction would create exhaust emissions from fuel combustion and particulate matter emissions during ground disturbance. Fugitive dust emissions would be generated from material handling during decommissioning of the existing turbines, development and use of the laydown areas, modification of the existing access roads, and installation of the new WTG foundations and electrical system components below the surface. Fugitive dust would also be caused by vehicle trips on paved and unpaved surfaces and by wind erosion of surfaces exposed during ground disturbance.

All construction-related emissions of the Proposed Action are quantified based on the best available forecast of activities (see Appendix E). This analysis uses the California Emissions Estimator Model (CalEEMod; version 2016.3.2) software developed by the California Air Pollution Control Officers Association. Characterizing the potential impact of criteria air pollutant emissions relies on the mass emissions thresholds recommended by SCAQMD (SCAQMD, 2019). Construction-related emissions are also compared with the criteria air pollutant *de minimis* emission rates applicable in the Coachella Valley and the Salton Sea air basin for Federal agency actions subject to Federal general conformity review requirements.

Project Design Features (listed in Appendix D) are measures incorporated into the site-specific design of the Project to eliminate or minimize adverse impacts on the environment. Air quality design features to minimize ground disturbance, implement dust abatement strategies, and minimize exhaust emissions from equipment and vehicles would be implemented as part of the Proposed Action. The air quality PDFs are included in the emissions estimates of unmitigated construction activities.

Table 3.2-1 summarizes the maximum daily construction emissions, without mitigation, for the Proposed Action⁴.

Table 3.2-1: Proposed Action Construction-Phase Air Pollutant Emission Rates, without Mitigation

Construction Activity	Proposed Action, per phase (lb/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Removing Legacy Turbines,	12.3	109.0	86.3	0.2	1,177.4	130.6
Installing New WTGs and Installing Electrical Collection System	6.3	50.6	53.0	0.1	624.1	64.7
Restoration	2.1	13.7	21.3	0.0	293.6	29.7
Maximum Daily Emissions, without Mitigation	12.3	109.0	86.3	0.2	1,177.4	130.6

Sources: CalEEMod Output.

Project Design Features AQ-1 and AQ-2 would ensure proper fugitive dust controls to avoid adverse impacts due to equipment exhaust emissions.

Table 3.2-2 summarizes the maximum daily construction emissions mitigation, for the Proposed Action.

⁴ Because the Mesa and Alta Mesa proposed repowers would occur simultaneously or in conjunction and would share equipment, the air emissions presented in Tables 3.2-1 and 3.2-2 are for the total emissions for both projects, not just the Mesa repower.

Table 3.2-2: Proposed Action Construction-Phase Air Pollutant Emission Rates, with Mitigation

Construction Activity	Proposed Action, per phase (lb/day)					
	VOC	NO_x	CO	SO_x	PM10	PM2.5
Removing Legacy Turbines,	5.8	71.2	95.4	0.2	129.3	20.2
Installing New WTGs and Installing Electrical Collection System	3.6	41.6	61.2	0.1	65.5	8.8
Restoration	1.2	14.4	22.4	0.0	30.4	3.8
Maximum Daily Emissions including Mitigation	5.8	71.2	95.4	0.2	129.3	20.2
SCAQMD Daily Thresholds (Construction)	75	100	550	150	150	55
Annual Proposed Action Emissions (tons per year)	0.4	5.2	7.4	0.1	7.8	1.1
General Conformity <i>de minimis</i> Levels (tons per year)	25	25	None	None	70	None

Sources: CalEEMod Output.

Construction-phase emissions would be intermittent and variable as the Proposed Action proceeds through different phases of activity to accomplish the repower. All activities would comply with SCAQMD Rule 402 (Nuisance) and Rule 403 (Fugitive Dust) requirements to reduce construction dust impacts. By implementing the Proposed Action through the applicable rules and regulations established by the SCAQMD, the Proposed Action would conform to Clean Air Act requirements. Project emissions would occur at levels below the *de minimis* thresholds for criteria air pollutants.

Substantial or adverse levels of localized ground-level concentrations of criteria pollutants and toxic air contaminants would not be likely to occur with construction because the pollutants would be emitted from several individual pieces of equipment widely spread across the site. Measures to implement dust control and control of engine exhaust emissions would avoid adverse levels of air pollutant concentrations.

The nearest federal Class I area is 2.5 miles away from the Project site. Construction-phase emissions would result in a temporary and potentially adverse impact to visibility at the Class I area due to airborne dust. However, the sources of emissions during construction would occur near the ground level, where dust would have a limited ability to notably affect distant vistas, and emissions would be widely dispersed across the site. The ground level release and intermittent nature of construction sources ensures that impacts to Class I areas would be much lower than the localized effects near the Project site.

Operation-related emissions under the Proposed Action would be the same as those occurring due to operations and maintenance of the existing facility, consistent with the baseline conditions.

There would be no indirect effects associated with the Proposed Action during construction. During operation of the repower, the electricity produced by the Proposed Action, estimated at more than 125 gigawatt hours (GWh) per year would displace electricity generated from other power plants, which would avoid the need for their operation. However, the exact nature and location of any changes in air pollutant or GHG emission rates is not known and would not likely occur in the immediate Project area.

Cumulative Impacts

The geographic scope of the cumulative effects analysis for air quality is a 6 miles radius within the CAA because this radius includes projects that are in close enough proximity to combine to result in localized air impacts. The temporal scope would be during the 18 months of construction. Air emissions during operations would remain the same as ongoing operations. Cumulative air emissions would be mostly during the Alta Mesa Project construction because it is adjacent to the Mesa Project and would be under construction at the same time. To provide information about the cumulative effects of the Mesa and Alta Mesa projects, the emissions presented in Tables 3.2-1 and 3.2-2 are for the total emissions for both repower projects (Mesa and Alta Mesa). Other projects within the 6 mile radius include the Coachella Wind Holdings Repower, Painted Hills Wind Repower, West of Devers Upgrade, and flood berm and roadwork are already approved or under construction, so would be unlikely to overlap with the Proposed Action construction. If other projects are under construction concurrently and within a 6 mile radius, such as private development on the outskirts of Palm Springs, the combined effects of construction emissions including fugitive dust and equipment exhaust emissions, could be worsened. However, all projects under construction would need to comply with the applicable rules and regulations established by the SCAQMD to avoid visible plumes and implement additional measures where needed to control dust emissions.

Once construction of the repower Project is completed, operational cumulative impacts would include no notable emission sources. Due to the limited operation-phase emissions associated with the proposed repower, the cumulative impacts of emissions would be negligible, and operation of the Project would not result in adverse cumulative air quality effects.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of these two turbines would have a nominal reduction in the air quality impacts compared to Alternative B. Potential impacts would be identical to those described for Alternative B.

Cumulative Impacts

Potential cumulative impacts of Alternative C would be identical to those described for Alternative B.

3.3 Issue 2: Cultural Resources

This section discusses whether the implementation of the Project alternatives would impact cultural resources, including whether implementation of the Project alternatives would affect cultural resources that are listed or eligible for inclusion on the National Register of Historic Places (NRHP) (Historic Properties). Information presented in this section was gathered from a review of two Mesa Wind Project reports that present the results of a BLM Class I record search and literature review (Earle and Macko, 2019) and a BLM Class III archaeological inventory (Macko et al., 2020), and of a letter on indirect effects (Macko, 2020).

3.3.1 Affected Environment

The BLM defined the Area of Potential Effects (APE) for direct and indirect effects to historic properties and cultural resource identification efforts consistent with Stipulations 5.2 and 5.3 of the BLM-California *State Protocol Agreement* (BLM, 2019). The Direct APE includes the entire ROW Grant area, or 465 acres of BLM-administered public lands, plus an additional 15 acres on private, which encompasses all turbines proposed for decommissioning, all new turbine locations, facilities associated with connection of new turbines to the existing gen-tie transmission line, creation of new access routes, widening of current access routes and all laydown areas. The BLM defined the Visual, Auditory, and Atmospheric (VAA) APE to be a 1-mile buffer beyond the Direct APE.

A BLM Class I Inventory (as defined in BLM Manual 8110) was conducted to compile and synthesize existing information about all previously recorded cultural resources within the APEs. BLM defined the records search area to be a 1-mile wide area surrounding the Direct APE. Three previous surveys in the Project area have identified 4 cultural resources within the APE. These include two historic rock cairns placed as mining claims, one section of a prehistoric trail and one isolated prehistoric projectile (arrow) point. The BLM Class I Inventory concluded that no historic properties are present within the VAA APE. Two unevaluated resources are present within the VAA APE, CA-RIV-73 and CA-RIV-1068/H. Resource CA-RIV-73 is a small prehistoric camp in Cottonwood Canyon. CA-RIV-1068/H includes a prehistoric and historic component. The prehistoric component of CA-RIV-1068/H has been suggested by some ethnographers and contemporary tribal members to be the possible location of the Wanakik Cahuilla settlement of Wanapiapa (“Gonopeapa”). The historic component is the early 20th century settlement of Bonnie Bell. Neither of these sites has been evaluated for their eligibility for listing on the NRHP, however, the BLM will manage both resources as eligible and avoid effects.

A BLM Class III Inventory (as defined in BLM Manual 8110) was conducted within the Direct APE during the weeks of September 10-13, 2019 and April 2, 2020.

The Project area was divided into three survey groups. *Group 1* survey areas were completely accessible without hindrance from vegetation, ground visibility was 20% or better, and slope was less than 30%. *Group 2* survey areas were hindered by dense vegetation, but access was possible in areas of opportunity. Ground visibility was 20% or greater and slopes were less than 30%. *Group 3* areas were not surveyed, as they had a defining characteristic of slopes in excess of 30%, but in most instances these areas were far greater than 30%, if not extremely dangerous vertical cliffs. Even so, areas greater than 30% slope were inspected if bedrock or other geomorphic features were present that could indicate the presence of mining or rock shelter sites, which can occur on any slope. None was found.

The field conditions allowed for an intensive survey of approximately 35% of the APE after eliminating areas with steep slopes that were considered uninhabitable [in excess of 30% percent (13.5 degrees)]. The final surveyed area totaled approximately 480 acres. The Group 1 intensive survey area totaled 168 acres. Group 2 totaled 8.87 acres and Group 3 totaled 303 acres (Confidential Appendix I). The complete intensive survey used systematic, roughly parallel transects spaced 10 to 30-meters apart following a specific direction or along contours depending on the landform.

The survey resulted in the identification of six newly recorded historic archaeological sites primarily associated with mining and one newly recorded prehistoric isolate. None of the 4 previously recorded archaeological sites was relocated. BLM determined all six sites not eligible for listing in the NRHP. Isolates are by their nature not eligible for listing in the NRHP.

The BLM also completed a viewshed analysis for two resources located within the VAA APE. As noted above, CA-RIV-73 is a small prehistoric camp in Cottonwood Canyon. CA-RIV-1068/H includes a prehistoric and historic component. The prehistoric component of CA-RIV-1068/H has been suggested by some ethnographers and contemporary tribal members to be the possible location of the Wanakik Cahuilla settlement of Wanapiapa (“Gonopeapa”). The historic component is the early 20th century settlement of Bonnie Bell. While both sites are unevaluated for their eligibility for listing on the NRHP, the results of the Class I literature review and tribal consultation suggested they may be associated with known village sites to which the tribes attach cultural significance. No additional information regarding the significance of either site, or whether the Proposed Action could potentially cause a visual intrusion was provided during tribal consultation. The sites will remain unevaluated; however, the BLM will treat them as eligible and manage them to avoid impacts.

3.3.2 Environmental Effects

This section describes and evaluates the direct effects to historic properties under Section 106 of the National Historic Preservation Act (NHPA) and direct impacts to more broadly defined cultural resources under NEPA, related to the Proposed Action, the Reduced Turbine Alternative, and the No Action Alternative. Under the No Action Alternative, no repower would occur and the Project would continue to operate for the remainder of the existing right-of-way grant. Under the Proposed Action, the Project would be repowered with up to 11 new turbines up to 499 feet in height each. Under the Reduced Turbine Alternative, the Project would be repowered with up to 9 new turbines up to 499 feet in height each.

Alternative A (No Action):

Direct and Indirect Impacts

Under the No Action Alternative, the BLM Authorized Officer would deny the application to amend the ROW grants and no repower would occur. Under this alternative, the site would continue to remain in its existing condition, with no new WTGs and no ground disturbance. As a result, no effects to cultural resources would occur.

Cumulative Impacts

The No Action alternative would have no cumulative impacts on cultural resources.

Alternative B (Proposed Action):

Direct and Indirect Impacts

The Class III Inventory resulted in the identification of six newly recorded historic archaeological sites and one newly recorded prehistoric isolate. None of the sites or the isolate are eligible for listing in the NRHP.

A Viewshed Analysis was conducted for two unevaluated cultural resources within the one-mile buffer of the Proposed Action. The results of the Class I literature review and tribal consultation suggested that these sites may be associated with known village sites to which the tribes attach cultural significance. No additional information regarding the significance of either site, or whether the Proposed Action could potentially cause a visual intrusion was provided during tribal consultation.

The viewshed analysis completed for the Proposed Action indicates that no WTGs will be visible from site CA-RIV-73 and therefore it would have no impact to that site. The viewshed analysis and

terrain review completed for CA-RIV-1068/H indicates that two WTGs and two additional rotors (blade tips) would be visible from site CA-RIV-1068/H. The visual impacts to RIV-1068/H would be moderate-to-high and would degrade the existing visual character (see Appendix H for full description of visual effects from KOP 1). As such, the Proposed Action has the potential to result in visual intrusions to CA-RIV-1068/H. Should the Proposed Action be selected, the BLM would need to complete additional Section 106 review and compliance on sites CA-RIV-73 and CA-RIV-1068/H prior to the issuance of a Decision Record and FONSI.

To reduce impacts to cultural resources during Project implementation, PDFs are included that require a Worker Environmental Awareness Program, monitoring, a long-term management plan, and protection of human remains if found, see Appendix D.

Cumulative Impacts

The regulations implementing Section 106 of the NHPA contemplate close coordination between the NEPA and NHPA processes (36 CFR 800.8), and expressly integrate consideration of cumulative concerns within the analysis of a proposed action's potential direct and indirect effects by defining "adverse effect" to include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (36 CFR 800.5(a)(1)). When the results of cultural resources pedestrian surveys are not available for projects included in the cumulative analysis, calculating the number of cultural resources likely destroyed by construction per acre is considered an acceptable quantitative cumulative analysis method, and is used below. Central to this method is the understanding that cultural resources are a non-renewable resource.

For the cumulative analysis of cultural resources, the relevant geographic scope was defined as equivalent to the Record Search Area which includes a 1-mile-wide area surrounding the Direct APE, encompassing approximately 6,168 acres. A total of six archaeological sites and built-environment resources are present within the Direct APE. These six archaeological sites and built environment resources are historical and all ineligible for the NRHP. In addition to the six sites within the direct APE, The Proposed Action would have a moderate-to-high visual impact to CA-RIV-1068/H within the indirect APE. The adjacent Alta Mesa Project would be within the APEs of the Proposed Action and as noted in Section 3.10 (Visual Resources) would appear similar in nature to the Proposed Action. The two projects may result in a cumulative visual impact to this resource. As noted, the Proposed Action, if selected, would need to complete additional Section 106 review and compliance on sites CA-RIV-73 and CA-RIV-1068/H prior to the issuance of a Decision Record and FONSI.

Construction activities associated with the Mesa Wind Repower Project in combination with other projects along the I-10 corridor and Riverside County could contribute to the progressive loss of sensitive cultural resources. The loss of cultural resources, even those not eligible for the NRHP, combined with impacts from other projects over time could result in cumulative impacts; however, as a repower of an existing wind project, the minor direct impacts associated with the Mesa Wind Repower Project are not likely cause a significant cumulative impact to cultural resources. Additional Section 106 review and compliance on sites CA-RIV-73 and CA-RIV-1068/H would be required to fully consider cumulative impacts to historic properties from Alternative B.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would include up to 9 WTGs and would eliminate the eastern-most turbines, turbines 4 and 9. Because there are no historic properties within the Direct APE, potential direct impacts of Alternative C would be identical to those described for Alternative B. The sites CA-RIV-73 and CA-RIV-1068/H will remain unevaluated, however, the BLM will treat them as eligible and manage them to avoid impacts. The visual impacts analysis of CA-RIV-73 and CA-RIV-1068/H concluded that Alternative C would result in no visual impacts.

Cumulative Impacts

Construction activities associated with the Mesa Wind Project in combination with other projects along the I-10 corridor and eastern Riverside County could contribute to the progressive loss of sensitive cultural resources. The loss of cultural resources, even those not eligible for the NRHP, combined with impacts from other projects over time could result in cumulative impacts; however, as a repower of an existing wind project, and considering the reduced footprint, Alternative C is not likely cause a significant cumulative impact to cultural resources.

3.4 Issue 3: Fuels and Fire

3.4.1 Affected Environment

The presence of dense, dry fuels and a warm, arid climate characterizes southern California as having one of the most fire-prone landscapes in the world. Factors influencing wildfire behavior and magnitude include forest structure, fuel conditions, climate, and the source of ignition. Weather is one of the most significant biophysical factors of wildfire behavior. The summer months of southern California are arid and warm, with very little precipitation. Drought and Santa Ana Occurrences (SAOs) are native weather conditions to southern California that drive catastrophic wildfires. Because of dry vegetation conditions and SAOs, the fire danger for Riverside County is considered extremely high.

Wildfire susceptibility throughout Riverside County is broken out by Federal, State and Local Responsibility Area (Fire Hazard and Very High Fire Hazard Severity Zones). According to the Riverside County General Plan Safety Element (Riverside County, 2015), the Project site is designated with “Moderate” fire hazard potential per Federal Responsibility Area criteria (refer to General Plan, Figure S-11 Wildfire Susceptibility). Areas directly west, south, and east of the Project are State Responsibility Areas, which are also designated as “Moderate” fire hazard potential. Area to the north of the Project, which are Federal Responsibility Area, are designated with “Very High” fire hazard potential.

The Project area is rural, open space that is sparsely populated. Vegetation within the Project site is sparse. However, wildland fuel threats are abundant in the San Bernardino National Forest area, which is located directly north/northwest of the Project. More dense vegetation is found on the slopes of the mountains; whose foothills start adjacent to the Project to the north, presenting the potential for fast moving wildland fires that can transition into heavier fuel beds and tree canopies of the San Bernardino National Forest. Table 3.4 provides the Fire History within the ROW area.

Table 3.4-1: Fire History within the ROW Area

Date	Incident Name	Incident Number
September 2007	Alta Mesa	CACDD-009422
June 2010	Whitewater	CACDD-019425
June 2012	View	CACDD-009046
August 2012	Windy	CABDF-011784
May 2013	Water	CACDD-007641

First responder fire service to the Project site would be expected to come from the BLM Fire and/or the Riverside County Fire Department. BLM Fire has a station located approximately 13 miles northeast at 9800 Black Rock Canyon Rd, Yucca Valley, CA 92284. The nearest Riverside County Fire Department fire stations to the Project are Desert Hot Springs Station 36 (11535 Karen Ave, Desert Hot Springs, CA 92240) located approximately 3 miles northeast and Cabazon Station 24 (50382 Irene Street Cabazon, CA 92230) located approximately 5 miles west. In the event of a nearby wildfire, fire protection services come from a combination of federal agencies (U.S. Forest Service, BLM), California Department of Forestry and Fire Protection (CAL FIRE), and local service providers such as Riverside County Fire Department.

3.4.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under the No Action Alternative, the existing wind turbines within the site would continue to operate, consistent with the existing conditions, until 2045. Operations and maintenance of the existing facility would continue to occur consistent with the baseline conditions. Given the age and condition of the existing wind turbines, the potential for accidental fire from turbine mechanical failure is greater under the No Action Alternative compared to action alternatives that would replace the aging turbines with new equipment. However, the long-term potential for ignition and spread of fire would extend baseline conditions.

Cumulative Impacts

As identified in Section 3.1, cumulative actions in the Project area include other wind energy projects that include decommissioning and removing old turbines and replacing with new turbines. The No Action Alternative is considered to have a slight cumulative contribution potential for accidental fire ignition compared to any action alternatives due to aging turbines remaining in operation.

Alternative B (Proposed Action):

Direct and Indirect Impacts

Construction

During construction, fires could be caused by a variety of factors, including vehicle exhaust, sparks associated with grading activities, welding activities, parking on dry vegetation, and the overall temporary increase in human activity. Accidental ignition could result in a fire, which, depending on the location, could spread. The consequences of a such a fire could be severe depending on weather conditions at the time and the ability of on-site firefighting personnel to quickly respond

to the fire. If noticed by the equipment operator or other construction personnel, small ignitions can easily be suppressed by on-site equipment and designated fire watch personnel. All construction equipment is required to have fire suppression equipment on board or at the work site to ensure the availability of an adequate onsite supply of water with all-weather access for fire-fighting equipment and emergency vehicles.

Project Design Feature FIRE-1 would minimize adverse impacts due to fire during construction and require preparation of a Construction Fire Prevention Plan. Adherence to standard construction best management practices and applicable fire requirements identified in the Construction Fire Protection Plan reduces the potential for significant fire hazards.

Wind Turbine Generators (WTGs)

There is some potential for fire inside a WTGs, although malfunctions leading to fires in modern WTGs are extremely low (Bengel et al., 2017; Uadiale, 2014). The WTGs would be controlled by an automatic control system capable of monitoring all operational parameters and starting and stopping each WTG. In the event of a fire fault or excess vibration or temperature, the WTG would be halted immediately. An alarm notice would immediately be sent to on-call operators who would take appropriate emergency measures. In the event of such a fire, there is limited ability of fire suppression crews to effectively fight fires hundreds of feet above the ground. High-wind conditions, such as SAOs, are risky for both WTG malfunction and the spread of wildfire. If a fire were to ignite during a high-wind condition, wind-blown embers from a WTG fire could potentially travel outside the WTG pad and ignite vegetation in the surrounding area.

Public concern related to fire from wind energy facilities are also associated with the potential for tower collapse or rotor failure and blade throw (separation of the blade from the rotor). Excessive static stress, material fatigue, seismic activity, or ground settling can cause tower failure, collapse, or both. The likelihood of tower failure from excessive stress or material fatigue is very low, and tower collapse is uncommon. If a WTG experiences excess speed, material fatigue, excessive stresses, or vibration from seismic ground shaking, there is the potential for a rotor blade to crack or dislocate from the turbine tower. Blade failures may occur due to extremely high winds and excess rotor speed. Commercial turbines are equipped with safety and engineering features to prevent excess rotor speed. Routine inspection and maintenance of the Proposed Action WTGs would greatly reduce the risk of mechanical failure.

Project Design Feature FIRE-2 requires the Applicant to renew and expand the existing Operational Fire Safety Plan to minimize potential adverse fire ignition impacts.

Power Lines

Risk of fire associated with potentially new overhead collector lines would be from such factors as high winds and avian collisions. There would be no new transmission lines associated with the Project. Vegetation would be cleared around all overhead power lines in compliance with California Public Utilities Commission requirements. Should events such as severe storms, earthquakes, or accidents result in downed power lines or poles, procedures outlined in PDF FIRE-2 would be applied.

Access Roads

Access roads throughout the Project site could act as firebreaks, with proposed new and improved access roads allowing increased access by firefighting vehicles and equipment. The Proposed

Action would include periodic grading or replacement of gravel on access roads to maintain road quality for access to WTGs and through the site.

Cumulative Impacts

The geographic scope for cumulative projects for Fuels and Fire includes the 10 mile radius identified in the CAA. The temporal scope for cumulative projects would be the life of the Proposed Action. Cumulative actions in the Project area that could contribute to the risk of fire include other wind energy projects that include decommissioning old turbines and replacing them with new turbines and the West of Devers Upgrade Project because they all include a small risk of fire during operations. All of these projects are replacing old technologies with newer technologies that would have a reduced likelihood of fire. The West of Devers Upgrade Project must comply the California Public Utilities Commission rules and regulations regarding fire, compared with the older transmission lines on wooden poles that it is replacing. Therefore, the cumulative risk of fire would be reduced by the projects. Similarly, replacement of old WTGs under Alternative B and the implementation of Project Design Feature FIRE-1 and FIRE-2 would reduce the cumulative contribution potential for accidental fire ignition compared to Alternative A.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of these two turbines would have a nominal reduction in the potential for fire ignition compared to Alternative B. Potential impacts would be identical to those described for Alternative B.

Cumulative Impacts

Potential cumulative impacts of Alternative C would be identical to those of Alternative B.

3.5 Issue 4: Socioeconomics

This section discusses whether the implementation of the Proposed Action and alternatives would promote population growth, affect existing housing availability, alter local economic trends and employment, and/or generate social change or disruption. The analysis is based on existing population, housing, and local workforce data.

3.5.1 Affected Environment

The Project is located on BLM lands in Riverside County, 11 miles northwest of the city of Palm Springs in southern California. The unincorporated community of Bonnie Bell is located approximately 0.5 miles east of the Project, and the Census Designated Place, Whitewater, about 1.5 miles west and south of the Project. Palm Springs is the fourth largest city in the Coachella Valley, with the population steadily growing over the last 25 years. From 2010 to 2018, the population is estimated to have grown 8.6 percent.

The City of Palm Springs' total household income was close to \$1.7 billion for 2016. That sum represents 16% of total income created in the Coachella Valley cities, and therefore, represents a higher percentage than the population share that resides in the city (BLM, 2019).

In the City of Palm Springs, the Median household income was just over \$50,000 in 2018. According to the Population Summary (U.S. Census Bureau, 2020a) 84.7% of households had income at

or above poverty level in the last 12 months. About 46% of households have income from Social Security, and only 12.4% of households have one or more people under the age of 18 present, which means that the demographics of the area tend to be older than other areas in the state. Table 3.6-1 compares the socioeconomic characteristics of the areas near the Proposed Project.

Table 3.6-1: Socioeconomic Characteristics

Geographic Area	Total Population	Housing	Employment	Median Income	Median House Value
Riverside County	2,383,286	833,602 Total Units (13.8% Vacancy Rate)	1,007,759 Employed 87,664 Construction Trades (5.1% Unemployed)	\$63,948	\$364,900 (± \$3,173)
City of Palm Springs	47,525	37,434 Total Units (36.6% Vacancy Rate)	19,536 Employed 847 Construction Trades (4.7% Unemployed)	\$50,361	\$367,900 (± \$8,856)
Whitewater CDP	976	388 Total Units (27.1% Vacancy Rate)	305 Employed 29 Construction Trades (4.9% Unemployed)	\$38,672	\$146,700 (± \$29,850)

Source: U.S. Census Bureau 2020b. https://data.census.gov/cedsci/table?id=ACS%205-Year%20Estimates%20Data%20Profiles&table=DP04&tid=ACSDP5Y2018.DP04&q=0500000US06065_1600000US0655254,0685208&hidePreview=true

3.5.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under the No Action Alternative, decommissioning of the existing turbines would not happen, and the construction of the Proposed Action would not occur.

Cumulative Impacts

Under the No Action Alternative, the Proposed Action would not contribute to any cumulative effects because it would continue to operate under the current conditions.

Alternative B (Proposed Action):

Direct and Indirect Impacts

Implementation of the Proposed Action would require an average of 150 workers during construction with a peak of 170 workers. 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. This workforce would likely provide minor economic benefits to the local economy, since some of these workers would be recruited locally, with some

specialized workers coming from outside the local area. The workers from outside of the area are expected to stay in local hotels or rented housing units near the Mesa Project. The vacancy rate is between 13.8% and 36.6% for the three locations that are studied in this analysis. It is expected that there will be enough available hotel rooms and rental units, that there will not be a strain on the current community or cause a lack of resources.

Construction workers that are non-local are typically paid a per-diem rate for daily housing and meal costs, which is spent on hotel or rental accommodations, restaurants, groceries, gasoline, and entertainment. This spending activity would contribute to the local economy and have a positive effect on businesses. The Applicant would rent or purchase some supplies and equipment from local suppliers within the Coachella Valley or the Riverside County region. This would also have a positive effect on those businesses and contribute to the economy of the area.

Once operating, the Proposed Action would not require any new full-time employees and would retain the current employees at their current levels of employment. Therefore, it would not cause population growth in the area and would not cause people to relocate permanently. The infrastructure created would not induce any substantial population growth in the area or in the surrounding areas.

The Project site boundary is located approximately 0.5 miles away from the closest residential use. For most nearby residences, the removal of over 400 legacy turbines and replacement of up to 11 new turbines would be a low to moderate visual change (see Section 3.9, Visual Resources). For the residences of Bonnie Bell, the up to 11 turbines would be more visible than the existing Project, similar to the existing views from the community of Whitewater and similar in nature to the greater Palm Springs region. Additionally, communities have expressed concerns about noise and vibration (see Section 3.5) and in particular what these issues might mean for the property values in the region. Several studies have been published regarding the effects of wind farms on property values. Lawrence Berkeley National Laboratory (Hoen et al., 2013) completed a study in 2013 that used data collected from the sale of more than 50,000 homes in 27 counties, in nine different states. These homes were within 10 miles of wind projects, with 1,198 sales within one mile and 331 within half of a mile. This study also used data from before a project; the post-announcement, pre-construction period; and during operation. The study found no evidence of an effect on prices of homes in proximity to wind turbines. Other studies (Hoen and Atkinson-Palombo, 2016; Lang and Opaluch, 2014) found similar results. That said, one study based on wind development in England and Wales found a price reduction of 5-6% on average for housing with a visible wind farm within approximately 1 mile but found that proximity to a wind farm where it was not visible or less visible, did not have this same price reduction (Gibbons, 2014). Additionally, the study found that the price reduction was less noticeable or not noticeable as the distance increased, even if the wind farm remained visible. None of the studies discussed here look at the effects of wind farms on property values in areas where there are already wind projects, such as is the case for the Proposed Action.

Cumulative Impacts

The geographic scope for the cumulative analysis for the Proposed Action would include the surrounding cities and census designated places that are within a reasonable commute time, up to 2 hours, to the Project site. This geographic scope includes all of the projects in the CAA. The temporal scope would be the life of the project. Construction of projects in the area that would potentially bring a temporary workforce include the wind repower project adjacent to the Proposed

Action, the Alta Mesa Project. The Alta Mesa Project would bring a short-term influx of specialized workers, which would have the same skills as needed for the Proposed Action. There is available housing in the area, as noted in Table 3.6-1.

The influx of temporary workers within the local communities could create a short-term demographic shift, or social change. This is dependent on the amount of work provided by current or future projects in the area that could lead to a migration of workers. Any disruption to communities near the Proposed Action would not persist beyond construction activities and is not expected to present a cumulative disruption of local communities.

The benefits of cumulative wind farm repowers include increased local spending from the temporary workforce, local sourcing of goods for the Project during construction, and a potential increase in tax revenues. These factors all serve as an economic stimulator for local businesses and government. The beneficial effect of the Proposed Action may combine with the effects from other projects to contribute to a cumulative positive economic benefit.

Regarding property values, it is unlikely that any of the cumulative projects would combine with the Proposed Action because of the distance between the projects, except the Alta Mesa project which is immediately adjacent to the Proposed Action. As noted, there is no scientific consensus on the effects of wind projects on property values and because of the proximity of Mesa and Alta Mesa. The projects would be repowered with the same types of turbines, they would appear as one project rather than two separate projects and any potential effects to property values would remain the same as with the Proposed Action.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of these two turbines would have a nominal reduction in the potential for effects to socioeconomics compared to Alternative B. However, this alternative would reduce the views of turbines from the nearest community of Bonnie Bell (see revised Figure H-11 of the Visual Report) Other than the change in impacts to the community of Bonnie Bell the socioeconomic impacts would be similar to those described for Alternative B.

Cumulative Impacts

Potential cumulative impacts of Alternative C would be similar to those described for Alternative B.

3.6 Issue 5: Noise and Vibration

3.6.1 Affected Environment

The logarithmic decibel (dB) scale is used to quantify sound intensity in the environment. Since the human ear is not equally sensitive to all frequencies within the entire spectrum, human response is factored into sound descriptions in a process called “A-weighting,” expressed as “dBA.”

Planning for acceptable noise exposure must take into account the types of activities and corresponding noise sensitivity in a specified location for a generalized land use type. Some general guidelines are as follows: sleep disturbance can occur at levels above 35 dBA; interference with

human speech begins at about 60 dBA; and hearing damage can result from prolonged exposure to noise levels in excess of 85 to 90 dBA (U.S. EPA, 1974).

Wind turbines can result in ground-borne vibration during operations. Ground-borne vibration attenuates rapidly as distance from the source increases. The level of ground-borne vibration that could reach sensitive receptors depends on the distance to the receptor, what equipment is creating vibration, and the soil conditions surrounding the turbines.

Riverside County General Plan. The Riverside County General Plan Noise Element (amended 2008) includes Compatibility Guidelines that define the acceptability of a land use in a specified noise environment. For residential low-density land uses, these guidelines categorize noise levels of up to 60 dBA day-night average sound level (Ldn) as “normally acceptable” and up to 70 dBA Ldn as “conditionally acceptable.” The General Plan relies upon a Wind Implementation Monitoring Program (WIMP) that allows the County to manage the land use compatibility of wind energy, and the Noise Element guides the County to encourage the replacement of outdated wind energy systems with more efficient technology with less noise impacts (Policy N 5.2).

Riverside County Noise Ordinances No. 847. Section 4 of County Ordinance No. 847 (Regulating Noise) limits noise from any property that causes the exterior noise level on any other occupied property to 45 dBA during the daytime hours and 45 dBA during the nighttime hours, for areas designated by the General Plan as rural and open space. The daytime limit is 55 dBA for most other types of noise-sensitive areas in “Community Development” areas (e.g., low-density residences, schools, hospitals, and places of worship).

County Noise Ordinance No. 847 also contains an exemption that allows noise from construction activities, provided that construction occurs more than one-quarter mile from an inhabited dwelling. For locations within one-quarter mile of an inhabited dwelling construction activities are allowed between the hours of 6:00 a.m. to 6:00 p.m., during June through September, and between 7:00 a.m. to 6:00 p.m., October through May.

Riverside County Ordinance No. 348, Section 18.41 (Commercial Wind Energy Conversion Systems Permits). Wind Energy Conversion Systems (WECS) are subject to noise provisions in County Ordinance No. 348. Section 18.41, subsection 12 requires the applicant to demonstrate that the proposed WECS or WECS array with more than 10 WTGs complies with certain setbacks, generally 3,000 feet or greater from each WECS to the nearest receptor. For WECS that would occur nearer than 3,000 feet from receptors (including “habitable” dwellings), the ordinance requires acoustical studies to demonstrate compliance with a 55 dBA standard.

Background Noise Levels. Background noise in the rural environment is expected to be approximately 40 dBA during the day and 30 dBA at night.⁵ This would be consistent with day-night noise levels (Ldn) of about 35 dBA that are associated with the low population density of the area. These levels represent the ambient noise levels of the natural environment and nearby undeveloped areas or wilderness. Within the Project site, operation of the existing turbines contributes to elevated background noise levels. Additionally, for locations that are near traffic and the roadways accessing the Project site, the noise levels caused by existing traffic are elevated to levels in excess of those that occur in the undeveloped and open space. About 1.2 miles south of the Project site, Interstate 10 is a substantial source of traffic noise.

⁵ BLM Final Programmatic Environmental Impact Statement (Section 4.5.2, p. 4-9) on Wind Energy Development on BLM-Administered Lands in the Western U.S. June 2005.

Noise-Sensitive Areas. The nearest noise-sensitive land uses are scattered residences and recreational wilderness, and along the primary traffic access route, rural residences occur. Noise-sensitive land uses are categorized as follows (23 Code of Federal Regulations, Part 772):

- Most Sensitive: Lands on which serenity and quiet are of extraordinary significance and serve as important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
- Sensitive: Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.

Noise-sensitive areas considered for analysis include:

- The PCT north of and adjacent to the western boundary.
- The unincorporated community of Bonnie Bell, located approximately 0.5 mile east of the site.
- The unincorporated community of Whitewater, located approximately 1.5 miles south and west of the site.
- The unincorporated community of Snow Creek, located 3.3 miles south of the site.

The existing turbines are located approximately 0.5 miles (2,500 to 2,700 feet) west of the unincorporated community of Bonnie Bell.

3.6.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under the No Action Alternative, the BLM Authorized Officer would deny amending the ROW grants, decommissioning the legacy turbines, and installing up to 11 new turbines as requested by the Applicant. No repower would occur. Under this alternative, the site would continue to remain in its existing condition, with no new WTGs and no ground disturbance. As a result, no change in noise and vibration levels or noise impacts would occur.

Cumulative Impacts

The No Action Alternative would have no cumulative impacts related to noise because the legacy turbines would continue to operate as under the current conditions.

Alternative B (Proposed Action):

Direct and Indirect Impacts

Construction Noise. The Proposed Action would include removing of the existing more than 400 legacy turbines, installing up to 11 new WTGs and the electrical collection system, and modifying existing access roads. Removing the existing legacy turbines and construction activities related to installing new WTGs would increase noise levels in the vicinity of the site and transportation corridors due to the use of heavy-duty construction equipment, haul trucks, and other vehicles.

The removal of existing turbines and construction of new WTGs would be accomplished within a period of up to 18 months. Noise from construction activities would be limited to occur during the

day, when noise is tolerated better than at night because of the masking effect of background noise. Night-time noise levels would not be affected by construction activities.

Each stage of the construction process would have a specific equipment mix depending on the work to be accomplished. Developing the proposed repowered site would require upgrading and constructing new roads, excavating for the WTG foundations and underground electrical system, and assembling and erecting the WTGs. The major equipment used during construction would include graders, dump trucks, compactors, excavators, drill rigs, concrete trucks, and cranes. The construction equipment, including the cranes, loaders, graders, compactors, and trucks can typically generate short-term maximum noise levels of approximately 89 dBA at a distance of 50 feet when the equipment is under maximum load. Noise would be limited to construction hours, typically between the hours of 6:00 a.m. to 6:00 p.m., during June through September, and between 7:00 a.m. to 6:00 p.m., October through May, as required under PDF NOISE-1.

Due to the nature of construction, including removing the existing turbines, equipment would intermittently pause and occasionally reposition, resulting in noise that would not be continuous. With this time-varying usage of the equipment, construction activities would likely generate daytime noise levels between 80 to 90 dBA Leq. These levels would attenuate over distance, so that construction noise levels would be less than 54 dBA at the nearest residence to the site. Lower noise levels would occur for locations shielded by terrain. For locations within 50 feet of the access road, traffic of 10 trucks per hour (400 trucks per week) would cause about 61 dBA Leq and 56 dBA Ldn. Typical truck traffic volumes related to the Proposed Action would be less than this, averaging less than 220 trucks per week. Worker commute traffic and medium-duty truck deliveries would cause less noise than the heavy truck traffic because each light-duty vehicle pass-by emits about one-tenth of the sound of a heavy truck.⁶

The daytime construction noise would be at least one-quarter mile from inhabited dwellings, and accordingly, construction activity and traffic would be exempt from limits in the County Noise Ordinance No. 847. Daytime noise levels would increase as a result of construction-related on-road traffic to 61 dBA for the nearest residences and locations within 50 feet of access roads. At distances greater than 100 feet, the resulting noise levels diminish with distance so that levels would be within Riverside County General Plan Noise Element's normally acceptable range (under 60 dBA Ldn) for low density residential uses greater than 100 feet from roads. Depending on local existing daytime conditions along access roads, there would be a perceptible and noticeable increase in traffic noise levels (over a 3 dBA increase) due to haul truck trips during approximately up to 18 months of construction. Although the increased noise would be noticeable near the traffic, the traffic noise would be exempt under the Noise Ordinance, and construction traffic noise levels would be considered normally acceptable by the Noise Element of the County General Plan.

Operational Noise. The proposed new WTGs would replace the existing legacy turbines with new sources of noise. During operation, the noise sources would be mechanical and aerodynamic noise; transformer and switchgear noise from step-up transformers and existing substations; corona noise from existing transmission lines; vehicular traffic noise, including commuter and visitor and material delivery; and noise from the O&M building. The primary noise sources are described below.

⁶ BLM Final Programmatic Environmental Impact Statement (Section 5.5.2.2, p. 5-22) on Wind Energy Development on BLM-Administered Lands in the Western U.S. June 2005.

Wind Turbine Noise. Wind turbines produce two categories of noise: mechanical and aerodynamic.⁷ These categories can be described in terms of four types of noise (tonal, broadband, impulsive, and low-frequency). Mechanical noise, associated with the rotation of mechanical and electrical components, tends to be tonal, although a broadband component exists. It is primarily generated by the gearbox and other parts, such as generators, yaw drives, and cooling fans. Aerodynamic noise from wind turbines originates mainly from the flow of air over and past the blades; therefore, the noise generally increases with tip speed. The aerodynamic noise has a broadband character, often described as a “swishing” or “whooshing” sound. Large wind turbines of contemporary design, including those of the Proposed Action, would achieve significantly less mechanical noise than the existing turbines, resulting in aerodynamic noise being the dominant source from the proposed wind turbines.

According to the Applicant, the noise generation characteristics at rated power output are 106.1–109.5 dBA. These levels could be revised as specific turbine generator models are chosen, but they represent the maximum potential source level, at the wind speed causing highest sound levels (10 meters per second at the hub). At high wind speeds, the wind itself tends to mask the increasing turbine noise.

To determine the potential noise impacts at nearby residences and other noise-sensitive areas from the wind turbines, propagation of the source sound levels would occur over the surrounding terrain and distances (see Appendix F for the noise calculations). Considering geometric spreading only, each turbine would cause a sound pressure level of 75 dBA at a distance of 50 meters (164 feet), which is a level that would constitute a severe impact. Spacing between WTGs would be determined during turbine micro-siting, but generally the separation between each turbine would be around 150 meters (500 feet) or more. At 150 meters, the noise level caused by each turbine would be 65 dBA. The new WTGs would be located no closer than 2,500 feet from the nearest residences, in the community of Bonnie Bell, where the equivalent sound pressure level from each turbine would be approximately 54 dBA when the wind is blowing from the turbine toward the receptor. This would be equivalent to 61 dBA Ldn on a day-night basis. The combined noise levels from multiple turbines depends on the ultimate arrangement of the multiple wind turbines (e.g., in a line along a ridge) and the shielding if terrain exists to redirect sound waves away from the receptor, so that the resultant combined noise levels would not increase or decrease by more than 10 dBA.

Other conditions, aside from distance and terrain, including atmospheric conditions would affect the resultant noise levels at nearby noise-sensitive areas. On a clear night, temperature usually increases with height due to radiant cooling of the surface. Under this condition (called a temperature inversion), sound refracts or bends downward, which is a favorable condition for propagation (i.e., sound will travel farther). However, this condition would occur only with a stable atmosphere, at low wind speeds, or below the cut-in speed for operation of the turbine; thus, increased noise propagation associated with temperature inversion would normally be minimal. The exception would be in sheltered valleys with relatively low ambient noise levels. In general, the effects of wind speed on noise propagation would generally dominate over those of temperature gradient.

⁷ BLM Final Programmatic Environmental Impact Statement (Section 5.5.3.1, p. 5-23) on Wind Energy Development on BLM-Administered Lands in the Western U.S. June 2005.

Wind-generated background noise (i.e., noise caused by the interaction between wind and vegetation or structures) may also mask the wind turbine noise above wind speeds 8 meters per second (26 feet per second).⁸

Substation and Transmission Line Noise. There are basically two sources of noise associated with substations: transformer noise and switchgear noise. A transformer produces a constant low-frequency humming noise that is generally uniform in all directions and continuous. Switchgear noise is generated by the operation of circuit breakers used to break high-voltage connections with a resultant noise that is impulsive in character (i.e., loud and of very short duration).

The existing electric substation would be repowered along with the new WTGs. Noise from the replacement transformers, switchgear and other facilities of the electrical collection system would not change relative to the existing conditions, and the underground electrical collection system would not be a source of noise.

Noise Related to Maintenance Activities. Regular maintenance activities would include periodic site visits to the new WTGs, electrical collection system and auxiliary facilities. These maintenance activities would involve light- or medium-duty vehicle traffic with relatively low noise levels. Infrequent but noisy activities would be anticipated for road maintenance work with heavy equipment, or occasional repairs to wind turbines or auxiliary equipment. However, the anticipated noise levels from maintenance activities would be well below those from construction activities, and noise from non-heavy duty traffic and O&M commute traffic, ranging from light- to medium-duty vehicles, would be negligible.

Summary of Wind Turbine Facility Operational Noise. Noise from each WTG would naturally attenuate with distance to a level of 54 dBA at the nearest residences, or 61 dBA Ldn on a day-night basis, when the wind is blowing toward the receptors, which would be no closer than 2,500 feet from the nearest new WTG. At this distance, the resulting noise levels at the nearest residences could exceed the 55 dBA standard for habitable dwellings specified by County Ordinance No. 348. For locations near the site boundary, such as the PCT, the noise levels would not exceed 65 dBA at 150 meters (500 feet) from any WTG. All offsite locations would experience lower noise levels if protected by the shielding of terrain. The new WTGs and related maintenance activities would result in a permanent increase in ambient noise levels that would not be substantial because the resulting noise levels would remain compatible with the affected land uses in the vicinity. As such, the Proposed Action would not result in direct adverse effects to noise.

Wind Turbine Vibrations. Vibrations from wind turbines can lead to ground vibrations and these can be measured with sensitive vibrations sensors. In several studies vibrations have been measured at large distances, but this was because these vibrations could affect the performance of seismic stations that detect nuclear tests. These vibrations are too weak to be detected or to affect humans, even for people living close to wind turbines (van Kamp and van den Berg, 2017). Further studies have measured the vibrations at the foot of turbines and at nearby residences and even at the foot of the turbine, vibrations were very low; at the house, not only were vibrations low but those measured did not correspond with the output of the wind turbine (Meunier, 2013).

⁸ BLM Final Programmatic Environmental Impact Statement (Section 5.5.3.1, p. 5-25) on Wind Energy Development on BLM-Administered Lands in the Western U.S. June 2005.

Cumulative Impacts

The geographical scope for the cumulative scenario is 3,000 feet because noise beyond this distance dissipates into the environment. The temporal scope of the cumulative effects would be the life of the Proposed Action. During construction, the Proposed Action could potentially have cumulative effects when combined with the Alta Mesa project. This would be most prevalent during the Alta Mesa Project construction because it is adjacent to the Mesa Project and would be under construction at the same time. If multiple projects are under construction concurrently, the combined effects of construction noise levels could be worsened. The Alta Mesa project would need to comply with the applicable Riverside County ordinances and standards to minimize noise impacts to area receptors. Due to the distance between the construction areas and the nearest sensitive receptors, noise would be expected to increase compared with the baseline but would not be cumulatively significant.

Once construction of the repower Project is completed, the cumulative impacts of repowered and operational WTGs would combine with the effects of the Alta Mesa project. The region of greatest influence each new WTG and the potential for combined noise impacts would be within the nearest 3,000 feet from each WTG, based on setbacks specified in Riverside County Ordinance No. 348. Noise sources related to the Proposed Action and cumulative projects at distances greater than 3,000 feet from receptors would not be likely create a cumulative noise impact at the receptors. Due to the limited operation-phase noise impacts associated with the proposed repower, the cumulative impacts would be negligible, and operation of the Project would not result in adverse cumulative effects on noise levels.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of these two turbines would reduce the noise impacts compared to Alternative B by ensuring that no new WTG is within 3,000 feet of any residential receptor. Under this alternative, the nearest new WTGs would be approximately 3,600 feet from off-site residences. The noise level caused by the nearest new WTG would be 46 dBA at the nearest residences, or 53 dBA Ldn on a day-night basis, which would not exceed the 55 dBA standard for habitable dwellings specified by County Ordinance No. 348. Potential impacts would be less than those described for Alternative B.

Cumulative Impacts

Potential cumulative impacts of Alternative C would be identical to those described for Alternative B although the contribution of the Mesa Project would be reduced.

3.7 Issue 6: Soils

This section analyzes the soils found in and around the Project Area. The analysis focuses on the different types of soils found in this area, and their potential for erosion, given the slope on the site.

3.7.1 Affected Environment

The Proposed Action is in the San Geronio Pass wind resource zone. The types of soil found here range from Badland, to different types of cobbly or gravelly sand, sandy loams, and outcrops. The most prevalent is Chuckawalla cobbly fine sandy loam, 9 to 30 percent slopes followed by Badland,

and Lithic Torripsamments-Rock outcrop complex (USDA, 2020). The Chuckawalla series of soils consists of very deep, well drained soils formed in stratified mixed alluvium. The Badland soil consists of excessively drained soil with very high runoff with consolidated sandy alluvium as parent material (USDA, 2020). The soils are more prone to erosion on the steeper parts of the Project area. Other factors affecting erosion include soil compositions with high sand content, soil structure and wetness, surface roughness, and outside factors such as disturbance by wind, water, or development.

3.7.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

The No Action Alternative would not result in any construction or operation activities. There would be no grading or other ground disturbing activities except from regular maintenance. This alternative would not result in an increased risk of erosion, or an increased risk of wind-blown particles caused by development activities.

Cumulative Impacts

Because the No Action Alternative would not require new construction, it would not contribute to a cumulative effect on soils. Ongoing maintenance would continue.

Alternative B (Proposed Action):

Direct and Indirect Impacts

The two most prevalent soil types found at the Project site are Springdale-Rock and Chuckawalla series, as well as other types of rocky and sandy soils. These types of soils are highly permeable, deep, well drained, and non-expansive.

The Proposed Action may cause impacts related to erosion. Excavation and grading for tower foundations, roads, and the underground distribution system could cause soil to loosen and accelerate erosion. The applicant must obtain a National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity since construction would disturb greater than one acre of land. This is required under the Clean Water Act regulations. Additionally, compliance with NPDES would require the applicant to prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) which is discussed further in section 3.13 (Water Resources). The SWPPP would require development and implementation of Best Management Practices (BMPs) to identify and control erosion and protect the quality of stormwater runoff, which would reduce the potential for construction to trigger erosion. BMPs may include taking measures such as stabilizing construction entrances, using straw wattles on earthen embankments, or placing sediment filters on existing inlets.

Grading activities during construction would be required to conform to the California Building Code, the County Code, the approved grading plans, and good engineering practices. The site grading would be done immediately before construction to minimize the amount of topsoil exposed at a time. The roads would be graded at 10% or less when possible. Erosion control measures would be implemented during all ground disturbance as appropriate. The Proposed Action would also comply with SCAQMD Rule 402 (Nuisance) and Rule 403 (Fugitive Dust) to reduce erosion impacts. Rule 402 requires dust suppression techniques to prevent dust and soil erosion from

becoming a nuisance off-site. Rule 403 requires control measures to reduce fugitive dust from active operations (SCAQMD, 1976). The Proposed Action area is rated as having Moderate Erodibility according to the Wind Erosion Susceptibility Map in the Riverside County General Plan, measures will be in place to prevent the possibility of wind-blown particles. Compliance with these requirements and regulations would reduce the potential for both on-site and off-site erosion effects to accepted levels.

Cumulative Impacts

The geographic scope of cumulative effects for soils would be immediately adjacent to the Proposed Action ground disturbance. The temporal scope would be during construction of the Proposed Action when active ground disturbance occurs. The Proposed Action could potentially have cumulative effects on the amount of wind-blown dust and sand if development and land disturbance, paired with wind erosion, was happening concurrently with another project or another severe dust event. This could occur during the Alta Mesa Project construction because it is adjacent to the Mesa Project and would be under construction at the same time. The potential for erosion is independent of other projects in the area, however, if multiple projects are under construction concurrently, the effects of erosion, including stormwater runoff, or fugitive dust, could be worsened. All projects under construction would require BMPs and a SWPPP to reduce erosion potential and limit the cumulative effects.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of two turbines would reduce the amount of grading and cut and fill required for the Proposed Action. This would reduce the potential for erosion. For all remaining turbines, the effects would be the same as described for Alternative B.

Cumulative Impacts

Potential cumulative impacts of Alternative C would be identical to those described for Alternative B.

3.8 Issue 7: Special Designations, Allocations, and Land with Wilderness Characteristics

3.8.1 Affected Environment

Special designations⁹ and allocations and inventoried lands with wilderness characteristics are areas defined to protect unique characteristics and to preserve or identify resources identified as scientifically, educationally, biologically, or recreationally important. The BLM may define administrative allocations, such as ACECs, in areas requiring special management (but not in areas that were designated through legislation).

⁹ "Designations" are land titles that Congress and the executive branch bestow on federally managed lands to recognize their national significance; they cannot be modified through the land use planning process. "Allocations" are explicit areas identified in a land use plan depicting the activities and foreseeable developments that are allowed, restricted, or excluded, based on desired future conditions.

The Riverside County General Plan's section on Wind Energy Resources discusses the importance of wind energy in Riverside County due to the economic and revenue advantages, and mentions the issues associated with some aspects of wind power that could degrade quality of life. One of the goals in the land use element is to permit and encourage the development of renewable energy. The policies in the general plan require wind turbines to be compatible with the uses and values of trails, sensitive environmental areas, wildlife and natural vegetation, and scenic areas. The general plan also addresses safety concerns, the proximity to residents, the design of the turbines, and noise requirements (County of Riverside, 2019).

The Proposed Action is located partially within the Whitewater Canyon ACEC, the Pacific Crest National Scenic Trail and Sand to Snow Special Recreation Management Areas (SRMAs), and is next to California Desert National Conservation Lands (see Figures 3.10-1 and 3.10-2 in Appendix A). It is adjacent to the Sand-to-Snow National Monument and PCT. It is 1.5 miles north of the northernmost boundary of the Santa Rosa and San Jacinto National Monument. These designations and allocations are described below.

ACEC. A portion of the Mesa site overlaps the Whitewater Canyon ACEC. 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, as well as working with partners who manage surrounding areas to manage the resources of the ACEC and provide access. The management plan notes that re-powering or replacement of existing wind energy facilities will be considered if the repowering development remains within the existing wind energy right-of-way boundary and would reduce the overall environmental impacts of the wind energy facility.

California Desert National Conservation Lands. The Mesa site is adjacent to California Desert National Conservation Lands. The DRECP Land Use Plan Amendment (LUPA) identifies California Desert National Conservation Lands, in accordance with the Omnibus Public Land Management Act of 2009 (Omnibus Act), which are nationally significant landscapes within the CDCA with outstanding cultural, ecological, and scientific values.

National Monument. The Sand to Snow Monument was proposed by the California Desert Conservation and Recreation Act. This national monument is 154,000 acres large, runs between Joshua Tree National Park, and the San Bernardino National Forest, and is co-managed by the U.S. Forest Service, and the BLM. The focal point of the Sand to Snow National Monument is San Gorgonio Mountain, which rises from the Sonoran Desert 11,500 feet tall. The whole national monument is diverse, with a range of ecosystems, that support threatened and endangered animal species, plentiful birds, and relatively undisturbed vegetation. This area is also important due to historical and cultural resources, and the plentiful opportunities for recreation, including 30 miles of the PCT.

The Santa Rosa and San Jacinto National Monument encompasses about 280,000 acres, including public lands within the BLM's California Desert Conservation Area and the San Jacinto Ranger District of the San Bernardino National Forest. It was established to preserve the nationally significant biological, cultural, recreational, geological, educational, and scientific values found in the Santa Rosa and San Jacinto Mountains. Mount San Jacinto is the tallest peak in the National Monument and is located 9 miles south of the project.

SRMA. A SRMA is an administrative unit where existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, or distinctiveness (BLM, 2016). SMRAs allow for wind repower within the existing ROW boundaries. The Sand to Snow SRMA provides opportunity for hiking, wildlife watching, camping, equestrian use, and sightseeing. The SRMA allows all types of activities to occur in this area except those with unacceptable safety concerns or activities that would degrade the environment. Most of the Project ROW is excluded from this SRMA, except for the northern most part, which is in both the Sand to Snow SRMA and the Pacific Crest PCT SRMA. This PCT SRMA is a buffer of part of the 2,650-mile PCT, which is used by thousands of hikers and equestrian users. The PCT run adjacent to the existing Mesa Project with the SRMA overlapping most of the Mesa ROW. The Whitewater Zone of the SRMA is a 20-mile segment and includes part of the San Geronio Wilderness, the Sand to Snow National Monument, and the Sand to Snow SRMA. The SRMA is managed to provide protection of natural and cultural resources consistent with law, regulation and policy; and to continue existing partnerships with allied stakeholders, non-government organizations, local landowners and groups to reduce motorized trespass on and across the PCT.

National Scenic Trail. A nationally designated scenic trail is one that has been designated as such by the federal government with the consent of any federal, state, local, nonprofit, or private entity having jurisdiction over these lands. These trails are administered by the U.S. Forest Service, the National Park Service (NPS), the BLM, and a joint venture between the NPS and the BLM (National Park Service, 2019). The PCT is one of the first trails to be designated an NST by the National Trails System Act of 1968, as amended (National Trails System Act, 2019). A National Trail Management Corridor permanently protects the PCT including side and connecting trails and facilities such as campsites, water sources, and viewpoints. Most of the western part of the Project is included in the Pacific Crest National Trail Management Corridor (BLM, 2016). Additionally, the existing Mesa Project has built a shade structure and provides a water source for trail users.

Wilderness. The San Geronio wilderness, approximately 2.5 miles north of the Project, was designated by the United States Congress in 1964 and is completely encompassed in the Sand to Snow Monument.

Wild and Scenic Rivers. The Dingell Act (U.S. Congress, 2019) designated portions of the Whitewater River as Wild and Scenic Rivers. The designated portions of the river are 3,500 feet away from the closest proposed turbine.

Inventoried Lands with Wilderness Characteristics. For lands to be classified as lands with wilderness characteristics, they must possess “sufficient size, naturalness, and outstanding opportunities for either solitude or primitive and unconfined recreation” (BLM, 2015). A section of the Whitewater Canyon ACEC that is about one-half mile away from the Project includes inventoried lands with wilderness characteristics. The CDCA Plan as amended by the DRECP did not identify these lands to be manage as wilderness.

3.8.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under Alternative A, the existing Project would continue to operate as a commercial wind energy facility, consistent with the existing conditions until 2045, the termination date of the current ROW grant. Therefore, the No Action alternative would have no direct or indirect impacts on Special Designations.

Cumulative Impacts

There would be no cumulative impacts under the No Action Alternative, since no development would be happening in the Special Designations areas.

Alternative B (Proposed Action):***Direct and Indirect Impacts***

The Proposed Action is partly located within the Whitewater Canyon ACEC, Sand to Snow SRMA, PCT SRMA, and next to or near numerous other special designations and allocations. Within the Whitewater Canyon ACEC, all existing WTGs would be removed, and up to seven new WTGs would be built. After reclamation of the existing disturbance, the Proposed Action would result in a net decrease of 10 acres of permanent ground disturbance and improve the views of the ACEC, SRMAs, PCT, National Monuments, and California Desert National Conservation Lands. The BLM management of ACECs and California Desert National Conservation Lands allows for the repowering of wind energy, with development limited by specific ground disturbance caps, see CMA ACEC-DIST-1 from the DRECP LUPA. The Whitewater Canyon ACEC is below the disturbance cap. A portion of the existing disturbance (55 acres per the BLM SDARTT data) corresponds to the existing Project. The repower has been designed to minimize disturbance in the ACEC and even with some new ground disturbance during construction, it is anticipated the ACEC would remain below the disturbance cap. Therefore, the Proposed Action would be consistent with the management of this ACEC.

The Proposed Action would be within the National Monuments and PCT viewshed, as both the existing Project and numerous other wind turbines currently are. Viewsheds would be affected during construction and would change after the construction of the Proposed Action as described in Section 3.12, Visual Resources.

There would be no direct effects to wilderness, wild and scenic rivers, and inventoried lands with wilderness characteristics except potentially to their viewsheds because the ROW is at least half a mile away from each special designation. Viewsheds would be affected during construction and would change after the construction as described in Section 3.12, Visual Resources.

Cumulative Impacts

The geographic scope of the cumulative effects analysis for special designations is western Riverside County. The temporal scope would be the life of the Proposed Action. All of the repowers proposed in the Coachella Valley and the other projects listed in the CAA are near to existing special designations. Because the repowers would each entail removal of many existing turbines and installation of many fewer WTGs, they would be unlikely to have direct effects on special designations other than on the viewshed. Given the numerous existing wind projects within the Coachella Valley, any cumulative effects to viewsheds would be comparable to the existing setting.

Alternative C (Reduced Turbine Alternative)***Direct and Indirect Impacts***

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of these two turbines would have a nominal reduction in the effects to the special designations compared to Alternative B. Views of the Alternative from the National Monument and ACEC would be less noticeable compared with Alternative B (see Section 3.12, Visual Resources).

Cumulative Impacts

Potential cumulative impacts of Alternative C would be identical to those described for Alternative B.

3.9 Issue 8: Vegetation and Wildlife Resources

3.9.1 Affected Environment

This section of the EA summarizes the vegetation and wildlife resources at the Project site as described in the Biological Resources Technical Report (BRTR; Aspen Environmental Group, 2019) for the Project. The BRTR is provided as Appendix G of this EA for reference. Multiple reconnaissance surveys for biological resources, as well as focused surveys for migratory birds, golden eagles, bats, desert tortoise, and other special-status plants and animals, have been conducted at the site, between the years 2012 and 2019. In addition, the Project site has been the subject of detailed desert tortoise research conducted by the U.S. Geological Survey in 1997, 1998, 1999, 2000, 2009, and 2010.

The Project site is on BLM lands within the CVMSHCP boundaries. The BRTR (Appendix G) describes the Project's relationship to the CVMSHCP in more detail.

Vegetation and Habitat

- Brittlebush scrub is the most abundant vegetation on the site, found primarily on exposed, west- and south-facing slopes. Brittlebush is a common to dominant species in desert shrublands and in coastal scrub of the interior valleys west of the site.
- California sagebrush – California buckwheat scrub is most common on disturbed soils such as along road cuts and adjacent to graded areas. The predominant shrubs are more common in shrublands to the west, and the Project site is near the eastern margin of their geographic distributions.
- California juniper woodland is found primarily on north-facing slopes and in the lower portions of several of the drainages.
- Creosote bush – brittlebush scrub is found primarily in the eastern portion of the site on areas with relatively flat topography. It is a widespread in the southern California deserts.
- Desert willow woodland is not found within the Project ROW but is along the access road on private land where Mesa has an easement and the road crosses Cottonwood Creek.
- Unvegetated areas or ruderal vegetation cover the roads, cleared areas, and building or O&M pads for the existing wind turbines.

These vegetation types provide suitable habitat for many common wildlife species as well as special-status wildlife addressed in this EA. None of the vegetation types identified on the Project site are classified as sensitive. There are no wetland or riparian habitat types on the Project BLM ROW. Dry desert washes and channels on most of the Project site drain toward the west to Cottonwood Creek (a tributary to the San Geronio River and, in turn, to the Whitewater River).

Special-status Plants

The following two federally listed endangered plants occur in the region but neither species has been located on the site during field surveys.

Coachella Valley milk-vetch. Coachella Valley milk-vetch is primarily found on loose aeolian (wind transported) or, less-often, in alluvial (water transported) sands, on dunes or flats and along disturbed margins of sandy washes. A patch of CVMSHCP-modeled habitat for Coachella Valley milk-vetch is within the ROW but outside the proposed disturbance area (see BRTR Figure 3). No Coachella Valley milk-vetch were located in the modeled habitat (or elsewhere on the Project site).

Triple-ribbed milk-vetch. Triple-ribbed milk-vetch is found in arroyos, canyons, and hillsides between about 1,400 and 4,000 feet elevation. It grows in Whitewater Canyon just east of the Project disturbance area and in nearby canyons, hills, and mountains to the east. There is no CVMSHCP-modeled habitat within the ROW and field surveys did not locate triple-ribbed milk-vetch. Potentially suitable habitat is present in the Project disturbance area but there is a low potential that it may grow in the study area due to negative results of several field surveys.

Other special-status plants. The BLM maintains a list of sensitive plant species and manages these species to provide protections comparable to species that may become listed as threatened or endangered. None of these species has been documented from the Project site and none are expected to occur there. Several public agencies and private organizations have identified plants of conservation concern. The California Department of Fish and Wildlife (CDFW) compiles these species including CDFW and California Native Plant Society (CNPS) rankings as California Rare Plant Rank (CRPR) 2, 3, or 4 in its compendium of “Special Plants.” None of these species have been documented on the Project site and none are expected to occur there. Please refer to Table 4 of the BRTR (Appendix G) for additional information on all special-status plants.

Listed Threatened or Endangered Wildlife

The desert tortoise occurs on the Project site. Several federally listed birds have been reported during either breeding or migration seasons in the surrounding area but are not expected to occur on the site except during migration. Please refer to Table 4 of the BRTR (Appendix G) for additional details.

Desert tortoise. The desert tortoise is listed as threatened under California Endangered Species Act (CESA), and the Mojave population (i.e., west of the Colorado River) is listed as threatened under the federal ESA. The listed Mojave population is now recognized as a distinct species (*Gopherus agassizii*) from the Sonoran desert tortoise (*G. morafkai*). East of the Colorado River, the desert tortoise’s range extends into the Arizona deserts, and south through Sonora (Mexico). All wild desert tortoises in California are part of the state and federally listed Mojave population. Desert tortoises and their sign have been observed throughout the site and the access road southwest of the site over many years. Desert tortoises are able to travel freely throughout the site and surrounding lands. Existing O&M activities (e.g., vehicle use, handling trash and waste material, and water use) are managed to minimize potential risk to wildlife, including desert tortoise, although there is some risk of vehicle collision under existing conditions. Existing lattice steel structures are used as perch and nest sites by common ravens, which are predators of hatchling and subadult desert tortoises. During the most recent tortoise survey, all the desert tortoises and sign were located in the northeastern portion of the site. Please refer to Table 5 of the BRTR (Appendix G) and the accompanying text for additional discussion of desert tortoise occurrence.

Coastal California gnatcatcher. Coastal California gnatcatcher (federally listed threatened) is primarily found in coastal southern California and inland to the Banning, California area. The gnatcatcher and several shrubs that are characteristic of its habitat reach their inland range margins in the San Geronio Pass area. It been reported by BLM staff along the PCT, north of the Project

site. There is a low possibility that coastal California gnatcatcher may occur on the Project site and, if so, most likely outside the breeding season during the dispersal phase of its life cycle.

Swainson's hawk. Swainson's hawk (state listed threatened) does not nest or over-winter in the Project region but may migrate over the site biannually.

Riparian birds. Threatened or endangered riparian birds, including least Bell's vireo, southwestern willow flycatcher (both state and federally listed endangered), and western yellow-billed cuckoo (state listed endangered, federally listed threatened) could occur in riparian habitat along the Whitewater River east of the Project site, either during nesting season (least Bell's vireo have been documented nesting there) or during migratory "stopover" periods (willow flycatcher and yellow-billed cuckoo have been documented in the region briefly during migration, but not during its breeding season). Any of these species could infrequently fly over the site but would not nest or overwinter there.

Protected Birds

The existing conditions (460 permitted legacy turbines, 129 currently operating) present an unquantified risk of collision to all birds, including listed species (above) and other protected species. Collision risk varies according to abundance, behavior, and seasonality for each species.

Eagles. The Project site is suitable foraging habitat for the golden eagle but not suitable golden eagle nesting habitat. There are several documented golden eagle nest locations within a 10-mile radius of the site including locations to the north in the San Bernardino Mountains and to the south, in the San Jacinto Mountains. Field surveyors have recorded many golden eagle observations over the site and there have been two known golden eagle fatalities on the existing Project site, both in the mid-1990s (see Appendix G, BRTR Figure 2). There has been one bald eagle observation over the site, although no suitable bald eagle nesting habitat and no open water foraging habitat is present in the vicinity, and the eagle was presumably in transit to other areas more distant from the site.

Special-status birds. BLM Sensitive birds and other special-status birds potentially occurring on the site include burrowing owl, several raptors, upland perching birds, and local riparian birds such as summer tanager, yellow warbler, and yellow-breasted chat which may nest in the Whitewater River area and may periodically fly over the site. Please see the BRTR (Appendix G) for further discussion.

Migratory birds. The federal Migratory Bird Treaty Act and the California Fish and Game Code prohibit take of most birds (excluding authorized take such as licensed hunting), including nestlings or eggs. These statutes apply to special-status birds (above) as well as common species. The entire Project site and surrounding area provides suitable nesting habitat for numerous resident and migratory bird species. A total of 90 species have been reported on the site during various field surveys (see BRTR, Appendix G). All bird species that occur in the San Geronio Pass area during all or a part of their life history (e.g., breeding, wintering, or migration) could occasionally use the site or fly over it.

Migration flyway. The San Geronio Pass is a high-use nocturnal flyway for migratory songbirds and possibly for migratory bats. Researchers estimated 32 million birds flew through the Coachella Valley during spring of 1982. A large proportion of them would have migrated through the San Geronio Pass, at the northwest margin of the Coachella Valley. All bird species that migrate through the San Geronio Pass could occasionally stop over on the site or fly over it.

Other Special-status Wildlife

Reptiles. Red diamond rattlesnake and coast horned lizard reach the eastern margin of their geographic distributions in the Project vicinity. Suitable habitat is present for both species on the site and both could occur there.

Bats. Four bat species detected on the Project site are managed as BLM sensitive species: Pallid bat, Townsend's big-eared bat, fringed myotis, and Yuma myotis. One additional BLM sensitive bat species, western mastiff bat, was recorded in 2016 at a nearby wind project site. Several other bats known from the vicinity are CDFW "Special Animals." Special-status bats of the local area roost in rock crevices, tunnels, or caves and one species (western yellow bat) roosts in the foliage of riparian trees and palm tree skirts. During the breeding season, bats generally roost during the day, either alone or in communal roost sites, depending on the species. All special-status regional bats are insectivorous, catching their prey either on the wing or on the ground. Several special-status bats, including BLM sensitive species, are likely to forage over the site or fly over the site in route to foraging habitat elsewhere (e.g., the Whitewater River, to the east). Rock crevices and existing structures on the site may provide some roosting habitat for common bat species, but the likelihood of sensitive bat species roosting on-site is low because the site does not support tunnels, caves, or trees, and rock crevices onsite are limited.

Desert Bighorn Sheep. Desert bighorn sheep are observed regularly on the Project site and surrounding area. The populations in the Project vicinity have no CESA or Endangered Species Act (ESA) listing status (populations south of the I-10 Freeway are federally listed as threatened). Desert bighorn sheep are a BLM Sensitive Species and are fully protected under the state Fish and Game Code.

Other Mammals. Several mammal species range widely through desert habitats. These include American badger and desert kit fox. Desert kit fox is not listed as a special-status species by CDFW or U.S. Fish and Wildlife Service (USFWS), but it cannot be taken in California at any time. Desert kit fox, although not observed, has a moderate to high probability of occurring on the site. American badgers are listed as a Species of Special Concern in California. Several American badger burrows were observed on the site.

3.9.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under the No Action Alternative, the existing Project would remain in operation under the existing conditions until eventual decommissioning (Section 2.1 of this EA). Ongoing O&M activities including vehicle traffic on access roads would continue. The existing facilities include more than 400 lattice steel legacy turbine towers (129 currently operating). The lattice steel towers provide perching and nesting locations for birds and thus may attract native birds into the Project area where they may be at risk of collision with turbines. In addition, ravens (which prey on juvenile desert tortoises) use the existing towers for nesting and thus raven abundance and activity is probably unnaturally high, possibly leading to increased predation on tortoises (there were more than 1,800 common raven observations during 2013 surveys, more than almost any other species observed). Under Alternative A, the lattice towers would not be removed and Project Design Features including habitat compensation and Design Features BIO-1 through BIO-13 would not

be implemented. The existing MET towers are supported by guy wires with bird diverters installed; under the existing authorization for the towers, they would be removed.

Cumulative Impacts

Under the No Action Alternative, the existing Project's contribution to cumulative impacts of past, present, and reasonably foreseeable future projects would not change. There would be no new impacts and no effect on cumulative impacts to vegetation and wildlife resources.

Alternative B (Proposed Action):

Direct and Indirect Impacts

The Proposed Action would result in direct and indirect effects to vegetation and wildlife during construction and operation of the repower. The direct and indirect effects would be avoided, minimized, or offset through habitat compensation and a series of PDFs which are assumed to be part of the Project and are described in full in Appendix D and listed below:

- Applicant Proposed Measure (APM) BIO-1 Wildlife Relocation
- APM BIO-2 Biological Monitoring
- APM BIO-3 Worker Environmental Awareness Program Training
- APM BIO-4 Minimization of Vegetation and Habitat Impacts
- APM BIO-5 Wildlife Protection
- APM BIO-6 Desert Tortoise Protection
- APM BIO-7 Avoid or minimize impacts to special-status plants
- APM BIO-8 Integrated Weed Management Plan
- APM BIO-9 Monitoring and Reporting Schedule
- AMP BIO-10 Trash Management
- APM BIO-11 Raven Management Plan
- APM BIO-12 Revegetation
- AMP BIO-13 Post construction monitoring for birds and bats
- PDF V&WR-1 Bird and Bat Conservation Strategy
- PDF V&WR-2 Golden eagle

Vegetation and Habitat. The Proposed Action would result in approximately 107 acres of disturbance to soils and vegetation, including up to 30 acres of permanent impacts and 77 additional acres of temporary impacts. Approximately 18 acres of the Proposed Action disturbance footprint is in use by infrastructure of the existing Project; therefore, the net new disturbance footprint would be approximately 89 acres (all acreages reported in this EA are estimates, based on the footprint shown on BRTR Figure 1 and are described in Table 2-1). Portions of the existing ground disturbance on the site that would not be used for the repower would be revegetated with site appropriate native vegetation. Noise, dust, and activity during Project construction, decommissioning, and operation could indirectly affect surrounding vegetation and habitat, causing wildlife to avoid the

area. These direct and indirect impacts would be minimized through habitat compensation identified in the POD (Section 10.3.1) and by APMs that would minimize indirect impacts, including APMs BIO-2 through BIO-6 and BIO-7 through BIO-10. Impacts to riparian vegetation along Cottonwood Creek would be limited to minor incursion due to the improved access road. Alterations (e.g., fill material for access roads) to Cottonwood Creek or other dry washes are subject to authorization by the CDFW under the California Fish and Game Code and may also be subject to authorization by the US Army Corps of Engineers (USACE) under the Clean Water Act (CWA), dependent on whether the site meets USACE jurisdictional criteria. All surface hydrology features on the site are dry ephemeral washes and appear to have no significant nexus to traditional navigable waters. Therefore, no CWA permitting requirement is anticipated. Nonetheless, the applicant will coordinate with USACE to determine if any permitting may be required.

Special-status Plants. No effects to listed threatened or endangered plants, BLM Sensitive plants, or other special-status plants are expected.

Desert tortoise. Without mitigation or avoidance measures, the Proposed Action could cause mortality or injury to desert tortoises present in the Project area during construction, decommissioning, or O&M activities. Desert tortoises or eggs could be harmed during clearing or grading activities, or tortoises could become entrapped within open trenches and pipes. Construction or O&M activities could also result in direct mortality, injury, or harassment of tortoises or eggs from vehicle strikes. Other direct effects could include individual tortoises or eggs being crushed or entombed in their burrows, disruption of tortoise behavior during construction or operation of facilities, and disturbance by noise or vibrations from heavy equipment. Desert tortoises may also be attracted to the construction area by shade beneath vehicles, equipment, or materials, or the application of water to control dust, placing them at higher risk of injury or mortality. These direct impacts to desert tortoises would be minimized or avoided through APMs BIO-2 through BIO-6 and BIO-7 through BIO-12.

Without mitigation, construction and operation could create “subsidies” such as food, water, or nest sites, for common ravens or other predators. Ravens prey on juvenile desert tortoises, contributing to the overall decline in tortoise recruitment. Other effects could include the introduction and spread of invasive weeds and increased human presence.

The Proposed Action would only minimally affect desert tortoise movement routes and access to habitat. The Project area would not be fenced and would continue to allow desert tortoise movement throughout the area.

The Project site is within the CVMSHCP boundaries but take of covered species (including desert tortoise) is not authorized by the CVMSHCP because the BLM is not a permittee. Mesa Corp 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 a compensation strategy to be developed in coordination among the USFWS, CDFW, and BLM.

Due to potential take of desert tortoise (e.g., handling a tortoise to remove it from harm’s way) the BLM has initiated formal consultation with USFWS under ESA Section 7 and the applicant has applied to the CDFW for incidental take authorization under CESA Section 2081 which requires review under the California Environmental Quality Act (CEQA).

Protected birds and bats. The Proposed Action would directly and indirectly impact habitat of protected birds and bats, as described under Vegetation and Habitat, above. The Proposed Action

would reduce the total number of authorized WTGs from more than 400 legacy turbines to up to 11 new WTGs, remove the existing nest and perch site attractants, and would increase the total authorized rotor swept area from approximately 81,420 m² to approximately 150,535 m² (84 percent increase). Because the repower WTG blades would extend farther above the ground, the risk to higher flying birds and bats (e.g., birds flying over the site during migration) would probably increase. However, the increased or decreased risk to any bird or bat species is related not just to differing turbine number and configuration but to the species' local and seasonal activity, abundance, and any differences in visual perception of the WTGs compared with the legacy turbines, and resultant flight behavior such as avoidance around the WTGs. Altered ground contours around cut or fill slopes could alter bird and bat flight behavior in the vicinity of the turbines and thus could increase or decrease the existing collision hazard. The net effect of the repower may increase or decrease the risk to protected birds and bats, including golden eagles, listed and special-status riparian birds, and other migratory birds. APM BIO-13 provides for bird and bat monitoring during project operations. In addition, Project Design Features V&WR-1 and V&WR-2 would minimize or offset potential impacts to protected birds and bats. MET towers and other structures may also present collision risk to birds. The existing MET towers are supported by guy wires with bird diverters installed; these towers and diverters would remain in place under the Proposed Action. The removal of existing legacy turbines and locations of the repower WTGs could alter bird and bat flight behavior in the vicinity of the MET towers and thus could increase or decrease the existing collision hazard, but there would be no change to existing structures.

Other Special-status Wildlife. The Proposed Action could cause direct or indirect impacts to wildlife, as described for desert tortoise (above). These direct and indirect impacts would be minimized through habitat compensation identified in the POD (Section 10.3.1) and APMs that would minimize indirect impacts, including APMs BIO-2 through BIO-6 and BIO-7 through BIO-12.

Cumulative Impacts

This section of the EA uses the CVMSHCP coverage area as the basis for the cumulative geographic scope. Although the BLM is not a permittee of the CVMSHCP, the CVMSHCP boundaries include the Proposed Action and the species affected by the Proposed Action would be the same as those considered under the CVMSHCP. The temporal scope of the cumulative analysis is the life of the Proposed Action. Prior to the CVMSHCP the cumulative effects of land development in the Coachella Valley caused substantial cumulative habitat loss and fragmentation. Under the CVMSHCP, private land use impacts to covered special-status plant and animal habitat throughout the Coachella Valley are offset through habitat acquisition and management to minimize or avoid the otherwise cumulative impacts of development. For most biological resources (i.e., covered species and their habitats) within the CVMSHCP, the cumulative impacts are not substantial. The Proposed Action would offset its habitat impacts through compensation and other measures, consistent with the MSHCP, and therefore would not contribute considerably to any existing cumulative impacts.

Bird and bat mortality from collisions with WTGs has been studied in the Altamont Pass area to document effects of first-generation turbines and to compare those first-generation projects with newer WTGs installed for repower projects. Similar studies are lacking for the San Geronio Pass, although there are several anecdotal reports of bird mortalities (including golden eagle mortalities) at the existing Project and other wind projects in the area. As a result, the extent of golden eagle or other bird and bat mortality from turbine collisions throughout the San Geronio Pass has not been quantified and cannot be evaluated in terms of its overall importance to bird and bat populations.

The Proposed Action could increase or decrease on-site bird and bat mortality, including golden eagle mortality, but the actual impact (i.e., the change, if any, from existing conditions) cannot be identified and cannot be placed into regional cumulative impacts context. The Proposed Action would contribute to new baseline and operational bird and bat mortality data as a component of the Bird and Bat Conservation Strategy (identified in PDF V&WR-1). Additionally, the three repower projects identified in Section 3.1 of this EA as past, present, and reasonably foreseeable future actions are expected to contribute to an understanding of regional bird and bat mortality risks of wind repower projects. Two recently approved wind repower projects in the San Geronio Pass area (the Coachella Wind Holdings and Painted Hills repower projects) include requirements for bird and bat mortality monitoring. The Alta Mesa Wind Repower, under review by Riverside County, is expected to include a similar requirement. In combination, monitoring these projects will improve current understanding of bird and bat mortality in the area. PDF V&WR-1 requires the Bird and Bat Conservation Strategy to include an adaptive management strategy that will help reduce effects of the Proposed Action including cumulative effects if any are found.

Alternative C (Reduced Turbine Alternative)

Direct and Indirect Impacts

The Reduced Turbine Alternative would be the same as the Proposed Action but would include up to 9 WTGs and would eliminate the possibility of the easternmost turbines, turbines 4 and 9. The elimination of two turbines would reduce the amount of grading and temporary and permanent ground disturbance required for the Proposed Action. This would reduce the potential effects to vegetation and wildlife resources. It would also reduce the total authorized rotor swept area compared with the Proposed Action, reducing it to 123,165 m². For the remaining turbines, the effects would be the same as described for Alternative B.

Cumulative Impacts

Potential cumulative impacts of Alternative C would be identical to those described for Alternative B.

3.10 Issue 9: Visual Resources

The following analysis is based on the BLM's Visual Resource Management (VRM) methodology, which is described in Appendix H.

3.10.1 Affected Environment

The Project region is characterized by open desert expanses and mountainous terrain, along with extensive areas of urban development and isolated pockets of rural residential development. The Project is located at the western edge of the Coachella Valley in the eastern portion of San Geronio Pass. The Pass divides the San Geronio Mountains to the north from the San Jacinto Mountains to the south. Mount San Jacinto is the dominant land feature in the region, its north face rising abruptly from the desert floor to a height of 10,839 feet above mean sea level and is the steepest gradient in North America. The Project is situated approximately 9 miles north of Mount San Jacinto, north of I-10, along the foothills to the San Bernardino Mountains. The Whitewater River flows east of the site through Whitewater Canyon. A number of utility corridors are concentrated in this area, and due to the constant prevailing westerly winds through the Pass, the highest concentration of commercial wind energy development in Riverside County occurs in this area.

There are several small, nearby residential communities or enclaves with views of the Project area. Bonnie Bell is a residential enclave set among trees along Whitewater Canyon Road, north of I-10 and east of the Project. Whitewater (formerly known as West Palm Springs Village) is a residential community in the vicinity of, and extending to the west of, Haugen-Lehmann Way, southwest of the Project and immediately north of I-10. Snow Creek Village is another residential enclave set among trees at the northern base of Mount San Jacinto, at the southern end of Snow Creek Road, south of I-10, SR-111, and the Project site. The PCT is located immediately adjacent, and to the north and west of, the Project. I-10 is the major travel corridor in the region that goes through the Pass, just south of the Project. SR-111 connects I-10 to the City of Palm Springs to the southeast. SR-62 (Twentynine Palms Highway) intersects with I-10 east of Whitewater and travels north to Morongo Valley, passing east of the Project area.

Given the Project's location along the foothills of the San Bernardino Mountains, most views of it are from inferior (lower elevation) positions, which result in the skylining (extending above the horizon) of some structures from some viewing directions. Skylining is most noticeable when approaching or viewing the Project from the west due to the greater availability of foreground views. Views from the south and east experience less skylining due to the mountainous backdrop. There are limited superior (higher elevation) viewing opportunities, but they do occur along the PCT north of Project and along the northern descent from Mount San Jacinto south of the Project. When viewed from these higher elevation views, more of the structures are backdropped by terrain.

The duration of views depends on the viewing population. Stationary viewing populations (such as those in residences) and slow-moving viewing populations (such as hikers on the PCT) have more time to view the Project. Fast-moving viewing populations (such as motorists on nearby roadways) have less time to view the Project, but the openness of the landscape can still afford extended view durations even for freeway (I-10) travelers.

SR-111 is a State Eligible Scenic Highway while Whitewater Canyon Road is a Riverside County Eligible Scenic Highway. Both roadways have views of portions of Project. Traffic volumes are heavy on I-10 and SR-111 and light on Whitewater Canyon Road in the Project area.

Six representative Key Observation Points (KOPs) were established to assess the various factors that are considered in the evaluation of a landscape's existing visual resources. These KOPs were selected in consultation with the BLM and are representative of important locations from which the Project and alternatives would be seen. They are described in detail in Appendix H along with figures showing the existing setting and simulations of the Proposed Action and Alternative.

Under the BLM's VRM Visual Contrast Rating System, the Proposed Action and alternatives are analyzed for their effects on visual resources using an assessment of the visual contrast within the landscape. For the Mesa Project, VRM Class IV applies to all lands within the wind ROW. The access road (ROW CACA-013980) is located primarily in Class II, with some Class IV VRM. See Figure H-0 for VRM classifications.

3.10.2 Environmental Effects

Alternative A (No Action):

Direct and Indirect Impacts

Under Alternative A, the existing Project would continue to operate as a commercial wind energy facility, consistent with the existing conditions until 2045, the termination date of the current ROW

grant. Therefore, the No Action alternative would have no direct or indirect impacts on Visual Resources.

Cumulative Impacts

Under the No Action Alternative, the existing Project would continue to operate as a commercial wind energy facility, consistent with the existing conditions until 2045, the termination date of the current ROW grant, and there would be no direct or indirect impacts on Visual Resources that would make a cumulative contribution to any other reasonably foreseeable projects. Therefore, no cumulative impacts would result from the No Project Alternative.

Alternative B (Proposed Action):

Direct and Indirect Impacts

Direct and indirect impacts would result from decommissioning of the existing facilities, construction of the proposed repower, and operation and maintenance of the new facilities.

Decommissioning of Existing Facilities. Direct effects of decommissioning would result from the demolition and removal of existing turbines, electrical collection system, ancillary facilities, as well as the removal of underground infrastructure. These short-term, deconstruction activities would cause visual impacts due to the visible intrusion of equipment, materials, vehicles, and deconstruction activities. Longer-term, portions of the wind ROW site would be unoccupied and would potentially exhibit strong color and line contrasts created by graded and/or disturbed soil and rock surfaces and unnatural lines of demarcation, which could potentially persist over a longer period of time given the arid nature of the landscape and the likely slow recovery of vegetation. Decommissioning may require widening the access road up to 40 feet in certain locations. Widening the road would result in color changes created by graded and/or disturbed soils similar to what was described for the wind ROW. After construction of the repower, the road would be retained at 16 feet and portions of the access road would slowly recover. The access road is primarily within VRM Class II. The resulting overall visual change of widening the access road would be primarily low due to screening vegetation and topography, with some locations in the community of Whitewater experiencing a low-to-moderate change. As a result of the existing developed context of the site, the existing character of the landscape would be retained and the work would be consistent with the VRM objectives.

Indirect effects of decommissioning could result from any noticeable increase in traffic along local roads in the community of Whitewater including Rockview Drive, Cottonwood Drive, Tamarack Road, and Haugen-Lehmann Way. Traffic would typically consist of workers accessing the site, construction vehicles and equipment used in the decommissioning process, and trucks used to transport sections of the more than 400 turbines and other equipment to be removed. Although the traffic would adversely affect views from within the residential community, the duration of the effects would be short-term. Traffic would also increase along I-10 but with the existing high traffic volumes on I-10 the contribution from decommissioning would be minimally noticeable.

Construction of the Proposed Action. The direct visual effects of construction of the Mesa Repower would be essentially the same as described above for decommissioning of the existing facilities. The indirect visual effects of construction of the Mesa Repower would also be essentially the same as described above for decommissioning of the existing facilities.

Operation & Maintenance of the Proposed Action. The Visual Resources effects associated with Mesa Repower operation and maintenance would typically be direct effects. Therefore, the operation and maintenance effects addressed for the KOPs in the following paragraphs should be considered direct effects, unless otherwise noted. VRM Contrast Rating forms for each KOP are presented in Appendix H along with a detailed discussion of each KOP, existing view photographs, and simulations of the Repower.

KOPs are selected to provide a range of viewpoints that represent numerous potential viewers of a project. For most observation points of the Proposed Action, the visual simulations depict the removal of numerous existing (and smaller) WTGs and the addition of larger WTGs along the ridgelines. Some of the proposed WTGs would be visually prominent, vertical, built structures introduced into a landscape with similar structural features but lacking the scale of the proposed WTGs. How prominent the WTGs appear depends on the distance of the viewers, more prominent for the nearby communities of Whitewater and Bonnie Bell, and less prominent for the viewers from further communities or locations. The color and industrial nature of the proposed WTGs would be similar to those in the immediate viewshed and in the greater Palm Springs area but as noted, the size of the new WTGs would be substantially larger than those in the immediate vicinity. Views from nearby communities would be static, offering extended view durations of the WTG features. The overall visual change associated with many observation points of Alternative B would be low-to-moderate or moderate and would minimally degrade the existing visual character and quality of the landscape, which is substantially influenced by the numerous existing WTGs visible from most KOPs. Although the resulting visual effect would be adverse, the low-to-moderate or moderate level of change would be allowed under the VRM Class IV management objective that applies to the footprint of the WTGs.

From KOP 1 (Bonnie Bell), the new turbines would be visually prominent, vertical, built structures introduced into a landscape lacking similar built features of industrial or technological character and structural scale. At a viewing distance ranging from approximately 0.5 mile to approximately 1.0 mile, the turbines would be centrally located in the field of view from KOP 1 and would appear moderate in scale, comparable to the surrounding ridges. Although wind turbines in the San Gorgonio Pass area (to the south) are somewhat visible from Bonnie Bell, they exhibit limited visibility, do not skyline, do not appear as prominent landscape features (from Bonnie Bell), and do not attract the attention of the casual observer in Bonnie Bell. The resulting overall visual change caused by the Alternative B (Proposed Action) development scenario would be moderate-to-high and would degrade the existing visual character and quality of the landscape as viewed from KOP 1 and similar locations on Whitewater Canyon Road and within the residential enclave of Bonnie Bell. Although the resulting visual effect would be adverse, the moderate-to-high level of change would be allowed under the VRM Class IV management objective that applies to the footprint of the wind turbines that would be visible from Bonnie Bell.

From KOP 4 (Pacific Crest National Scenic Trail) the turbines would appear as visually prominent, vertical, built structures replacing the many smaller, more structurally complex lattice support turbines that combine to create a landscape with considerable industrial or technological character. Although the proposed WTGs would skyline more and appear substantially larger than the existing WTGs, the overall industrial character, structural complexity, and number of visible turbines would be reduced along the ridgelines. The skyline effect of the ridge-top turbines would exacerbate structural prominence and would impair views of the background sky, which is also a characteristic of the existing development. The improved access roads would be more prominent from

this KOP and from some portions of the PCT, most notably from the areas in the community of Whitewater, along the valley floor. From much of the PCT, the access road improvements would be shielded by topography and existing vegetation. The visual change of the access road from existing conditions would be low. The resulting overall visual change of the WTGs and access road would be low-to-moderate. As a result of the existing developed context of the site, the existing character of the landscape would be retained and the WTGs and access road would not substantially degrade the existing visual character and quality of the landscape as viewed from KOP 4 and similar locations along the PCT. Rather, the resulting visual effect would be somewhat beneficial in its reduction of the existing industrial character and built structural complexity. In this context, the low-to-moderate level of change would be appropriate under the VRM Class IV management objectives that apply to the footprint of the Proposed Action.

Night Lighting

The proposed Mesa Repower WTGs would include FAA obstruction lighting mounted on the nacelles. Acceptable lighting systems include aviation red obstruction lights (i.e., flashing beacons and/or steady burning lights that operate during the night), medium-intensity flashing white obstruction lights, high-intensity flashing white obstruction lights, and dual lighting (i.e., red lights for nighttime and high/medium-intensity flashing white lights for daytime and twilight). Given the FAA regulations, it is possible that 6 to 11 towers would require lighting upon final design. An “Aircraft Detection Lighting System” that activates obstruction lighting when aircraft are detected at a defined outer perimeter instead of traditional marking/lighting was considered but not selected due to increased infrastructure needed. Appendix D outlines the project design feature (PDF VIS 1) in place to demonstrate that the proponent is minimizing the color contrast and lighting used on the project. In addition to operational obstruction lighting systems, obstruction lights during construction are required once the structure exceeds a height of 200 feet above ground level, for all towers. FAA hazard lighting mounted on the Repower WTGs would be visible from within the greater San Geronio Pass area. For the three nearest communities (Whitewater, Snow Creek, and Bonnie Bell), this would introduce potentially 2 new red lights on the Mesa ridge. This would be consistent with the existing lighting that occurs throughout the San Geronio Pass area. The San Geronio Pass night-time lighting landscape includes the substantial lighting within the I-10 travel corridor (vehicles and billboards), local street and scattered residential lighting, the visually prominent FAA hazard lights mounted on numerous wind turbines and transmission structures south of I-10 in the eastern San Geronio Pass, and the extremely numerous flashing (synchronous and asynchronous) FAA hazard lights on wind turbines in the western Coachella Valley. For views that are further from the Proposed Action, including sensitive recreational areas such as the PCT or Mount San Jacinto, the existing night-lighting context would diminish the Project's incremental contribution to any perceived red light reflectance such that it is not expected to be substantially noticeable. This would be true throughout the year, including times when Mount San Jacinto or other areas are covered in snow.

Decommissioning

The direct visual effects of decommissioning of the Proposed Action would be essentially the same as described above for decommissioning of the existing facilities.

Cumulative Impacts

The cumulative geographic scope for visual resources would be where Mesa repower facilities or activities would occupy the same field of view as other built facilities or impacted landscapes, and

an adverse change in the visible landscape character is perceived. These are often categorized as local viewshed effects. For the purposes of this analysis, one additional project has been identified for the cumulative impact assessment—the adjacent Alta Mesa Repower (Alta Mesa). Alta Mesa is co-located with the Mesa WTGs on adjacent ridges in the east and south of the ROW, and, it would be difficult for viewing populations to discern where the Mesa Project ends, and the Alta Mesa Project begins. The temporal scope for cumulative analysis would be the life of the Proposed Action.

Construction Impacts

Because the Mesa and the Alta Mesa project construction would occur at the same time or consecutively, construction activities, equipment, and night lighting would combine and lead to the continued presence of construction equipment on roads and in the landscape in the I-10 corridor. The total construction timeframe for both projects would be the same as for the Mesa Project (up to 18 months), causing a cumulatively adverse visual effect during that timeframe.

Operation & Maintenance Impacts

Almost any view of the Mesa WTGs would also include the Alta Mesa WTGs, which would appear identical in terms of structural design and scale. As a result, viewers would perceive the two projects as a single development. Therefore, there would be a combined effect on visual resources from the operation and/or maintenance of the Mesa and the Alta Mesa Projects. This is substantiated in the representative cumulative simulations prepared for KOPs 1 through 3 and presented in Appendix H as Figures H-8 through H-10. What is clear from the cumulative simulations is that the cumulative visual impact of Mesa and the Alta Mesa project would be greater than the visual impact associated with the Proposed Action alone in terms of visual contrast, industrial character, structural prominence, and view blockage. The resulting visual impact on views from within the San Geronio Pass area would be cumulatively adverse.

Night Lighting

Both Mesa and Alta Mesa would follow FAA lighting requirements. Because of the projects proximity to each other, the lights would flash in unison and appear as one project. From the three nearest communities, the cumulative lights would likely be up to 4 from Bonnie Bell, approximately 6 from Whitewater, and approximately 8 from Snow Creek. This would be greater than the impact associated with the Proposed Action and would be cumulatively adverse but consistent with the existing lighting that occurs throughout the San Geronio Pass area.

Decommissioning

The direct visual effects of decommissioning of the Mesa and the Alta Mesa Projects at the same time would be essentially the same as described above for decommissioning of the existing facilities.

Alternative C (Reduced Turbine Alternative)

Under Alternative C – the Reduced Turbine Alternative, the two eastern-most WTGs (4 and 9) would be eliminated. Additionally, the southern portion of the ROW would have two turbines (instead of three with the Proposed Action) and the northern portion of the ROW would have seven turbines (instead of eight with the Proposed Action). These changes would mostly affect views from KOP 1 and the Bonnie Bell area and KOP 2 and the Whitewater area. KOP 4 was also simulated to review any changes to the PCT area between the Proposed Action and the revised Alternative.

The elimination of these two WTGs and movement of WTGs would not be noticeable, or in some cases would not be visible, from the three other KOPs and general viewing locations.

Direct and Indirect Impacts

Decommissioning the Existing Facilities. The direct and indirect visual effects of decommissioning the existing facilities under Alternative C would be the same as described above under Alternative B for decommissioning the existing facilities.

Construction. The direct and indirect visual effects of construction of Alternative C would be the same as described above under Alternative B for decommissioning the existing facilities.

Operation & Maintenance. The Visual Resources effects associated with operation and maintenance of the Reduced Turbine Alternative would typically be direct effects. Therefore, the operation and maintenance effects addressed in the following paragraphs should be considered direct effects. Since the reduction in WTGs under Alternative C would be primarily noticeable from the KOP 1 – Bonnie Bell area including Whitewater Canyon Road, the discussion of Operation and Maintenance visual effects will be limited to that viewpoint. The Operation and Maintenance visual effects of the Alternative as viewed from the other five KOPs would be essentially the same as those presented for the Proposed Action, and the reader is referred to those discussions above under Alternative B.

KOP 1 – Bonnie Bell

As previously noted, Figure H-2A presents the existing view from KOP 1 on northbound Whitewater Canyon Road in the residential enclave of Bonnie Bell. Figure H-2B presents a simulation of the Proposed Action from KOP 1, and revised Figure H-11 presents a visual simulation that depicts the revised Reduced Turbine Alternative that includes elimination of the two eastern-most proposed WTGs. These two WTGs would be the most visually prominent turbines and their elimination under this alternative would substantially reduce the overall visibility of this alternative from KOP 1. At a viewing distance of approximately 1.0 mile, the one visible WTGs and two visible WTG blades would be noticeable but not prominent in the field of view from KOP 1 and would appear subordinate in scale, comparable to the surrounding landforms. The resulting weak-to-moderate visual contrast under the Reduced Turbine Alternative would cause a low-to-moderate level of change that would be consistent with the applicable VRM Class IV management objective that applies to the footprint of the wind turbines that would be visible from Bonnie Bell.

KOP 2 – Whitewater

As previously noted, Figure H-3A presents the existing view from KOP 2 on Haugen-Lehmann Way in the rural residential community of Whitewater. Figure H-3B presents a simulation of the Proposed Action from KOP 2 which includes three prominent WTGs. The revised Reduced Turbine Alternative would move one of these turbines to the northern portion of the ROW leaving two WTGs visible from Haugen-Lehmann Way, see Figure H-13. The elimination of one turbine under the revised alternative would reduce the overall visibility of this alternative from KOP 2 compared with the Proposed Action. However, at a viewing distance of approximately 1.5 miles, the two remaining visible WTGs would still be noticeable. The resulting overall visual change caused by the revised Reduced Turbine Alternative development scenario would remain be moderate but improved compared with the Proposed Action.

KOP 4 – Pacific Crest Trail

As previously noted, Figure H-5A presents the existing view from KOP 4 on the Pacific Crest Trail, approximately 0.4 miles northwest of the nearest proposed WTGs in the image. Figure H-5B presents a simulation of the Proposed Action from KOP 4. There are seven WTGs visible in from KOP 4 in this scenario. At a viewing distance of approximately 0.4 to 1.3 miles, the seven visible WTGs would be noticeable. Under the revised Reduced Turbine Alternative, there would still be seven visible WTGs, but the placement would be revised, see Figure H-14. The main difference would be that the WTGs would be clustered more under the Reduced Turbine Alternative, slightly reducing how noticeable each WTG is within the clusters. However, overall, the revised Reduced Turbine Alternative would remain similar to that of the Proposed Action and would be consistent with the applicable VRM Class IV management objective that applies to the footprint of the wind turbines that would be visible from the Pacific Crest Trail.

Night Lighting

The Reduced Turbine Alternative would reduce the number of red lights visible from Bonnie Bell and Whitewater at night because it would eliminate one of the lights that would be required on the easternmost and westernmost WTGs.

Decommissioning. The direct and indirect visual effects of decommissioning Alternative C would be the same as described above under Alternative B for decommissioning the existing facilities.

Cumulative Impacts

Cumulative effects to visual resources would occur where Alternative C facilities or activities occupy the same field of view as other built facilities or impacted landscapes, and an adverse change in the visible landscape character is perceived. As noted previously, the adjacent Alta Mesa Project has been identified for the cumulative impact assessment. Alta Mesa would be co-located with the action alternatives on adjacent ridges east and south of the various Mesa WTGs, and it would be difficult to discern where the Project ends and Alta Mesa begins.

Construction Impacts

Because construction of Alternative C and Alta Mesa would occur at the same time or consecutively, construction activities, equipment and night lighting would combine and lead to the continued presence of construction equipment on roads and in the landscape in the I-10 corridor for up to 18 months, causing a cumulatively adverse visual effect.

Operation & Maintenance Impacts

Almost any view of Alternative C would also include the Alta Mesa WTGs, which would appear identical to the Reduced Turbine Alternative in terms of structural design and scale. As a result, viewers would perceive the two projects as a single development. The Applicant has stated that if the Reduced Turbine Alternative were selected, it would result in a different configuration of the Alta Mesa WTGs as well, with 8 total WTGs. All WTGs along the eastern ridgeline of Alta Mesa, would also be eliminated.

As previously discussed, Figure H-8 in Appendix H presents a cumulative simulation of the Mesa and Alta Mesa. Also, revised Figure H-11 presents a simulation of the Reduced Turbine Alternative as viewed from KOP 1 in Bonnie Bell and reflects the elimination of the two closest WTGs. Revised Figure H-12 presents a cumulative simulation encompassing not only the reduced turbine configuration for Alternative C but a reduced turbine configuration for Alta Mesa as well,

eliminating the three northernmost WTGs of the eastern string. Therefore, the cumulative Reduced Turbine Alternative configuration (for both Mesa and Alta Mesa) would substantially reduce the structural prominence and visual contrast visible to viewers at KOP 1 in Bonnie Bell and along Whitewater Canyon Road. However, it is also clear from the cumulative simulation for Alternative C that the cumulative visual impact of the two alternatives would be greater than the visual impact associated with either alternative individually in terms of visual contrast, industrial character, structural prominence, and view blockage. The resulting visual change that would be visible from KOP 1 in Bonnie Bell would be cumulatively moderate-to-high and would be primarily attributable to the Alta Mesa as demonstrated in revised Figure H-12.

Night Lighting

The cumulative lighting effects of Alternative C would be substantially similar to the Proposed Action. While it would eliminate two turbines that would require lighting, the majority of the turbines that likely require lighting would remain the same as they are primarily attributable to Alta Mesa.

Decommissioning

The direct visual effects of decommissioning both the Mesa and Alta Mesa WTGs at the same time or in close sequence would be essentially the same as described above for decommissioning of the existing facilities.

4.0 CONSULTATION AND COORDINATION

4.1 Public

The BLM sent notices to all residences in the nearby communities of Bonnie Bell, Whitewater, and Snow Creek asking for input on the Project. BLM received a dozen letters as well as several phone calls regarding the Project. The concerns raised by the comments are described in Section 1.4, Scoping and Issues. The Applicant held an Open House and invited the members of the nearby communities as well as the permitting agencies. The BLM sent a representative to the Open House to listen to the public concern.

The EA was posted on the BLM PSSC Field Office's ePlanning website for a 30-day public review period (May 20-June 19, 2020). The BLM will issue a news release and send notifications of the availability of this EA and its review period to local governments, individuals, non-governmental organizations, ROW holders, and other stakeholders on the Project mailing list.

The BLM received comments from one public agency, four non-governmental organizations, and 17 individuals. The BLM reviewed all of the comments received and responded to all comments, see Appendix I. Where appropriate, the BLM incorporated changes recommended in the comments into the EA.

4.2 U.S. Fish and Wildlife Service Consultation/Endangered Species Act Section 7 Consultation

The ESA protects threatened and endangered species by prohibiting federal actions that would jeopardize continued existence of such species or result in destruction or adverse modification of any critical habitat of such species. If adverse impacts to listed species are anticipated, Section 7 of the Act requires consultation regarding protection of such species be conducted with the USFWS prior to project implementation.

BLM consulted with United States Fish and Wildlife Service (USFWS) on the issuance of a right-of-way amendment grant that would authorize the decommissioning, construction, and operational activities associated with the Project, including the gen-tie as the whole of the action. The USFWS issued its Biological Opinion (BO) on September 11, 2020. The BO analyzed the effects of the action on the federally threatened Mojave population of the desert tortoise (*Gopherus agassizii*), in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). The USFWS determined that the activities considered in the BO are not likely to jeopardize the continued existence of the desert tortoise. The BLM also determined that the Project is not likely to adversely affect the endangered southwestern willow flycatcher (*Empidonax traillii extimus*), endangered western distinct population segment (DPS) of the yellow-billed cuckoo (*Coccyzus americanus*), and the threatened least Bell's vireo (*Vireo bellii pusillus*) and the USFWS concurred with this determination. The Reasonable and Prudent Measures and the Terms and Conditions in the USFWS BO will be adhered to, in addition to the Conservation Measures that were proposed by the Applicant.

4.3 National Historic Preservation Act (NHPA) Section 106 Consultation

The Project APE encompasses federally administered lands, thus requiring compliance with Section 106 of the NHPA of 1966, as amended, (54 USC 306108) and its implementing regulations (36 CFR 800).

The NHPA established the NRHP and the President's Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers to consult with federal agencies on undertakings that may affect historic properties. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that "[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP." Section 106 also affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (54 USC 306108).

36 Code of Federal Regulations, Part 800 (36 CFR 800), implements Section 106 of the NHPA (ACHP, 2004). It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Indian tribes to identify resources of concern to them; to determine whether or not they may be adversely affected by a proposed undertaking; and the process for avoiding, minimizing, or mitigating adverse effects. The content of 36 CFR 60.4 also defines criteria for determining eligibility for listing in the NRHP (NPS, 2012). The BLM evaluates the significance of cultural resources identified during inventory phases in consultation with the California State Historic Preservation Office to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. A resource may be considered historically significant and eligible for NRHP listing if it is found to meet one of the following criteria:

- A. It is associated with events that have made a significant contribution to the broad patterns of local or regional history; or
- B. It is associated with the lives of persons significant to our past; or
- C. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or
- D. It has yielded, or has the potential to yield, information important to the prehistory or history.

BLM standards for identifying and evaluating resources are provided in the BLM Manual 8110 Guidance: Identifying and Evaluating Cultural Resources (BLM, 2004).

The BLM has conducted its review to comply with Section 106 of the NHPA following the provisions of the State Protocol Agreement¹⁰. As summarized herein and further detailed in Class III Cultural Resources Inventory, the BLM has made a reasonable effort to identify historic properties and to assess the effect of this undertaking on historic properties that may be located within the APE. In accordance with the State Protocol Agreement, BLM has satisfied its responsibilities to consider the effects of this undertaking on historic properties that may be included or eligible for inclusion on the NRHP.

4.3.1 Area of Potential Effect and Identification Efforts

The APE is the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The determination of the APE and identification efforts for historic properties for the Mesa Wind Repower Project were consistent with Stipulations 5.2 and 5.3 of the State Protocol Agreement. After the APE and identification efforts were approved, a Class I Inventory and a Class III Inventory were completed pursuant to State Protocol Agreement Stipulations 5.6 and 5.4 respectively (Earle and Macko 2019, Macko et al., 2020).

4.3.2 Consultation and Pre-Application Meeting

In addition to consulting parties defined under Section 106 (36 CRF 800.2(c)), the State Protocol Stipulation 3.2 indicates that the BLM should enter into Project Specific Consultation with Indian Tribes. The BLM formally initiated consultation with Indian Tribes, other potential consulting parties, and members of the public for the Mesa Wind Repower Project by certified mail on November 20, 2019. Nine tribes were identified and invited to consult on this Project. These letters include an invitation to attend the pre-application meetings for the proposed Mesa Wind Repower Project on November 26, 2019 and January 8, 2020. Tribal participants at the November 20, 2019 meeting included representatives from Agua Caliente Band of Cahuilla Indians and Morongo Band of Mission Indians. Tribal participants at the January 8, 2020 meeting included representatives from Agua Caliente Band of Cahuilla Indians, Twenty-Nine Palms Band of Mission Indians, and

¹⁰ State Protocol Agreement among the California State Director of the BLM and the California State Historic Preservation Office and the Nevada State Historic Preservation Officer regarding the manner in which the BLM will meet its responsibilities under the NHPA and the National Programmatic Agreement among the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (February 2014).

Soboba Band of Luiseño Indians. Representatives of the Applicant and the Applicant's technical consultants were also present for both pre-application meetings

The BLM had begun its review to comply with Section 106 of the NHPA following the provisions of the State Protocol Agreement. In a letter dated May 20, 2020 the BLM informed California SHPO and the consulting tribes that, at this point, the BLM believes the undertaking meets criteria established under Section 1.2 of the *State Protocol Agreement* and the Protocol is no longer applicable to this Project. This letter additionally provided the Agency determinations of eligibility and findings of affect for all resources located in the Project APE and requested review pursuant to 36 CFR 800.4(d)(1) by the consulting tribes and the California SHPO.

No comments were received at the end of the comment period. In a letter dated, July 27, 2020 the BLM informed California SHPO and the Consulting tribes of the design changes to Alternative C and provided the Agency determinations of eligibility and findings of affect for all resources located in the Project APE and requested review pursuant to 36 CFR 800.4(d)(1) by the consulting tribes and the California SHPO. The BLM received one letter from the Agua Caliente Band of Cahuilla Indians. The letter stated that they concur with the agency's APE, find the level of cultural resources studies completed to be adequate, and concur with the agency's determinations at this time. Additionally, the following Tribes requested to have tribal monitors on site during ground disturbing activities: Agua Caliente Band of Cahuilla Indians, Cahuilla Band of Indians, Morongo Band of Mission Indian, and Soboba Band of Luiseno Indians. The BLM provided the proponent with the contact information for these tribes to facilitate potential tribal participation.

4.3.3 Evaluations of Eligibility and Findings of Effect

The BLM applies the National Register of Historic Places criteria (36 CFR part 63) to make proposed eligibility determinations of all properties identified within the APE that have not been previously evaluated for NRHP eligibility. The evaluations are based on the results of the cultural resources studies. If the BLM determines any of the NRHP criteria are met and the SHPO/Consulting Parties agrees, the property is considered eligible for the NRHP for Section 106 purposes. The NRHP eligibility criteria (Criteria A through D) are described in EA Section 4.3)

After the cultural resources are evaluated for NRHP eligibility, the BLM will apply the criteria of adverse effect. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or associated (36 CFR §800.5).

Aspen Environmental evaluated 6 cultural resources in the Direct APE for NRHP eligibility. Based on the recommendations provided by Aspen Environmental and additional BLM analysis, BLM determined that there are no historic properties in the direct APE.

This analysis, along with the associated determinations of eligibility, findings of effect concluding that no historic properties would be affected by the Project, were submitted to project-specific consulting parties and SHPO for concurrent review in a letter dated May 20, 2020 pursuant to 36 CFR 800.4(d)(1). The letter to SHPO sought concurrence on the sites' eligibility and determination that the Project would have no effect on historic properties. In a letter dated September 16, 2020, the BLM received concurrence from SHPO concerning eligibility of cultural resources and a no objection to the Agency's Determination of no effect to historic properties if Alternative C is selected.

4.4 Tribal Consultation

Mandates for the federal government's unique policies and relationship with Native American tribal governments are codified in several Executive Orders:

- **Executive Order 13007, Indian Sacred Sites**, issued by President Clinton in 1996, directed federal agencies to accommodate access to and ceremonial use of Native American sacred sites by Native American religious practitioners, as well as avoid adversely affecting the physical integrity of such sacred sites.
- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments**, issued by President Clinton in 2000, recognized tribal rights of self-government and tribal sovereignty, and affirmed and committed the federal government to a work with Native American tribal governments on a government-to-government basis.

Preservation and protection of Native American historic resources, at least archeological resources, dates back to at least the Antiquities Act of 1906, usually seen as the first federal historic preservation law in the U.S.

More recent federal historic preservation laws mandate Native American tribal government involvement and consultation. These include:

- **The Native American Graves Protection and Repatriation Act (NAGPRA)**, passed in 1990, provides a process for museums and federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, and objects of cultural patrimony—to lineal descendants, culturally affiliated Native American tribes, and Native Hawaiian organizations. Under Section 3 of the law, repatriation is mandated for Native American cultural items excavated or discovered on federal land after November 16, 1990.
- **The Archeological Resources Protection Act**, passed in 1979, requires federal agencies to consult with tribal authorities before permitting archeological excavations on tribal lands. It also mandates the confidentiality of information concerning the nature and location of archeological resources, including tribal archeological resources.
- **The American Indian Religious Freedom Act**, passed in 1978, affirms a national policy to protect and preserve for Native Americans their inherent right of freedom to believe, express, and exercise the traditional religions of indigenous America, including protecting and preserving access to sacred sites.
- **The National Environmental Policy Act**, passed in 1969, calls for the federal government to invite the participation of any affected Native American tribe in the environmental review process.
- **The National Historic Preservation Act of 1966**, as amended in 1992, enhanced Native American tribal roles in historic preservation and created the Tribal Historic Preservation Officer program. The NHPA established Federal agency obligation to consult with federally recognized Native American tribal governments under Section 106 of NHPA.

BLM Handbook H-1780-1 Improving and Sustaining BLM-Tribal Relations implements new administration and policies to provide comprehensive guidance concerning tribal relations for all

BLM managers and programs. H-1780-1 addresses a broad range of legal authorities and agency programs of interest to tribes and also highlights BLM responsibilities. It incorporates current guidance derived from recent case law, new Secretarial orders and policies, Executive Orders, and decades of experience working with tribes on a government-to-government basis.

The BLM has consulted and continues to consult with Indian tribes about this undertaking. Nine Indian tribes have been identified and invited to consult on this Project: the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Morongo Band of Mission Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians.

The BLM notified tribes and requested government-to-government consultation by letter on November 20, 2019 with an invitation to attend a meeting on the Project with an accompanying site visit. The letter included a request that the Tribes identify any areas to which they attach cultural or religious significance so that these sites may be considered in the environmental review of the Project. The BLM held a meeting on November 26, 2019 which was attended by representative from Agua Caliente Band of Cahuilla Indians and Morongo Band of Mission Indians. The BLM held a second meeting on January 8, 2020 which was attended by representatives from Agua Caliente Band of Cahuilla Indians, Soboba Band of Luiseno Indians, and Twenty-Nine Palms Band of Mission Indians.

The BLM has received written responses from two Tribes, Soboba Band of Luiseno Indians and Twenty-Nine Palms Band of Mission Indians, indicating their interest in consulting on the Project. One government to government consultation meeting was requested and held. The BLM has received no other responses to our requests to consult on the Project, and no areas of cultural or religious significance to the tribes have been identified.

BLM is continuing government-government consultation. Letters were sent to the tribes on May 20, 2020 which provided determinations of eligibility and findings of affect for all resources located in the Project APE, and a request for review pursuant to 36 CFR 800.4(d)(1). No comments were received at the close of this comment period. Letters were sent to the tribes on July 27, 2020 concerning the design changes to Alternative C and provided determinations of eligibility and findings of affect for all resources located in the Project APE, and a request for review pursuant to 36 CFR 800.4(d)(1).

The BLM continues to request that the tribes identify any issues or concerns regarding the proposed Mesa Wind Repower Project, including places of religious and cultural significance that might be affected. BLM's government-to-government consultation on this Project is ongoing.

5.0 LIST OF PREPARERS

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References for 3.10 Visual Resources

Based on Visual Resources, Appendix H.

7.0 ACRONYMS

ACEC	Area of Critical Environmental Concern
ARB	Air Resources Board
BBCS	Bird and Bat Conservation Strategy
BLM	Bureau of Land Management
BRTR	Biological Resources Technical Report
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CDP	Census Designated Place
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CMA	Conservation Management Action
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CRPR	California Rare Plant Rank
CVGB	Coachella Valley Groundwater Basin
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
DRECP	Desert Renewable Energy Conservation Plan
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
GHG	greenhouse gas emissions
KOP	Key Observation Point
LUPA	Land Use Plan Amendment
MET	Measurement
MOU	Memorandum of Understanding
MSHCP	Multi-Species Habitat Conservation Plan
MW	megawatts
MYA	million years ago
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO ₂	nitrogen dioxide
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NST	National Scenic Trails
PCT	Pacific Crest Trail
PDF	Project Design Features
PEIS	Programmatic EIS
PFYC	Fossil Yield Classification System
PM ₁₀	respirable particulate matter
PM ₂	fine particulate matter

POD	Plan of Development
RCFD	Riverside County Fire Department
ROG	Reactive organic gases
ROW	right-of-way
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SO ₂	sulfur dioxide
SPCCP	Spill Prevention Control and Countermeasure Plan
SR	State Route
SRMA	Special Recreation Management Areas
SWPPP	Storm Water Pollution Prevention Plan
USACE	US Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VOC	volatile organic compounds
VRM	Visual Resource Management
WEAP	Worker Environmental Awareness Program
WECS	Wind Energy Conversion Systems
WIMP	Wind Implementation Monitoring Program
WTG	Wind Turbine Generators