McCoy Solar Energy Project

DRAFT
Environmental Impact Report

County of Riverside
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McCoy Solar Energy Project
Draft Environmental Impact Report
Fall 2014

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1.0 Introduction

Introduction

In accordance with CEQA Guidelines §15123, this Chapter of the EIR provides a short description of the project; identification of significant effects, and proposed mitigation measures or alternatives that would reduce or avoid those effects; areas of controversy identified by the lead agency; and issues that require resolution, including the choice among alternatives and whether/how to mitigate the significant effects.

Summary

The proposed project involves development in Riverside County, 13 miles northwest of Blythe California. It proposes the development of a solar energy project that would have a 750-megawatt photovoltaic energy generating facility. The vast majority will be developed on Bureau of Land Management. The development is planned for two phases, occupying about 4,200 acres of BLM land and about 480 acres of private land. The project will be built, owned, maintained, and operated by McCoy Solar LLC, a subsidiary of NextEra Energy Resources LLC.

NextEra Energy Resources claims that the benefits of the project include the following: providing safe, clean and reliable power to approximately 264,000 homes (which would produce approximately 1 million less tons of carbon dioxide emissions when compared to using fossil fuels), economic stimulus, creating 600 temporary workers, and 20 fulltime employees, increases sales tax revenue, demand for housing.

The project development will have vehicular access via Black Creek Road, which is easily accessible from Interstate 10 and other local roads.

Areas of Controversy and Issues to be Resolved

According to CEQA Guidelines §15123(b)(2), the Executive Summary of an Environmental Impact Report should identify potential areas of controversy and issues to be resolved by the decision making body. Typically, this identifies areas that would experience a significant, unavoidable impact as well as issue areas where concerns have been raised.

For the McCoy Solar Energy Project a significant unavoidable impact would occur in the following areas: air resources, water resources, biological resources (specifically, vegetation, and wildlife), and cultural resources.

Classification of Environmental Impacts

Potential environmental impacts for the proposed project have been classified in this EIR into the three following categories:

- Less than significant impact: The project would result in impacts that are below acknowledged significant thresholds
- Potentially significant impact: The project would result in significant adverse impacts that can be feasibly mitigated to a less than significant impact
- Significant unavoidable impact: The project would result in a significant adverse impact that could not be feasibly mitigated to less than significant levels.

Alternatives

California Environmental Quality Act (CEQA) guidelines require and EIR to "describe the range of reasonable alternatives to the project, or location of the project, which would feasibly attain most of the basic objectives of the project, but would substantially lessen the significant effects of the project, and evaluate the comparative merits of the alternatives."

Three potential alternatives to the project have been identified, including the proposed action, a no project alternative, and a reduced project alternative. Based on the analysis of the three following alternatives, the "proposed action is the environmentally superior alternative. The three identified actions (including the environmentally superior alternative) are summarized below.

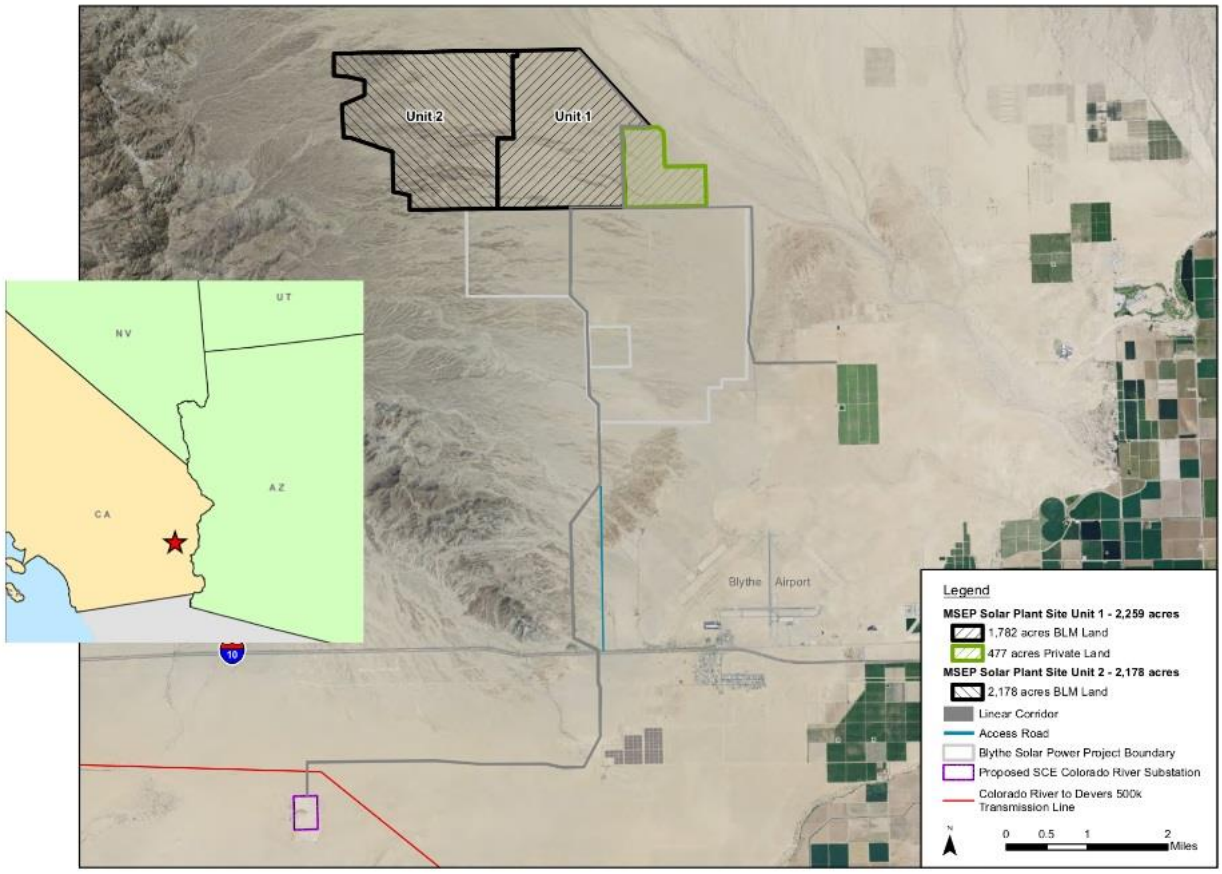
- **Proposed Action Alternative:** The proposed action would involve 2 solar units, for a combine capacity ranging between 500-750MW. This alternative would include generator tie line, road route, as well as distribution line. The project would permanently disturb about 4,200 acres of BLM land as well as approximately 480 acres of private land.
- **Reduced Project Alternative:** The reduced project alterative would involve a reduction in size of the project in order to mitigate some of the significant impacts caused by the project. Under the reduced project alternative, the project would only consist of 1 unit that would have a capacity of 300MW. It would permanently disturb about 2,100 acres of BLM land, as well s 480 acres of private land. This plan would also require a generator tie line, road route, and distribution line.
- **No Action Alternative:** The 'no action' alternative primarily assumes that no discretionary actions, which are subject to CEQA review, would occur within the project site. Under this assumption the project would not be constructed and the site shall remain as open space as the project area will have been identified as unsuitable for solar development.
- **Environmentally Superior Alternative:** The proposed action alterative would be the environmentally superior option due to the fact that the environmental benefits of the construction of the solar project (reduction of carbon emissions that would be used if project is not developed) outweigh the significant impacts caused by its construction (air quality, water resources, biological resources, and cultural resources).

2.0 Project Description

2.1 Project Location

The McCoy Solar Energy Project proposed location is planned for Riverside County, California, in the Mojave Desert, about 13 miles northeast of Blythe, California. At approximately 6 miles north of the I-10 freeway, the project will contain mostly BLM land, while the other portion of land will be regulated by the County of Riverside. The planned footprint of the project will be 4,096-acres, almost six and a half square miles. The proposed project also includes a 13 mile long overhead 230 kV gen-tie line that would interconnect at the CRS about 7 miles southwest of the solar plant site.

Map 2.2.1



2.2 Existing Site Characteristics

The proposed project is located in a rural area of the Mojave Desert. The topography is relatively flat, with a grade at 1 percent. This is a very important factor when considering runoff from construction and the plant.

The footprint of the project contains some vegetation communities and ground cover. These vegetation communities will be talked about in great detail in chapter 3.0.

The unique contrast of a regular dry desert climate, with a rainy season in the winter and summer, has made for an interesting combination of endemic plants and vegetation only found in this region of the Mojave Desert. This includes Ironwood, Blue Palo Verde, and a number of other plants that germinate during the summer with the aid of warm summer rain.

The location of the project is in an important biogeographic location and zone of ecological transition on the Pacific coast of North America. The floristic diversity of the area includes many widespread taxa on the outskirts of the range.

2.3 Description of the Proposed Project

2.3.1 Project Objectives

The County of Riverside and the BLM are dedicated to finding safe and clean renewable energy resources. In order to develop more clean energy alternatives, McCoy Solar, LLC, proposes to construct, operate, maintain, and decommission a 750 megawatt photovoltaic solar energy plant.

It is important to note the key components and objectives of the project, they are as follows:

1. The plant site; all facilities that are encompassed within the footprint of the project.
2. An overhead, double circuit line that will tie into the Southern California Edison's power grid.
3. Two telecommunications lines.
4. A road to provide access to the site.

3.0 Environmental Setting, Impacts, and Mitigation Measures

3.1 Water Resources

This report presents the results of an assessment of direct and cumulative impacts from expected groundwater pumping (required by NEPA and CEQA). The goal is to predict the follow information:

- The affects from Project-only pumping during construction and operation on water levels in water supply wells on the Palo Verde Mesa and the effects of pumping might have on the Palo Verde Valley Groundwater Basin storage.
- Proposed project impacts in the Palo Verde Valley in regards to water levels and groundwater storage.
- How the project might affect a change in surface water levels in the Palo Verde Irrigation District drains to the groundwater floodplain.

3.1.2 Basin Hydrogeology

The Palo Verde Valley (mesa and floodplain) is located in the northwestern Colorado Desert, which is part of the greater Colorado Desert Geomorphic Province. The Palo Verde Valley is bounded by non-water-bearing rocks of the Big Maria and Little Maria Mountains to the north, by the McCoy and Mule Mountains on the west, by the Palo Verde Mountains to the south and Colorado River on the east. The main aquifer in the valley, are Colorado River sediments above the Bouse Formation and Fanglomerate. The underlying sediments are much less transmissive than the Colorado River sediment. The Dept. of Water Resources estimates that there is 6.84 million acre-feet in the Palo Verde Mesa Groundwater Basin.

3.1.3 Geology

This valley formed as a pull-apart basin and is composed of two geological units, consolidated rocks and unconsolidated alluvium. The consolidated rocks are igneous and metamorphic, which form a basement complex. In some locations volcanic rocks overlie this basement complex creating an almost impermeable area except for areas where fracturing and weathering has occurred. These areas have an unknown amount of groundwater and have been treated as non-water bearing in the development.

The bedrock depths are deepest under the floodplain (900-2400 feet below the surface) with an average of 1,400 feet below ground surface. Under the mesa areas located east and west of the river, the depth ranges from 300 to 600 feet below the surface. The configuration suggests a north-south valley paralleling the course of the Colorado River. There have been no recorded structural features that are barriers to groundwater flow of any significance.

3.1.4 Groundwater Conditions

Mesa:

- Groundwater below the Project site in the central part occur apparently semi-confined conditions in the older alluvium at depths of 200 feet below.
- There is a convergence of flow as water traveling out of McCoy Wash and from the Chuckwalla Valley flowing southeast and east, interacting with water on the floodplain flowing south parallel to Colorado River.
- Convergence of flow shows distinct differences in the sources of groundwater below mesa and floodplain.
- Sources of water on mesa are mountain front recharge and underflow from floodplain to mesa along northern boundary.

Floodplain:

- Depth of groundwater ranges from about 8 feet in northern part to about 19 in southern part. (Becomes shallower in Wildlife refuges, where water discharges into Colorado River).
- One foot difference between wells in younger and older alluvium of the Colorado River. Minor difference doesn't suggest significant vertical gradient and is consistent with prior investigations concluding that groundwater in floodplain occurs under generally unconfined or water table conditions in the Colorado River Alluvium.
- Groundwater levels on floodplain have historically been stable as a network of shallow drains that percolates from flood irrigating the fields and returns into Colorado River.
- Complex balance of discharge and recharge used to develop groundwater balance for the Palo Verde Valley.

3.1.5 Characteristics (Aquifer)

- Hydraulic conductivity, transmissivity, and storage coefficient.
- Hydraulic conductivity: property of the aquifer material to transmit water (feet per day).
- Transmissivity: hydraulic conductivity multiplied by the thickness of the sediments capable of storing water (gallons per day per foot or square feet per day).
- Storage coefficient: percentage of water that can be released from the aquifer material pore space, used for unconfined or water table conditions.

3.1.6 Cumulative Impacts Assessments

- Based on the results of numerical groundwater simulations, proposed project pumping will not significantly impact adjacent water supply wells or the groundwater basin storage.
- Drawdown off the solar plant was not predicted to exceed one foot at any off the off-site wells.

- Model did not predict the radius of influence would extend off the mesa. Water pumping comes mainly from mesa and the recharge in the McCoy Wash and possibly minor underflow from the northern part of the floodplain into the mesa.
- The low pumping volume over the 33-year period coupled with the fact that drains are four miles from the proposed wells would render influence from the pumping on the drains very unlikely.
- The project does not contribute any significance towards regional drawdown and not produce a cone-of-depression. Project pumping is about 0.7 percent of the combined water and production for all proposed projects on the mesa. Given its fractional contribution to total water use the Project does not represent a considerable contribution to water resource impacts to the basin.

3.2 Air Quality

The following section describes the existing metrological conditions, air quality, sensitive receptors, and overall baseline conditions associated with project area. Regulations, pans, and policies including federal, state, and local laws related to air quality that may be relevant to propose actions are also discussed.

3.2.1 Meteorological Conditions

The project site is located in the Mojave Desert Air Basin at elevations that range between 500 and 1,000 feet. Thee climate is characterized by high daytime temperatures, with a large degree of humidity variance, rapid diurnal temperature variation, occasional high winds, dust, and thunderstorm.

The highest monthly average temperature in Blythe, CA is 108 degrees Fahrenheit in July, with the lowest average monthly temperature is 37 degree Fahrenheit occurring in January. There is very little rainfall in Blythe, with less than 4 inches occurring every year. Prevailing winds come out of the west and the southwest. (Cite Western Regional Climate Center)

3.2.2 Existing Air Quality

The California Clean Air act as well as the Federal Clean Air Act requires the establishment of standards for ambient concentrations of air pollution, known as Ambient Air Quality Standards (AAQUS). The AAQS are the air quality levels considered safe in order to protect people most susceptible to further respiratory distresses (ex: asthma, the elderly, young children, and ill people). The standards listed below, read as concentration in parts per million (ppm), or as a weighted mass of material per volume.

Existing levels of ambient air quality and historical trends are best documented from the measurements made near the project site. Currently the Mojave Desert Air Basin is classified under the “non-attainment” category for state ozone and fugitive dust particulate matter, but remains in the attainment category for federal air quality standards.

Generally, areas are designated as “attainment” if the concentration of particular air containment does not exceed the standard. Correspondingly, an area is designated as “non-attainment” if the containment standard is not met.

Table 3.2.2 summarizes the site area’s attainment status for various applicable state and federal standards.

FEDERAL AND STATE ATTAINMENT STATUS
MDAB WITHIN RIVERSIDE COUNTY

Pollutant	Attainment Status[a]	
	Federal	State
Ozone	Attainment[b]	Moderate Non-attainment
CO	Attainment	Attainment
NO_2	Unclassified/Attainment[c]	Attainment
SO_2	Attainment	Attainment
PM10	Attainment[b]	Non-attainment
PM2.5	Attainment	Attainment

NOTES:

[a] Attainment = Attainment or Unclassified, where Unclassified is treated the same as Attainment for regulatory purposes.
[b] Attainment status for the MDAB within Riverside County only, not the entire MDAB.
[c] Nitrogen dioxide attainment status for the new federal 1-hour NO_2 standard was determined on January 20, 2012.

SOURCE: ARB, 2011a; MDAQMD, 2011a; and USEPA, 2012.

(Table 3.2.2)

3.2.3 Criteria Air Pollutants

Table 3.2.3 Criteria Pollutant Summary, Maximum Ambient Concentrations

Pollutant [final rule cite]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		primary and secondary	Rolling 3 month average	0.15 µg/m^3 (1)	Not to be exceeded
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	Annual	53 ppb (2)	Annual Mean
Ozone [73 FR 16436, Mar 27, 2008]		primary and secondary	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution Dec 14, 2012	$PM_{2.5}$	primary	Annual	12 µg/m^3	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m^3	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Table 3.2.4

MDAQMD AIR QUALITY THRESHOLDS

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO_x)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO_x)	25	137
Respirable Particulate Matter (PM10)	15	82
Fine Particulate Matter (PM2.5)	15	82
Hydrogen Sulfide (H_2S)	10	54
Lead (Pb)	0.6	3

SOURCE: MDAQMD, 2011.

Table 3.2.5

CRITERIA POLLUTANT SUMMARY MAXIMUM AMBIENT CONCENTRATIONS (PPM OR $\mu G/M^3$)

Pollutant	Averaging Period	Units	2005	2006	2007	2008	2009	2010	Limiting AAQS[a]
Ozone[b]	1 hour	ppm	0.074	0.078	0.092	0.074	0.072	0.072	0.09
Ozone[b]	8 hours	ppm	0.072	0.059	0.076	0.071	0.066	0.067	0.07
PM10[c]	24 hours	$\mu g/m^3$	57	50	212	62	81	38	50
PM10[c]	Annual	$\mu g/m^3$	16.9	23.0	27.8	20.7	15.4	13.4	20
PM2.5[c]	24 hours	$\mu g/m^3$	27.0	22.0	28.0	17.0	20.0	18.0	35
PM2.5[c]	Annual	$\mu g/m^3$	9.6	10.3	9.7	---	9.3	7.6	12
CO[d]	8 hours	ppm	1.6	1.6	1.6	1.0	1.1	5.2	9.0
NO_2[d]	1 hour	ppm	0.08	0.08	0.07	0.07	0.06	0.13	0.18
NO_2[d]	Annual	ppm	0.02	0.02	0.02	0.01	0.02	0.02	0.030
SO_2[d]	24 hours	ppm	0.00	0.01	0.01	0.00	0.01	0.01	0.04
SO_2	Annual	ppm	0.00	0.00	0.00	0.00	0.00	0.00	0.03

NOTES:

[a] The limiting AAQS is the most stringent of the California or National AAQS for that pollutant and averaging period.
[b] Ozone data are from the Blythe - 445 West Murphy Street monitoring station.
[c] PM10 and PM2.5 data are from the Lucerne Valley and Victorville monitoring stations, respectively. Exceptional PM concentration events, such as those caused by wind storms or fires are not shown where excluded by USEPA; however, some exceptional events may still be included in the data presented.
[d] CO, NO_2, and SO_2 are from the Victorville monitoring station.

SOURCE: ARB, 2011b

Ozone

Ozone is formed as a result of chemical reactions in the air between emitted nitrogen oxides and hydrocarbons (VOCs) under sunlight. There is very little anticipated impact to the ozone, based on proposed project; the project site is currently in the moderate ozone attainment status for the Mojave Desert Air Basin.

Nitrogen Dioxide

The Mojave Desert Air Basin is classified under the attainment category under both state and federal Ambient Air Quality Standards. Nitrogen Dioxide reaches their highest concentration during the fall or winter when atmospheric conditions trap emissions near ground level. Currently at the project site, Nitrogen Dioxide levels are well below the Ambient Air Quality Standards and are not expected to be significantly impacted by the proposed action.

Carbon Monoxide

The Mojave Desert Air Basin is classified under the attainment category for both state and federal air quality standards. The project area will result in a lack of significant emission sources and since the project site is well below the state and federal Ambient Air Quality Standards, Carbon Monoxide is not a factor.

Sulfur Dioxide

Sulfur dioxide is usually emitted as a result of the combustion from fuel containing sulfur. Sulfur dioxide can come from a variety of gaseous and liquid fuels. The emissions near the project site are limited by California's and the United States Environmental Protection Agency's vast reduction in sulfur within fuel content. The project site is well below state and federal Ambient Air Quality Standards.

Particulate Matter (PM10)

PM10 is typically directly emitted, but it can also be formed downwind from emission sources. The Mojave Desert Air Basin is classified under the nonattainment category for the state and is not classified for federal PM10 standards. PM10 standards can be impacted by the project through the transport of local fugitive dust sources, such as, but not limited to: travel on unpaved roads, wind-blown dust, and agricultural operations,

Particulate Matter (PM2.5)

PM2.5 typically comes from the combustion of materials or from precursors gases (Sulfur, Nitrogen or VOCs). The Mojave Desert Air Basin is classified in the attainment category for both state and federal standards.

3.1.6 Toxic Air Containments

Toxic Air Containments (also known as TACs) are airborne materials that can cause acute or chronic adverse health conditions. TACs can include both organic as well as inorganic substances that are emitted from a wide variety of sources including, but not limited to the

following: automobiles, fuel stations, industrial operations, painting operations, and many more. The current list of recognized TACs in California includes about 200 different compounds. (Air Resources Board).

3.2.7 Sensitive Receptors

Sensitive receptors are defined as land uses or facilities that are nearby members of the population who are most sensitive to the effects of air pollutants. Schools, hospitals, and housing for the elderly are all examples of sensitive receptors because of their greater than average vulnerability air pollution due to preexisting conditions.

There are no sensitive receptors within the immediate area of the project site. The nearest potential sensitive receptor would be residential house located on Black Creed Road, more than two miles away from the project site.

3.2.8 Sensitive Receptors

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There are no sensitive receptors within the immediate area of the project site. The nearest potential sensitive receptor would be residential house located on Black Creed Road, more than two miles away from the project site.

3.2.9 Applicable Regulations, Plans, And Standards

Federal

The United State Environmental Protection Agency is responsible for implementing programs established under the federal Clean Air Act. Such responsibilities include: setting and reviewing the Federal Ambient Air Quality Standards and reviewing the adequacy of State Implementation Plans. The United States Environmental Protection Agency delegates their authority of program implementations to the state of California, while assuming an oversight role as programs are implemented.

The proposed project site is located within a deferral attainment/unclassified area. Thus, the project would not be subject to the general conformity regulations The United State Environmental Protection Agency has set forth emission standards for non-road diesels engines (typically construction equipment such as cranes and bulldozers).

State

As covered in the previous section, the Air Resources Board has well-established state and Ambient Air Quality Standards for many of the same federal Ambient Air Quality Standards, or in many cases are stricter than the federal standards.

The Air Resources Board (ARB) has existing on-road and off-road emissions reduction programs that would impact the project's emissions through the use of modern, low-emission construction equipment.

Local

Mojave Desert Air Quality Management District

The project site is located within the boundaries of the Mojave Desert Air Quality Management District (MDAQMD), which regulates emissions of all sources within the Mojave Desert Air Basin. The only possible pollution sources that would fall under the MDAQMD's jurisdictions are two standby emergency generators. The following rules would apply to the project's generators.

Nuisance

The nuisance rule prohibits any discharge from any source whatsoever in such quantities that that could cause injury, detriment, nuisance, or annoyance to any considerable number of people, or can possibly endanger the publics, comfort, repose, health, or safety.

Fugitive Dust

The fugitive dust rule limits the emissions of fugitive dust or particulate matter from a variety of activates and sources. It includes a visible emissions property line standard, sampling standards, and precautionary requirements to prevent track out on paved public roads.

3.3 Biological Resources

3.3.1 Environmental Setting

This section of the Draft EIR will look at the biological resources surrounding the McCoy Solar Project, including the vegetation communities and ground cover species. The botanical surveys were performed in the spring and fall of 2011 by Tetra Tech EC.

The study area includes the public and private lands under the jurisdiction of the BLM and Riverside County. In addition to the immediate footprint of the immediate area of the project, a 240 foot wide zone surrounding the project was also surveyed.

3.3.1-1 Existing and Affected Environment

The following will describe the existing biological conditions in the area of study. This section will also analyze the results based on the available documentation from the area of project study.

3.3.1-2Vegetation Communities and Cover Types

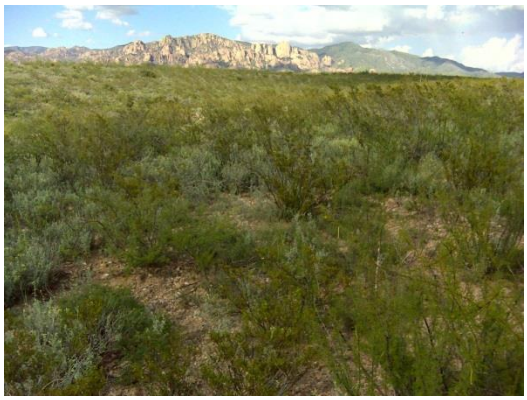
Several vegetation communities were found on the project location. Vegetation communities include Sonoran Creosote Bush Scrub, Desert Dry Wash Woodland, Stabilized and Partially Stabilized Desert Dunes, and Vegetated Ephemeral Swales. In the table below, we can see the vegetation, and where it is within the footprint of the solar project. This data is imperative when considering the impact that the construction and the footprint of the solar farm may have on the vegetation and ground cover.

Table 3.2.-1 (Source: Tetra Tech EC, 2012)

Vegetation Communities/Cover Type	Unit 1	Unit 2	Gen-tie Line and Access Road	Distribution Line	Total
Ephemeral "Riparian" Drainages					
Desert Dry Wash Woodland (Blue Palo Verde-Ironwood Woodland Alliance)	0	1.5	1.8	0.9	4.2
Mesquite Bosque	0	0	0.5	0	0.5
Vegetated Ephemeral Channels (Wash-dependent Vegetation with Sparsely Scattered Trees)	2.8	42.2	0	0	45.0
Vegetated Ephemeral Channels (Vegetated with No Trees)	44.8	61.1	0.8	0	106.7
Unvegetated (approximately less than or equal to 5% cover)	8.8	20.3	0.5	0	29.6
Subtotal Ephemeral "Riparian" Drainages	***56.4***	***125.1***	***3.6***	***0.9***	***186.0***
Upland					
Sonoran Creosote Bush Scrub (Creosote Bush-White Burr Sage Scrub Alliance)	2,138.0	2,473.0	96.4	4.1	4711.5
Stabilized and Partially Stabilized Desert Dunes (Sand Sheets and Dunes: Creosote Bush-White Burr Sage-Galleta Grass)	0	0	38	0	38
Subtotal Upland	***2,138.0***	***2,473.0***	***134.4***	***4.1***	***4,749.5***
Other Cover Types					
Agricultural Land (Crops, Ruderal Vegetation, or Bare Ground)	0	0	0	2.3	2.3
Developed (No Vegetation)	0	0	22.7	0	22.7
Subtotal Other Cover Types	***0***	***0***	***22.7***	***2.3***	***25.0***
Total Acres	**2,194.4**	**2,598.1**	**160.7[a]**	**7.3**	**4,960.5[b]**

Sonoran Creosote Bush Scrub

Sonoran Creosote Bush Scrub occurs on well-drained soils of slopes, fans and valleys. Sonoran Creosote Brush Scrub is the basic creosote scrub species in the Colorado Desert. This species dominates the study area.



Desert Dry Wash Woodland

Desert Dry Wash Woodlands are recognized as a sensitive vegetation community according to the BLM. Desert Dry Wash Woodlands are described as densely covered, drought resistant, microphyll riparian scrub woodlands. Typical plants found in these communities are blue palo verde, cheesebrush, smoke tree, tamarisk, and catclaw acacia.

Vegetated Ephemeral Swales

The vegetated ephemeral swales can support the Creosote Bush-Big Galleta Grass, which is extremely uncommon in the deserts of California. Recently, these Swales were mapped and documented using detailed mapping of the Mojave Desert (Thomas et al., 2004).

Stabilized and Partially Stabilized Desert Dunes

Described as accumulations in the desert which are stabilized or partially stabilized by evergreen, shrubs, and low grasses. The dominant plant species on these dunes is the Creosote Bush Scrub, White Bursage, Galleta Grass, Four-Wing Saltbrush, Desert Croton, and Colorado Desert Buckwheat. The switchyard and the western section of the gen-tie line are exclusively within this habitat.

Animal Habitat Function

These areas are integral to the ecological function of the watershed. These areas are rife with a diversity of vegetation and topography, making it ideal for wildlife. The Ephemeral Washes provide cover, there are opportunities for burrowing and nesting, and provides corridors for wildlife movement.

3.3.2-2 Regulatory Framework

Federal

Federal Endangered Species Act of 1973 (16 U.S.C. 1531)

Main purpose is to provide a means whereby the ecosystems upon which endangered and threatened species may be conserved. The goal of the ESA is also to provide programing to preserve these endangered and threatened species.

State

California Endangered Species Act, Fish and Game Code Section 2018, Division 3, Chapter 1.5

Declares that the listed fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern.

3.3.3 Wildlife Biological Resource

This section describes the wildlife and the environmental setting. The area of study has the same exact parameters as the study done for the vegetation communities. In addition to this, Tetra Tech EC has done the wildlife study as well.

An assessment of the distribution of wildlife resources in the study area relied on a literature review, biological reconnaissance surveys, and coordination with appropriate permitting agencies and resource specialists.

Focused biological surveys were conducted by biologists who are experts in wildlife resources in the Project vicinity. Field surveys for desert tortoise, burrowing owl, golden eagle, and other wildlife species were conducted from April to June of 2011.

Desert Tortoise

Signs of Desert Tortoise associated with vegetated areas on the west portion of the Project site. Other portions of the Project site did not show any past or present tortoise habitation, which supports the idea that tortoise use of the site is debatable. Following surveys, two methods were used to estimate density on the Project site. Using the USFWS protocol from 2010that estimates density based on the number of live tortoises observed. This method showed a population estimate of 1.8 adult tortoises, which is the equivalent to 0.2 adult tortoises per square mile (Tetra Tech EC).

Mojave Fringe-Toed Lizard

Currently, there is no protocol for surveying Mojave fringe-toed lizards. Therefore, surveys were conducted concurrently with desert tortoise surveys in spring of 2011.

Western Burrowing Owl

Based on the surveys, the project disturbance area is a suitable habitat for the burrowing owl. Surveys found 10 active owl burrows on the solar plant site, and one owl pair with an active burrow was also found on the gen-tie line access route north of the I-10. None were identified within the 500-foot buffer zone (Tetra Tech EC).

3.3.4 Impacts

Project construction is the primary impact on the surrounding Biological Resources. With the introduction of large construction vehicles working off road, large amounts of dust and other particulate matter are introduced into the atmosphere, which can cause problems for the surrounding vegetation and wildlife. This will be talked about in greater depth in chapter 4.0.

3.3.5 Mitigation

Mitigations for biological resources will be talked about in greater detail in chapter 4.0. Mitigations for these resources include heavy restrictions on construction equipment, speed limits for construction equipment, and other mitigations for protection of the wildlife in the area.

3.4 Cultural Resources

Cultural resource is defined as a location of human activity, occupation, or use identifiable through field study, historical documentation, or oral evidence. These resources may include archaeological, historical, or architectural sites. A Cultural Resources Survey Report has been done by the group, AECOM. In addition, the BLM has worked in conjunction with Native American tribes to identify places of traditional religious and cultural importance that may otherwise be unidentified by these studies. Chapter 3.4 provides a discussion of the BLM's tribal consultation process.

3.4.1 Historical Background

The project site remained as one of the more sparsely populated areas in the west. The harsh climate paired with a shortage of a natural water supply made the region very difficult for human survival.

3.4.2 Identified Cultural Resources

Sites identified include WWII era Military sites within a one mile radius of the project site. These sites were noted when archaeological studies were done in favor of the Blythe Solar Project. The Project area is within the Limits of General George S. Patton's WWII desert training center. This massive training area was considered the largest ever military training center. The remains include: tank tracks, foot prints, fencing and wire, footprints of landing strips, and large base camps.

There are little to no signs of any prehistoric existence in this area. The harsh climate and lack of access to water made this area very hard to traverse, and almost impossible to inhabit.

Native American population in this area was sparse, due to the harsh living conditions. In order to thoroughly investigate the area, individuals from the following tribes were contacted:

1. Torres-Martinez Desert Cahuilla Indians

2. Santa Rosa Band of Cahuilla Indians

3. San Manual Band of Serrano Mission Indians

4. Ramona Band of Cahuilla Mission Indians

5. Morongo Band of Cahuilla Mission Indians

6. Fort Mojave Indian Tribe

7. Cocopah Indian Tribe

8. Chemehuevi Indian Tribe

9. Cahuilla Band of Mission Indians

10. Cabazon Band of Mission Indians

11. Augustine Band of Cahuilla Indians

12. Fort Yuma Quechan Indian Nation

13. Agua Caliente Band of Cahuilla Indians

In order to evaluate the area and search the project site for historical cultural resources, a ground survey was performed by project archaeologists.

The majority of objects identified in the project area are historical in age and consist of objects like metal cans, with smaller quantities of glass bottles and jars, lumber, broken ceramics, and various metal items. Historical features include survey markers, rock features, prospect pits, cleared areas, emplacements, debris scatters, and tank tracks associated with the WWII military training base in the vicinity.

3.4.3 Applicable Regulations, Plans, and Standards

3.4.3-1 Federal

Numerous federal regulations are in place that dictates the management of cultural resources on federal lands by federal agencies. These regulations include NEPA, NHPA, the Archaeological Resources Protection Act (ARPA), and the American Indian Religious Freedom Act (AIRFA).

National Environmental Policy Act

The NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to "preserve important historic, cultural and natural aspects of our national heritage." For these reasons, the NEPA is relevant to this project.

Native American Graves Protection and Repatriation Act

Regulations and requirements regarding discoveries of Native American remains, and objects on federal land are addressed under this law. BLM is required to operate under this law, and carry out appropriate treatment of the remains in conjunction with tribal authority.

3.4.3-2 State

California Register of Historical Resources

CRHR is "An authoritive listing guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code (PRC))

To be considered to be on the CRHR, a historic-period property must be significant at the local, state, and federal levels under the following criteria:

1. Area is associated with events that have made a significant contribution to California's history and cultural heritage.
2. Area is associated with important people in California past.
3. Embodies distinctive characteristics of historical construction, or represents important cultural information, or possesses artistic value.
4. Can give us important historical information.

In order to be eligible for CRHR, the site must meet one or more of the listed criteria.

3.4.4 Impacts

The impacts on cultural resources are identical to the impacts of the biological resources. With heavy construction equipment working off-road, the introduction of particulate matter into the atmosphere is inevitable. This particulate matter can be damaging to surrounding historical sites.

In addition to particulate area in the air, the risk for construction interference on historical sites is also a possibility. This will be talked about in greater detail in chapter 4.0.

3.4.5 Mitigation

Like biological resources, the mitigation for cultural resources is quite similar, but also will possess some slight differences, including an on-site archeologist to identify any historical artifacts or sites if they should be uncovered. This will be elaborated on in chapter 4.0.

4.0 Alternatives Analysis

4.1 Water Resources

Alternative 1: Proposed Action (Direct/Indirect Impacts)

Construction

During construction ground disturbance relating to surface water and drainage patterns and flood hazard areas, would occur and continue through the operation and maintenance. Temporary impacts would exist during the construction phase and long-term impacts exist in both.

Groundwater Supply and Recharge

Withdrawals would occur during construction, but after evaluation predicted drawdown outside of the solar boundary would be less than 0.1 foot at the end.

Water Quality

Construction would require the use of heavy machinery for vegetation grading, and installation of roads, pipelines, generation facilities, transmission facilities, administration buildings, and the actual solar field. The use of bulldozers, graders, semi-trucks, and other heavy equipment will be involved with changing on-site topography. This machinery would potentially loosen existing surface soils and sediments, increasing the potential for erosion in the event of a storm. The use of this equipment could also involve accidental release of fuel, oils, brake dust, lubricants antifreeze, and other potentially hazardous substances at the site. These pollutants could be added to surface water during a storm and be infiltrated into the groundwater and aquifer, resulting in the degradation of water quality. Implementation of a Sewer Pollution Protection Plan could potentially reduce this risk.

Operation and Maintenance

In no scenario did the predicted drawdown exceed beyond the 0.1 foot boundary. The low pumping rates of 160 gpm for construction and 18 gpm for operation indicates that water from pumping largely comes from a combination of storage on the mesa and, recharge from the McCoy Wash, and possibly minor underflow from the northern part of the Palo Verde Valley Groundwater Basin. Installation of new impervious surfaces can in some cases result in reductions in ground surface infiltration capacity, potentially causing reductions in net groundwater recharge. Within the solar field, the proposed panels are not expected to interfere with stormwater infiltration: rainfall incident on the panels would fall to the ground, which would remain pervious, and be permitted to infiltrate.

Alternative 2: Reduced Acreage

Construction, Operation, Maintenance, and Decommissioning

Construction of this alternative would be anticipated to have similar effects on water quality, groundwater levels and storage, erosion and sedimentation, surface water hydrology, flooding. Except this plan would reduce the intensity of the effects. The land used would be roughly half of the Proposed Action and the implementation of mitigation measures will potentially reduce impacts further.

4.1.2 Mitigation Measures

Mitigation 1: Implementation of a Storm Water Pollution Protection Plan

- In the construction area temporary on-site silt traps and basins with multiple discharge points to natural drainages and energy dissipater. Loose materials should be covered and runoff diverted away from the exposed soil. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location on-site.
- Fiber rolls, staked straw bales, detention basins, check dams, geofabric, sandbag dikes, check dams, erosion control blankets, matting, and other fabrics or other ground cover will be implemented to control erosion.
- Sediment will be retained on-site by sediment basins or traps.
- Mechanical storm water filtration measures to provide filtration before discharge.
- Hazardous materials such as fuels and solvents used on construction sites shall be stored in covered containers and protected from rainfall, runoff, and accidental release.

Comprehensive Drainage, Stormwater, and Sedimentation Control Plan

In order to ensure on-site buildings, and staff therein are protected from flooding, all on site buildings and fill areas will be placed outside of frequent flood flow areas. All building will be constructed at least 2 feet above the highest anticipated flood-flow. The proposed evaporation pond will be built 2 feet larger than any anticipated flood.

Residual Impacts after Mitigation Incorporated

After mitigation implementation there is a very minor adverse impacts for the following:

1.) Surface water quality: Minor reduction in water quality during construction, operation, and decommissioning

2.) Groundwater quality: Minor reduction in groundwater quality during construction, operation, and decommissioning

3.) Groundwater level/storage: Minor degree of reduction in water levels is expected during construction and operation

4.) Drainage and Flooding: Minor changes during construction, operation, and decommissioning.

4.2 Air Quality

4.2.1 Methodologies

The air quality resources impacts of the proposed action and alternatives is based on the technical documents associated with criteria pollutant estimates, public health risks and cumulative impacts that would be caused during construction, operation and maintenance, and decommissioning of the project. The technical documents were prepared by AECOM and peer reviewed by the BLM and Riverside County. The technical documents are located in section 7.0 of this draft environmental impact report.

4.2.2 Proposed Action

4.2.3 Construction Emissions

Emissions resulting from the proposed project and its alternatives were estimated using project specific information provided by the technical documentations provided by ACECOM. The data includes a generalized construction plan. The air quality technical report and paved road fugitive dust emissions are also included within the report. The project is divided into six phases, which are as follows.

1. Mobilization Phase

2. Civil Improvements

3. Photovoltaic Panel Construction

4. Office/Structure Building Construction

5. Transmission Line Construction

6. System Testing and Commissioning

For each phase of the development during the construction, the engineering contractor provided the following information

- List of types of construction equipment used
- Power ratings for each type of equipment
- Quantity of vehicles and other equipment used
- Daily usage rates of equipment

Construction Equipment Vehicle Exhaust

The vehicles and equipment used during construction would result in the generation of the following compounds: VOCs, NO, CO, SO, PM10, and PM2.5 emissions.

Fugitive Dust Emissions

The fugitive dust estimates were also prepared by AECOM and include emission estimates for onsite and unpaved road travel as well as offsite paved road travel. The project site is not subject

to a great deal of erosion. The fugitive dust impacts related to the loss of desert pavement are assessed qualitatively.

Table 4.2.3

PROPOSED ACTION MAXIMUM DAILY CONSTRUCTION EMISSIONS

Emission Source[a]	Maximum Daily Emissions (pounds/day)					
	VOC	NO_x	CO	SO_x	PM10[b]	PM2.5[b]
Off-road Equipment Exhaust	9	84	33	0.0	3	3
Vehicle Exhaust	14	50	185	0.3	4	3
On-site Fugitive Dust	0	---	0	---	110	23
Paved Road Fugitive Dust	0	---	0	---	19	5
Total Maximum Daily Emissions	23	135	218	0.3	136	34
MDAQMD Threshold	137	137	548	137	82	82
Exceeds Threshold?	No	No	No	No	Yes	No

NOTE: Total maximum daily NO_x emissions include a slight rounding error.

[a] Exhaust and on-site fugitive dust emissions were estimated by AECOM (2012) and off-site fugitive dust emissions from vehicle travel on paved roads were estimated by ESA (2012).

[b] PM10 and PM2.5 emissions account for various on-site dust control measures resulting in a control efficiency of 68 percent relative to uncontrolled emissions; other pollutant emissions do not account for emissions control reductions.

SOURCES: AECOM, 2012; ESA, 2012.

Both the tables above show the emissions the result of both combustion exhaust emissions as well as fugitive dust emissions. To reduce fugitive dust emissions we recommend implementing various dust control measures, which will be detailed under the “mitigations” section of this chapter.

4.2.4 Operations and Maintenance Emissions

Criteria Pollutants

The tables below show the estimated annual and maximum daily criteria pollutant emissions that would be generated each year during the operation of the project. These emissions estimates do not account for reductions that would be associated with the implementations of mitigation controls.

Table 4.2.4

PROPOSED ACTION ANNUAL CONSTRUCTION EMISSIONS

Construction Year	Emission Source[a]	Annual Emissions (tons/year)					
		VOC	NO_x	CO	SO_x	PM10[b]	PM2.5[b]
Year 2013	Exhaust and on-site fugitive dust	1.5	9.9	10.1	<0.1	11.1	2.7
	Off-site dust	---	---	---	---	0.7	0.2
	Total	**1.5**	**9.9**	**10.1**	**<0.1**	**11.8**	**2.8**
Year 2014	Exhaust and on-site fugitive dust	1.7	9.1	15.0	<0.1	4.4	1.3
	Off-site dust	---	---	---	---	1.2	0.33
	Total	**1.7**	**9.1**	**15.0**	**<0.1**	**5.6**	**1.6**
Year 2015	Exhaust and on-site fugitive dust	1.7	8.8	15.5	<0.1	11.2	2.7
	Off-site dust	---	---	---	---	1.3	0.3
	Total	**1.7**	**8.8**	**15.5**	**<0.1**	**12.5**	**3.0**
Year 2016	Exhaust and on-site fugitive dust	1.9	8.4	20.3	<0.1	4.1	1.2
	Off-site dust	---	---	---	---	1.9	0.5
	Total	**1.9**	**8.4**	**20.3**	**<0.1**	**6.0**	**1.9**
NEPA *de minimis* level		100	100	100	100	100	100
MDAQMD Threshold		25	25	100	25	15	15
Exceeds Threshold?		No	No	No	No	No	No

NOTES:

[a] Exhaust and on-site fugitive dust emissions were estimated by AECOM (2012) and off-site fugitive dust emissions from vehicle travel on paved roads were estimated by ESA (2012).

[b] PM10 and PM2.5 emissions account for various on-site dust control measures resulting in a control efficiency of 68% relative to uncontrolled emissions; other pollutant emissions do not account for emissions control reductions.

SOURCES: AECOM, 2012; ESA, 2012.

Table 4.2.5

PROPOSED ACTION MAXIMUM DAILY OPERATION AND MAINTENANCE EMISSIONS

	Maximum Daily Emissions (pounds/day)									
					PM10			PM2.5		
Source	VOC	NOx	CO	SOx	Exhaust	Dust	Total	Exhaust	Dust	Total
On-Site Equipment	<0.1	0.8	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.0	<0.1
On-Site Vehicles	<0.1	0.2	0.1	<0.1	<0.1	42.3	42.3	<0.1	4.2	4.2
Off-Site Vehicles	0.1	0.5	2.5	<0.1	0.1	1.0	1.1	<0.1	0.2	0.2
Total Emissions	0.2	1.5	3.2	<0.1	0.1	43.3	43.4	0.1	4.4	4.5
MDAQMD Threshold	137	137	548	137	---	---	82	---	---	82
Exceeds Threshold?	No	No	No	No	---	---	No	---	---	No

SOURCE: AECOM, 2012.

4.2.6 Decommission Emissions

The project is designed for a 30-year life span. Following the lifespan of the project the facilities will be decommissioned dismantled, and the site would be restored over a 2-year period. The decommissioning process would release similar air pollutants.

4.2.7 Reduced Acreage

The reduced acreage project alternative would produce similar impacts as the proposed project, however they would occur at lower rates due to the smaller project size proposed in this alternative. The methodologies for estimating emissions under this alternative are similar to the same methodologies used for the proposed project.

4.2.8 Construction Criteria Pollutant Emissions

The reduced acreage proposal would result in a shorter construction phase that would exist over a 24-month period, which is significantly shorter than the length of the proposed project alternative. The two tables below show the annual and daily criteria air pollutants resulting from the reduced acreage project alternative.

Table 4.2.9

ALTERNATIVE 2 ANNUAL CONSTRUCTION EMISSIONS

Construction Year	Emission Source[a]	Annual Emissions (tons/year)					
		VOC	NO_x	CO	SO_x	PM10[b]	PM2.5[b]
Year 2013	Exhaust and on-site fugitive dust	1.5	9.9	10.1	<0.1	11.1	2.7
	Off-site dust	---	---	---	---	0.7	0.2
	Total	**1.5**	**9.9**	**10.1**	**<0.1**	**11.8**	**2.8**
Year 2014	Exhaust and on-site fugitive dust	1.7	9.1	15.0	<0.1	4.4	1.3
	Off-site dust	---	---	---	---	1.2	0.33
	Total	**1.7**	**9.1**	**15.0**	**<0.1**	**5.6**	**1.6**
Year 2015	Exhaust and on-site fugitive dust	0.2	0.9	2.0	<0.1	0.5	0.1
	Off-site dust	---	---	---	---	0.2	0.0
	Total	**0.2**	**0.9**	**2.0**	**<0.1**	**0.7**	**0.1**
NEPA *de minimis* level		100	100	100	100	100	100
MDAQMD Threshold		25	25	100	25	15	15
Exceeds Threshold?		No	No	No	No	No	No

NOTE: Total maximum daily emissions may include a slight rounding error.

[a] Exhaust and on-site fugitive dust emissions were estimated by AECOM (2012) and off-site fugitive dust emissions from vehicle travel on paved roads were estimated by ESA (2012).

[b] PM10 and PM2.5 emissions account for various on-site dust control measures resulting in a control efficiency of 68% relative to uncontrolled emissions; other pollutant emissions do not account for emissions control reductions.

SOURCES: AECOM, 2012; ESA, 2012.

Table 4.2.10

ALTERNATIVE 2 MAXIMUM DAILY CONSTRUCTION EMISSIONS

Emission Source[a]	Maximum Daily Emissions (pounds/day)					
	VOC	NOx	CO	SOx	PM10[b]	PM2.5[b]
Off-road Equipment Exhaust	11	84	40	0.0	4	3
Vehicle Exhaust	10	50	122	0.2	3	3
On-site Fugitive Dust	0	---	0	---	112	23
Paved Road Fugitive Dust	0	---	0	---	12	3
Total Maximum Daily Emissions	21	135	162	0.2	131	32
MDAQMD Threshold	137	137	548	137	82	82
Exceeds Threshold?	No	No	No	No	Yes	No

NOTE: Total maximum daily NO_x emissions include a slight rounding error.

[a] Exhaust and on-site fugitive dust emissions were estimated by AECOM (2012) and off-site fugitive dust emissions from vehicle travel on paved roads were estimated by ESA (2012).

[b] PM10 and PM2.5 emissions account for various on-site dust control measures resulting in a control efficiency of 68 percent relative to uncontrolled emissions; other pollutant emissions do not account for emissions control reductions.

SOURCES: AECOM, 2012; ESA, 2012.

Operation and Maintenance

Due to the reduced sized of the alternative project, the generated pollution for this alternative would be roughly half the emissions produced from the proposed project. Under this proposed action the development area would be constructed on mature desert pavement in order to reduce potential environmental disruption.

4.2.11 Decommissioning

The decommissioning efforts under this alternative would produce similar effects as the proposed action at roughly half the magnitude of the proposed action.

4.2.12 No Project

Under the "no project" alternative there would be no significant change from the existing conditions

4.2.13 Cumulative Impacts

The long term project operations and maintenance would not cause an increase in emissions that would exceed the Mojave Desert Air Quality Management District standard thresholds. In addition, the fugitive dust control plan described below could limit the impacts of long-term fugitive dust emissions.

Construction related activities would cause an increase in PM10 emissions that would exceed Mojave Desert Air Quality Management District. Impact would occur from short-term construction related PM10 emissions. The project would need to incorporate the mitigations listed below in order to avoid surpassing the PM10 air quality thresholds.

In regard to sensitive receptors, the residents are not close enough to the project site in order to be directly affected by the impacts of the construction or operation phases of the project.

4.2.14 Mitigation Measures

Mitigation Measure A1: Fugitive Dust Control Plan

In order to reduce construction and maintenance phase related air quality impacts, especially to PM10, the following shall be done:

- Main access road to substations and solar panels be paved in order to minimize dust from off-road vehicles
- No vehicle shall exceed more than 10 miles per hour on unpaved roads
- Visible speed limit signs are to be posted at entrance of roads leading to project site
- All construction equipment's tires shall be cleaned prior traveling on unpaved roads
- Paved roads surrounding construction site are to be paved daily
- All unpaved exists from site shall be graveled or treated to prevent track out to public roads

- All unpaved roads shall be stabilized with non-toxic soil stabilizer or soil weighing agent in order to compact road and prevent fugitive dust emissions. California Air Resource Board Approved soil stabilizers shall be used to ensure stabilizers do not damage the soil.

Mitigation Measure A2: Efficient Construction Fleet

Mandate that all off-road equipment (25 horsepower or greater) used in the project shall achieve a fleet-wide average reduction of 50% when compared to most recent California Air Resource Board's fleet averages in PM10 production and a 20% reduction of NO emissions.

Permissible options for lowering emissions include the following: use of low-emission diesel products, late model engines, alternative fuel sources, and after-treatment products.

4.2.15 Residual Impacts after Mitigation

The impacts would substantially reduce the short-term of PM10 emissions, likely near Mojave Desert Air Quality Management District standards, however they may fall short of standards even after mitigation is adopted.

4.3 Biological Resources

This analysis of potential impacts of the Proposed Action and Alternatives to vegetation and wildlife resources relies on a literature review, biological review, and coordination with agencies like the USFWS. A literature review was conducted to determine the federal and state-listed endangered, threatened, rare, and special-status plant and animal species that have potential to occur within the project zone. The following literature listed was reviewed for this project:

1. Tetra Tech EC, Inc. and A. Karl. 2011a. Biological Resources Technical Report, McCoy Solar Energy Project, Riverside County, CA. Prepared for McCoy Solar, LLC, August 2011.
2. Tetra Tech EC, Inc. and A. Karl. 2011b. Fall 2011 Plants and Supplemental Wildlife Survey Report, McCoy Solar Energy Project, Riverside County, CA. Prepared for McCoy Solar, LLC, December 2011.
3. Tetra Tech EC, Inc. 2012. McCoy Solar Energy Project Response to Data Request. (January 11, 2012).

This section analyzes potential impacts to vegetation and wildlife resources from Project construction, operation and maintenance, and decommissioning. This analysis also provides information of the impact of special circumstance vegetation and wildlife . Direct, indirect, and cumulative impacts are analyzed and listed as well.

4.3.2 Proposed Measures

The following measures were proposed by to address potential effects to vegetation and wildlife resources. These measures were intended to reduce potential direct and indirect Project impacts to wildlife resources, specifically to desert tortoise and its habitat; however, they also would reduce Project impacts to vegetation resources. The impact analysis assumes that the applicable proposed measures would be implemented as part of the Project. They are as follows:

- **Biological Resources Mitigation and Monitoring Plan (BRMMP).** BRMMP will outline steps to implement the protection measures, note their implementation, and monitor the effectiveness of the measures. BRMMP will be submitted to the BLM and USFWS for approval prior to the start of ground disturbance.
- **Worker Environmental Training.** The project developers will prepare and implement site specific Worker Environmental Training to teach those working on the project about the biological resources near the Project. The training will be included in the BRMMP. Information will be presented and developed by the project biologist, before construction can begin. Training shall be mandatory for all project personnel. The training will focus on the biological resources, restrictions, protection measures, and individual responsibilities associated with the Project. Special emphasis will be focused on protection measures of the desert tortoise.
- **Construction Related Activities.** Existing roads will be utilized whenever possible, to avoid possible impacts that may occur. New and planned roads will not extend beyond the planned project area. Contractor equipment will be checked for leaks prior to operation and repaired as necessary. All vehicles and equipment will be in proper

working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills will be immediately cleaned up and the contaminated soil will be properly disposed of. Project personnel will look under vehicles and equipment for desert tortoises prior to movement. No equipment will be moved until the animal has left voluntarily or an AB removes it.

- **Water Application for Dust Control**. To keep dust and other particulate matter from entering the air, water will be applied to the construction area to dampen the soil.
- **Desert Tortoise Compensation.** To fully mitigate for habitat loss and potential take of desert tortoise, the Project Developer will provide compensatory mitigation at a 1:1 ratio for impacts to all Category 3 desert tortoise habitat in accordance with the NECO Plan (BLM, 2002).Since the construction of Unit 1, Unit 2, and the facilities would be phased, compensation obligations (e.g., security deposits and the actual funding or acquisition of mitigation land) should be apportioned as follows:
    - Unit 1: 2,194 acres at a 1:1 ratio.
    - Unit 2: 2,598 acres at a 1:1 ratio.
    - Linear facilities: 106 acres at a 1:1 ratio.
- **Desert Tortoise Exclusion Fencing**. Prior to construction, the entire solar plant site will be fenced with a permanent tortoise exclusion fence per current USFWS requirements. This is to deliberately keep tortoises out of the project area during construction and operation of the plant.
- **Construction Speed Limits.** To minimize the chance of a vehicle strike on an animal during construction, a mandated 25 MPH will be implemented on the entire site.

4.3.3 Alternative 1: Proposed Action

4.3.3-1 Direct and Indirect Impacts

Potential direct impacts on vegetation and wildlife include disruption, trampling, or removal of rooted vegetation. This could result in a reduction in the total acres of native vegetation and cause a dramatic decline in wildlife population.

Indirect impacts can occur later in time or be farther removed from the project site, while still being reasonably related to the project. Potential indirect impacts of the Project include the introduction of invasive species by various outside sources that compete with native species and can result in habitat degradation.

4.3.4 Alternative 2: Reduced Acreage

4.3.4-1 Direct and Indirect Impacts

The direct and indirect impacts of the Reduced Acreage Alternative on vegetation and wildlife resources would be similar, though roughly half the size of the Proposed Action. The types of

impacts that would occur under Alternative 2 similarly would result in the direct and permanent loss of all special-status plants and vegetation communities within the disturbance footprint, and indirect impacts to vegetation resources would be similar to those discussed for the Project. In addition to the similar loss in plant life, we can expect to see the same issues with wildlife in the area, but at a smaller footprint.

4.3.5 Alternative 3: No Action Alternative

Under this alternative, the project would not be approved by the BLM, and the area would remain managed by BLM laws and regulations.

4.5 Cultural Resources

Evaluation of potential impacts of the Proposed Action and alternatives on Cultural Resources is based on review of legal responsibilities outlined under NEPA, the NHPA, and other governing bodies. To carry out NEPA, the federal government has a "responsibility to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may… preserve important historic, cultural, and natural aspects of our national heritage…." (NEPA). NEPA requires the federal agency to analyze the impacts on cultural resources associated with a proposed action and alternatives. The analysis takes into account direct and indirect effects.

4.5.1 Area of Potential Effects

The regulations implementing NHPA define the Area of Potential Effects as the geographic area or areas within a project directly or indirectly cause changes in the area or use of historic properties. APE may be changed for purposes of cultural resources inventory to simplify the identification of resources that may be located near the APE. The APE for the Project has been defined as:

1. For direct effects, the APE is defined as all areas where Project activities would occur, including all Project components and alternatives. This area consists of the entire footprint, plus the buffer zones.
2. For indirect effects, the APE is defined as a 0.5-mile buffer beyond the initial footprint, to take into consideration resources whose settings could be negatively affected by the proposed Project development.

4.5.2 Proposed Measures

APMs address potential effects that are related to cultural resources were proposed. Upon review of said measures, BLM decided that these measures were not sufficiently detailed to be considered in this analysis.

4.5.3 Alternative 1: Proposed Action

4.5.3.1 Direct and Indirect Impacts

Within this project, the major impact to Cultural Resources is ground disturbances. Project Activities that could have an impact include:

1. General cutting and filling would disturb portions of the proposed plant site to a maximum depth of 20 feet.
2. In the solar array fields, foundations for trackers and fixed tilt mounting systems would cause ground disturbance down to a maximum depth of 7 feet below grade, and the solar module arrays would intrude into the flat landscape to a maximum height of 10 feet above grade.
3. Inverter packages and shade structures for Power Conversion Stations would reach a maximum height of 12 feet. Trenches excavated for cables would reach a depth of 3 feet. A typical building and water tank would be approximately 30 feet tall.

4. Gen-tie line monopole support towers would be a maximum of 120 feet tall with foundations 20 feet deep.

Using this method could possibly impact several archeological sites.

4.5.4 Alternative 2: Reduced Acreage

By utilizing this alternative, fewer archaeological sites would be disturbed by construction. Only one of these sites could be considered eligible for the NRHP.

4.5.6 Alternative 4: No Action Alternative

Under this alternative, the site would not see any change, therefore there would be no impact on Cultural Resources.

4.5.7 Mitigation Measures

The BLM's execution of a MOA to resolve these adverse effects will lead to avoidance, minimization, or mitigation of potential adverse effects to historic properties. The BLM shall work with Native American tribes to resolve any conflict that could possibly arise. To reduce the possibility of any impact, mitigation measures are as follows:

- BLM may require the relocation of project components to avoid or reduce damage to historical resources.
- In places where historic properties cannot be avoided from direct effects, the project personnel must comply with the proper mitigations.
- Construction within 100 feet of historic properties that require data recovery fieldwork shall not begin until authorized by the BLM.
- Archaeological monitoring will be performed at all times by a qualified on staff archaeologist

5.0 Other CEQUA Considerations

5.1 Significant and Unavoidable Environmental Impacts

Analysis of the environmental impacts of the proposed McCoy Solar Energy project and alternatives are discussed in Chapter 4 of this draft Environmental Impact Report. As required by the California Environmental Quality Act (CEQA), potentially feasible mitigation methods have been proposed to reduce significant environmental impacts to a level of less than significant. As required by the National Environmental Protection Act (NEPA), where potential adverse environmental impacts have been identified, mitigation measures are proposed, that when implemented would reduce the environmental impact. No unavoidable, or significant impacts were identified for the project or a project alternative.

5.2 Irreversible and Irretrievable Commitment of Resources

CEQA Guidelines Section 15125.2 and NEPA Regulations require a discussion of irreversible or irretrievable commitment of resources that would be caused by the implementation of a proposed project or an alternative.

Resources irreversibly or irretrievably to a proposed project are those used on a long-term or permanent basis. This includes the use of nonrenewable resources such as meal, wood, fuel, paper, aggregate, as well as other natural resources. These resources are considered to be irretrievable, as they would be used for a proposed action when they could have been conserved and use for other purposes. Another irreversible or irretrievable commitment of resources is the unavoidable destruction of natural resources that could limit the potential uses of a particular environment.

Construction of the proposed project or an alternative would commit nonrenewable resources to the project during its construction phase and ongoing utility services during project operations. During project operations nonrenewable power sources such as would be consumed for maintenance purposes, but they would be done so on a very limited basis.

5.3 Short-term Uses and Long-Term Productivity

NEPA Guidelines and the BLM NEPA Handbook require a discussion of the relationship between short-term uses and the long-term productivity of the environment from implementation of a proposed project or one of the action alternatives. “Short-term” refers to the total duration of project constriction, whereas “long-term” refers tot eh life of the project beyond the construction phase. The prosed project would involve trade-offs between long-term productivity and short-term uses of the environment.

The short-term uses of the environment as a result of the project and its built action alternatives would be similar to other solar energy developments. Short-term impacts associated with constriction activities are described throughout chapter 3 of this draft EIR. These can be compared to the long-term benefits for the proposed project and alternatives, all of which would

provide clean, renewable energy consistent with federal and state goals to increase production of renewable energy sources to reduce dependence on fossil fuels.

5.4 Growth Inducing Impacts

A project is considered growth inducing if it can foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines 15126.2(d)). This definition includes projects that would remove obstacles to population growth, such as by extending public services into areas that are not currently being served. Growth inducement can also be defined as an action that would encourage an increase in density of development in surrounding areas or encourage adjacent development. According to CEQA Guidelines 15126(d), growth should not be assumed to be beneficial, detrimental, or of little significance to the environment.

Construction of the solar facility would (at its peak) would result in 600 daily workers on the site until construction is completed, then the facility will require 20 full-time personnel. The increase in employment would be temporary and is not project to require the construction of additional housing. The construction will occur mostly on BLM land near the city of Blythe, CA and does not involve a development of a residential component that would result in direct population growth within the area. Furthermore, the project would no involve the development of any new roadways, water systems, or sewer systems, other than those designed specifically to serve the project. Infrastructure improvements to serve the project would be limited and would not be able to serve the surrounding areas. As such the proposed project would not induce significant population growth within the area.

Moreover, the proposed project would not induce population growth due to the following reasons:

- The additional energy would be used to ease the burdens of meetings existing energy demands within and beyond the area of the project
- The energy would be used to support already project growth
- The energy produced would be used to offset the use of fossil fuels

Therefore, this level of analysis is sufficient to inform the public and decision-makers of the growth inducing impacts of the project.

6.0 References

From BLM Technical Documents, for Air Quality:
http://www.blm.gov/style/medialib/blm/ca/pdf/palmsprings/Solar.Par.26747.File.dat/Vol2_McCoy%20PA-EIS_App-H-I.pdf

From TetraTech EC (From BLM site, for Biological Resources Tables):
http://www.blm.gov/style/medialib/blm/ca/pdf/palmsprings/Solar.Par.13141.File.dat/Appendix2_McCoy_ROD.pdf

From BLM Technical Documents, for Mitigation Measures:
http://www.blm.gov/style/medialib/blm/ca/pdf/palmsprings/Solar.Par.1544.File.dat/Appendix4_McCoy_ROD.pdf

From BLM Technical Documents, For Water Resources:
http://www.blm.gov/style/medialib/blm/ca/pdf/palmsprings/Solar.Par.7491.File.dat/Vol2_McCoy_PA-FEIS_App-G.pdf

From BLM Technical Documents, For Cultural Resources:
http://www.blm.gov/style/medialib/blm/ca/pdf/palmsprings/Solar.Par.36970.File.dat/Vol2_McCoy_PA-FEIS_App-J.pdf

From NextEra Energy, For Maps and General Information:
http://www.nexteraenergyresources.com/pdf_redesign/McCoy.pdf

7.0 Organizations/Persons Consulted and a List of Preparers with Appendices

Persons Consulted:

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Appendix:

http://www.mdaqmd.ca.gov/index.aspx?page=138