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5.10 SOCIOECONOMICS

5.10.1 Introduction

This Application for Certification (AFC) for the Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF or Project) has been prepared in accordance with the California Energy Commission's (CEC) Power Plant Site Certification Regulations (CEC-140-2008-001-REV1, current as of July 2008). In addition, this AFC includes elements necessary for the United States (U.S.) Bureau of Land Management (BLM) to permit the Project through the National Environmental Policy Act (NEPA). The "Applicant" for purposes of this AFC comprises Rio Mesa Solar I, LLC, Rio Mesa Solar II, LLC, and Rio Mesa Solar III, LLC, owners of the three separate solar plants and certain shared facilities being proposed. These three Delaware limited liability companies will hold equal one-third shares in the ownership of shared facilities and will separately own their respective plants. They are wholly owned by Rio Mesa Solar Holdings, LLC (a Delaware limited liability company) which is in turn wholly owned by BrightSource Energy, Inc. (BrightSource) a Delaware corporation and the ultimate parent company. The Applicant will use BrightSource's solar thermal technology for the Rio Mesa SEGF.

The proposed project site is situated on the Palo Verde Mesa in Riverside County, California, 13 miles southwest of the City of Blythe, and is located partially on private land and partially on public land administered by BLM. The project will include three solar concentrating thermal power plants and a shared common area to include shared systems. The first plant, a 250-megawatt (MW) (nominal) facility known as Rio Mesa I, will be constructed at the south end of the project and owned by Rio Mesa Solar I, LLC. The second plant, another 250 MW (nominal) facility known as Rio Mesa II, will be located in the central portion of the project site and owned by Rio Mesa Solar II, LLC. Rio Mesa III, a third 250 MW (nominal) facility, will be constructed in the northern portion of the project site and owned by Rio Mesa Solar III, LLC. These three plants will be connected via a common overhead 220 kilovolt (kV) generator tie-line (gen-tie line) to the Southern California Edison (SCE) Colorado River Substation (CRS) approximately 9.7 miles to the north.

Each plant will utilize a solar power boiler (referred to as a solar receiver steam generator or SRSG), located on top of a dedicated concrete tower, and solar field based on proprietary heliostat mirror technology developed by BrightSource. The reflecting area of an individual heliostat (which includes two mirrors) is about 19 square meters (205 square feet). The heliostat (mirror) fields will focus solar energy onto the SRSG which converts the solar energy to superheated steam. In each plant, a Rankine cycle non-reheat steam turbine receiving this superheated will be directly connected to a rotating generator that generates and pushes the electricity onto the transmission system steam. Each plant will generate electricity using solar energy as its primary fuel source. However, auxiliary boilers will be used to operate in parallel with the solar field during partial load conditions and occasionally in the afternoon when power is needed after the solar energy has diminished to a level that no longer will support solar generation of electricity. These auxiliary boilers will also assist with daily start-up of the power generation equipment and night time preservation.

This subsection addresses the socioeconomic impacts of the Rio Mesa SEGF. It describes the existing and planned socioeconomic uses within a project Study Area, as defined in depth in Section 5.10.3.2. The

offsite linear features evaluated for impacts to socioeconomics are the proposed common gen-tie line, the 33 kV service line, and the proposed access roads.

This subsection describes the applicable laws, ordinances, regulations, and standards (LORS) related to socioeconomics and environmental justice, and the environmental setting. It provides an analysis of the Project impacts that could occur as a result of Project construction and operation. This subsection also presents protection and mitigation measures that will avoid, minimize, or compensate for adverse impacts, when required. A list of agency contacts and permits that will be required is included at the end of the section.

5.10.2 Laws, Ordinances, Regulations, and Standards

The applicable federal, state, and local LORS related to socioeconomics and environmental justice are summarized in Table 5.10-1 and discussed below. The Project will be constructed and operated in compliance with all applicable socioeconomics and environmental justice LORS.

Table 5.10-1
Laws, Ordinances, Regulations, and Standards (LORS)

LORS	Applicability	AFC Section Explaining Conformance
Federal		
National Environmental Policy Act (NEPA) of 1969	NEPA establishes a public, interdisciplinary framework for federal decision-making and ensures that Federal agencies take environmental factors into account when considering federal actions.	5.10.2.1
Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241	Prohibits discrimination on the basis of race, color, or national origin	5.10.2.1
Executive Order (EO) 12898	Avoid disproportionate impacts to minority and low-income members of the community.	5.10.2.1 and 5.10.5.3
State		
Warren-Alquist State Energy Resources Conservation and Development Act, California Public Resources Code, §§ 25000, et seq.	Gives the California Energy Commission (CEC) licensing authority in lieu of state, regional, and local permits and requirements.	5.10.2.2
California Environmental Quality Act (CEQA) California Public Resources Code, Division 13, §§ 21000-21177, as amended 2010.	Requires all agencies of State government that regulate activities of private individuals, corporations, and public agencies, which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage.	5.10.2.2 and 5.10.4

Table 5.10-1
Laws, Ordinances, Regulations, and Standards (LORS)

LORS	Applicability	AFC Section Explaining Conformance
California Revenue and Taxation Code, § 73	Allows exclusion for certain types of solar energy systems installed before December 31, 2016.	5.10.2.2 and 5.10.4.3
Education Code § 17620	Allows a school district to levy a fee against any construction of an industrial facility be considered mitigating impacts on school facilities.	5.10.2.2 and 5.10.4.3
Government Code §§ 65995-65998	Establishes that the levy of a fee for construction of an industrial facility be considered mitigating impacts on school facilities.	5.10.2.2 and 5.10.4.3
Title 14 California Code of Regulations (CCR) § 15131	CEQA guidelines state that economic or social effects of a project shall not be treated as significant effects on the environment.	5.10.2.2 and 5.10.3
Local		
Riverside County General Plan (2003 and 2008 update)	Provides land use designations, goals, vision statements, and policies for the development and conservation of non-federal land within the unincorporated areas of Riverside County.	5.10.2.3
Palo Verde Valley Area Plan (2003)	Provides land use designations, goals, vision statements, and policies for the Palo Verde Valley.	5.10.2.3

AFC = Application for Certification
CEC = California Energy Commission
CEQA = California Environmental Quality Act
CCR = California Code of Regulations
EO = Executive Order
LORS = Laws, ordinances, regulations and standards
NEPA = National Environmental Protection Act

5.10.2.1 *Federal*

National Environmental Policy Act of 1969

The National Environmental Policy Act establishes a public, interdisciplinary framework for Federal agencies reviewing projects under their jurisdiction to consider environmental impacts. NEPAs basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

The BLM, as lead Federal agency for the Project, is responsible for preparation of an Environmental Impact Statement (EIS) in compliance with NEPA to evaluate the environmental impacts of the portions of the Rio Mesa SEGF on federal lands. The Rio Mesa Solar III plant and the Project gen-tie line are located on lands administered and managed by the BLM. NEPA compliance is required for these portions of the Project through preparation of a Draft and Final EIS. BLM is also responsible for Native American consultation, including government to government consultation.

The President's Council on Environmental Quality (CEQ) developed guidelines and procedures to assist Federal agencies with NEPA procedures so that environmental justice concerns are effectively identified and addressed. This includes guidelines for public participation, alternatives, and mitigation.

Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin by all Federal agencies or activities receiving federal financial assistance. The Project will require Federal agency approval (i.e., a right-of-way [ROW] grant from the BLM), and therefore, will require compliance with the Civil Rights Act.

Executive Order 12898

Presidential Executive Order (EO) 12898 of February 11, 1994, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," is intended to ensure that Federal departments and agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. This order requires United States Environmental Protection Agency (EPA) and all other Federal agencies (as well as State agencies receiving federal funds) to develop strategies to address environmental justice. Pursuant to EO 12898, Federal agencies ensure that part of their mission is to achieve of environmental justice and to allow for a meaningful opportunity to participate in the development of, compliance with, and enforcement of federal laws, regulations, and policies affecting human health or environment regardless of race, color, national origin, or income. EO 12898 extends to permits issued by Federal agencies. The Project will require Federal agency approval, and therefore, will require compliance with EO 12898 (EO 12898 1994).

The CEQ has oversight responsibility for the federal government's compliance with EO 12898 and NEPA. The CEQ, in consultation with the EPA and other agencies, has developed environmental justice guidance to assist Federal agencies with NEPA administration (CEQ, 1997).

5.10.2.2 *State*

Warren-Alquist Act

The California Public Resources Code (PRC) establishes the CEC as the decision-making authority over land use decisions and environmental determinations during the AFC process. This is in accordance with the Warren-Alquist Act, codified in §§ 25000 et seq. of the PRC. The CEC has exclusive jurisdiction over thermal power plant siting (50 MW or greater), including California Environmental Quality Act

(CEQA) implementation. The Project will demonstrate conformity with state, regional, and local laws, including land use laws.

Under the Warren-Alquist Act, the CEC's licensing process is legally equivalent to CEQA and is guided by CEQA regulations.

California Environmental Quality Act

The CEC will be the lead agency enforcing CEQA for the Project. Under California law, the CEC is responsible for reviewing the AFCs filed for projects, and also has the role of lead agency for the environmental review of these projects under CEQA (PRC, §§ 25500 et seq; PRC, §§21000 et seq.). The CEC conducts this review in accordance with the administrative adjudication provisions of the Administrative Procedure Act (5 United States Code, §§ 500 et. seq.) and its own regulations governing site certification proceedings (CCR, Title 20, §§ 1701 et seq.). These provisions require the staff to conduct an independent analysis of AFCs and prepare an independent assessment of a project's potential environmental impacts, feasible mitigation measures, and alternatives as part of this process.

The CEC considers the Staff Assessment(s), along with the environmental analysis provided by the Applicant, as well as input from interested local, regional, State, and Federal agencies, intervenors, and interested Native American tribes, in developing its final decision on whether to issue a license for a proposed project. The CEC has a certified regulatory program under CEQA that exempts the agency from having to draft an Environmental Impact Report (EIR) and, instead, requires a Final Staff Assessment (FSA), evidentiary hearings, and a decision based on the hearing record, which includes the staff's and other parties' assessments.

California Revenue and Taxation Code, § 73

California Revenue and Taxation § 73 allows property tax exclusion for certain types of solar energy systems installed before December 31, 2016. This section was amended in 2008 to include exemptions from active solar energy systems incorporated by an owner-builder in the initial construction of a new building that the owner-builder does not intend to occupy or use. Qualifying active solar energy systems are defined as those that are thermally isolated from living space or any other area where the energy is used, to provide for the collection, storage, or distribution of solar energy. These include solar space conditioning systems, solar water heating systems, active solar energy systems, solar process heating systems, photovoltaic (PV) systems, and solar thermal electric systems, and solar mechanical energy.

Components included under the exclusion include storage devices, power conditioning equipment, transfer equipment, and parts. Pipes and ducts that are used to carry both solar energy and energy derived from other sources qualify for the exemption only to the extent of 75 percent of their full cash value. Likewise, dual-use equipment for solar-electric systems qualifies for the exclusion only to the extent of 75 percent of its value.

The Riverside County Assessor will assess property tax on certain project buildings and structures, such as the administration, control building, and warehouse; heliostat assembly building; pad bonding buildings; mirror wash machine maintenance shed; and the switchyard control house.

Education Code §17620

Education Code § 17620 allows a school district to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district for the purpose of funding construction or reconstruction of school facilities, provided the district can show justification for the fees. California Government Code (GC) §65995 limits the fee to a statutory fee unless a school district conducts a Facility Needs Assessment (GC §65995.6) and meets certain conditions. The administering agent implementing school impact fees for the Project is the Palo Verde Unified School District (Palo Verde Unified).

California Government Code §§ 65995-65998 (amended by State Bill 50)

California GC §§ 65995-65998 limits fees, charges, dedications, or other requirements for the construction or reconstruction of school facilities. State Bill 50, adopted in 1998, imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development. In the case of industrial construction, the amount of fees and/or charges levied under Education Code § 17620 with support of a Facilities Needs Assessment may not exceed $0.31 per square foot of covered, enclosed space. Development of the Project may require school impact fees.

Title 14 California Code of Regulations (CCR) § 15131

The "Guidelines for Implementation of the CEQA", Title 14 CCR Chapter 3, §15131, states that economic or social effects of a project shall not be treated as significant effects on the environment. However, economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment.

5.10.2.3 *Local*

Riverside County General Plan

The Riverside County General Plan, originally adopted in 2003 and updated in 2008, consists of a Strategic Vision and the following elements: Land Use, Circulation, Multi-purpose Open Space, Safety, Noise, Housing, Air Quality, and Administration. The Riverside County General Plan sets forth county land use policies and guidance for implementation, and is augmented by more detailed Area Plans covering the county's territory. Area Plans provide a clear and more focused opportunity to enhance community identity within the county and stimulate quality of life at the community level.

Policies at the Riverside County General Plan and Area Plan levels implement the vision and goals of Riverside County. The Strategic Vision details the physical, environmental, and economic qualities that the County aspires to achieve by the year 2020. Using the Strategic Vision as the primary foundation, the County of Riverside General Plan establishes policies for development and conservation within the entire unincorporated County territory (Riverside, 2008).

The Riverside County General Plan does not have an element that specifically addresses public services and utilities. However, the Plan addresses safety issues through the Safety Element. Issues addressing open space and land use are discussed in the Plan's Multipurpose Open Space Element and the Land Use Element. These Elements are discussed further in Section 5.6, Land Use.

Policies at the Riverside County General Plan and Area Plan levels implement goals related to maintaining and improving socioeconomic conditions in the County. Table 5.10-2 provides the Riverside County General Plan's policy goals most relevant to socioeconomics for the Project.

Table 5.10-2
Riverside County General Plan and Palo Verde Valley Area Plan Socioeconomic Policies and Goals Relevant to the Project

Riverside County General Plan and Palo Verde Area Plan		Conformance
Multi-Purpose Open Space Element Policy OS 15.2	Development of renewable resources should be encouraged.	Yes: The Project will provide 750 MW of renewable solar energy.
Land Use Element Policy LU 8.2	Requires that development protect environmental resources by compliance with the Multipurpose Open Space Element of the RCGP and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.	Yes: The Project will comply with NEPA and CEQA and all necessary compliance measures.
Land Use Element Policy LU 9.1	Requires that new development contribute their fair share to fund infrastructure and public facilities such as police and fire facilities.	Yes: The Project is not anticipated to cause additional impacts to public facilities.
Safety Element Policy S 1.1	Mitigate hazard impacts through adoption and strict enforcement of current building codes, which will be amended as necessary when local deficiencies are identified.	Yes: The Project will comply with all federal, state, and local regulations and codes.
Safety Element Policy S 5.1	All proposed construction shall meet minimum standards for fire safety as defined in the County Building or Fire Codes, or by County zoning, or as dictated by the Building Official or the Transportation Land Management Agency based on building type, design, occupancy, and use.	Yes: The Project will comply with Riverside County Ordinance No. 787.6 which adopts the 2010 California Fire Code to regulate and govern the safeguarding of life and property from fire and explosion hazards and from conditions hazardous to life or property in the occupancy of building and premises located in the County of Riverside.
Safety Element Policy S 6.1	Comply with federal and state laws pertaining to the management of hazardous wastes and materials.	Yes: The Project will comply with provisions for storage and handling of hazardous materials.

Table 5.10-2
Riverside County General Plan and Palo Verde Valley Area Plan Socioeconomic Policies and Goals Relevant to the Project

Riverside County General Plan and Palo Verde Area Plan		Conformance
Palo Verde Valley Area Plan 2003		
PVVAP 14.1	Protect life and property from wildfire hazards through adherence to the Fire Hazards section of the General Plan Safety Element.	Yes: The Project will comply with all federal, state, and local regulations and codes. The Project will comply with Riverside County Ordinance No. 787.6 pertaining to fire codes and regulations.

Sources: County of Riverside General Plan 2008; Palo Verde Valley Area Plan 2003

CEQA	=	California Environmental Quality Act	NEPA	=	National Environmental Policy Act
FAA	=	Federal Aviation Administration	PVVAP	=	Palo Verde Valley Area Plan
LU	=	Land Use	OS	=	Open Space

Palo Verde Valley Area Plan

The Palo Verde Valley Area Plan guides the evolving character of the agricultural and desert area. The Plan's focus is on the Colorado River and is anchored in the City of Blythe. This planning area borders Imperial County to the south. Desert lands border the area to the north and west. The Colorado River borders the planning area to the east. The project site is located on the Palo Verde Mesa within the Palo Verde Valley. The Palo Verde Valley Area Plan is an extension of the Riverside County General Plan and vision. Table 5.10-2 provides the Palo Verde Valley Area Plan's policy goals most relevant to socioeconomics for the Project.

5.10.3 Affected Environment

This subsection discusses existing socioeconomic conditions in the area potentially affected by the Project. The following analysis will focus primarily on existing socioeconomic conditions within the Study Area, as defined below in Section 5.10.3.2.

5.10.3.1 *Project Site Description*

The project site is located in eastern Riverside County approximately 13 miles southwest of Blythe, California. The project site is located partially on private land and partially on public land administered by BLM (see Figures in Sections 1.0 and 2.0). The project site and linear features are located in the Palo Verde Valley area, south of the Interstate 10 (I-10) freeway, west of State Route 78, and north of the Imperial County line, on the Palo Verde Mesa. An existing SCE transmission line runs along State Route 78 through agricultural fields. The TransCanada Gas Transmission Company (TCGT) North Baja Transmission Line borders the site on the east. Bradshaw Trail intersects the project site at an east-west orientation. The Colorado River borders eastern Riverside County and Arizona approximately five miles to the southeast at its closest point to the project site.

Riverside is bordered by San Bernardino County to the north, Orange County to the west, San Diego and Imperial counties to the south, and Arizona to the east. Unemployment levels in this general study area are as high as 28 percent. This is discussed in further detail in Section 5.10.3.5.

The Palo Verde Valley is situated between the Palo Verde Mesa to the west and the Colorado River to the east, in eastern Riverside County. The area is comprised primarily of open space and agricultural land. There are some very low density residential areas near the project site. Palo Verde is the closest community to the project site, which is approximately 2.3 miles east of the southeast corner of the project site boundary on the border of Riverside and Imperial counties. See Section 5.3, Cultural Resources, for a historical context of the Palo Verde Valley.

5.10.3.2 *Study Area*

The Study Area for the purposes of socioeconomic analysis will include the counties and communities within an approximate two-hour commute from the project site (see Figure 5.10-1). The Electric Power Research Institute (EPRI) conducted a study in 1982 suggesting that construction workers may commute up to two hours each direction from their communities rather than relocate (Gilmore, et al. 1982). This is a general assumption and it is possible that workers may travel to the project site from even greater distances. However, a two-hour commute time is a conservative assumption based on the EPRI study and the relatively rural location of the project site.[1]

Using an approximate two-hour commute shed, the regional scale of the Study Area consists of eastern Riverside County and portions of Imperial County, California. La Paz, Maricopa, and Yuma Counties in Arizona are also located within a two-hour commute. To simplify the analysis, those communities within the region with populations of 40,000 individuals or more that are within an approximate two-hour commute of the project site, will be specifically evaluated. These include the communities of Coachella, Palm Springs, Palm Desert, Cathedral City, and Indio in Riverside County, California; El Centro and Calexico in Imperial County, California; the City of Yuma in Yuma County, Arizona; and Lake Havasu City in Mohave County, Arizona.

An analysis at the local level will include the communities of Blythe City, Palo Verde, and Ripley in California, and Cibola, Ehrenburg, and Quartzite in Arizona, as these are the closest communities to the project site within the Study Area. Other communities within eastern Riverside County within the Study Area were specifically evaluated as well, regardless of population, due to the county's jurisdiction over the Project.

Some outlying rural areas of San Diego and San Bernardino Counties in California and Maricopa County in Arizona exist within a two-hour commute. Additionally, some construction workers will be drawn to work on the Project from areas in San Bernardino and Los Angeles counties in California, and Maricopa County in Arizona (see Section 5.10.3.5). Information for these outlying areas is provided on a county scale, but is not considered for analysis as part of the Study Area.

[1] Google Maps was used to establish approximate distances from communities within a two-hour commute to the project site.

5.10.3.3 *Population*

The Project is located in Riverside County, the fourth largest county in terms of area in California. According to the California Department of Finance (DOF), the population in Riverside County grew from 1,545,387 in 2000 to 2,189,641 in 2010, which represents an annual growth rate of 4.17 percent. Riverside County grew at much faster rate than California as a whole and the other counties in the Study Area. Between 2000 and 2010 Imperial, San Diego, and San Bernardino counties grew at 2.3, 1.0, and 1.9 percent, respectively.

Population growth in Riverside County is expected to slow during the next four decades. The growth rate is projected to be 3.3 percent annually from 2010 to 2020 and to fall to 2.1 percent from 2020 to 2030. The growth rate between 2030 and 2050 is projected to climb back up to 3.5 percent per year (California DOF, 2010). The California DOF projections developed from 2010 to 2020 show that Riverside County will grow at a higher annual rate (3.3 percent) than the rate of California (1.3 percent), and second only to Imperial County (3.7 percent).

The cities in Riverside County that experienced the largest annual growth between 2000 and 2010 are Coachella, La Quinta, Indio, and Rancho Mirage, at 7.91, 5.81, 5.48, and 3.0 percent, respectively. The communities closest to the project site grew at a much slower rate, with the exception of Cibola and Palo Verde.

Population estimates, future projections, and average annual growth rates by county are summarized in Table 5.10-3.

Table 5.10-4 illustrates the populations of the cities within the Study Area. Populations from 2000 and 2010 are listed with an average annual growth number and rate for the communities within the Study Area.

Table 5.10-3
Population Projection and Average Annual Growth

Jurisdiction	2000	2010	Average Annual Growth Rate 2000-2010	Total 2020 Projection	Average Annual Growth Rate 2010-2020	Total 2030 Projection	*Average Annual Growth Rate 2020-2030	Total 2050 Projection	*Average Annual Growth Rate 2030-2050
California									
Riverside County	1,545,387	2,189,641	4.17%	2,904,848	3.3%	3,507,498	2.1%	4,730,922	3.5%
Imperial County	142,361	174,528	2.26%	239,149	3.7%	283,693	1.9%	387,763	3.7%
San Diego County	2,813,833	3,095,313	1.0%	3,550,714	1.5%	3,950,757	1.1%	4,508,728	1.4%
San Bernardino County	1,709,434	2,035,210	1.91%	2,581,371	2.7%	2,958,939	1.5%	3,662,193	2.4%
California	33,871,648	37,253,956	1.0%	42,206,743	1.3%	46,444,861	1.0%	59,507,876	2.8%
Arizona									
La Paz County	19,579	19,770	0.1%	25,487	2.9%	28,074	1.1%	30,909	1.0%
Maricopa County	3,097,620	4,063,802	3.1%	5,276,074	3.0%	6,207,980	1.8%	7,661,423	2.3%
Yuma County	160,656	198,637	2.4%	271,361	3.7%	316,158	1.7%	377,598	1.9%
Arizona	5,130,632	6,999,810	3.6%	8,779,567	2.5%	10,347,543	1.8%	12,830,829	2.4%

Source: California Department of Finance, 2010a; Arizona Department of Economic Security, 2011.

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Table 5.10-4
Projected Population in the Study Area

Jurisdiction	2000	2010	Average Growth Number and Annual Growth Rate 2000-2010	
Riverside County, California			**Total Number**	**Annual Percent**
Riverside County, CA	1,545,387	2,189,641	644,254	4.17%
Ripley(1),(2)	N/A	692	-	-
Blythe(2)	20,463	20,817	354	0.17%
Coachella	22,724	40,704	17,980	7.91%
Indio	49,116	76,036	26,920	5.48%
Indian Wells	3,816	4,958	1,142	2.99%
La Quinta	23,694	37,467	13,773	5.81%
Palm Desert	41,155	48,445	7,290	1.77%
Rancho Mirage	13,249	17,218	3,969	3.0%
Cathedral City	42,647	51,200	8,553	2.01%
Palm Springs	42,807	44,552	1,745	.41%
Imperial County, California				
Imperial County, CA	142,361	174,528	32,167	2.26%
Palo Verde(2)	236	171	-65	-3.8%
El Centro	37,835	42,598	4,763	1.26%
Calexico(3)	27,109	38,572	11,463	4.23%
La Paz County, Arizona				
La Paz County, AZ	19,715	20,489	774	.39%
Cibola(2)	163	250	87	5.3%
Ehrenberg(2)	1,357	1,470	113	.01%
Quartzite(2)	3,354	3,677	323	.96%
Yuma County, Arizona				
Yuma County, AZ	160,026	195,51	35,725	2.23%
Yuma	77,515	93,064	15,549	2.01%
Mohave County, Arizona				
Mohave County, AZ	155,032	200,186	45,154	2.91%
Lake Havasu City	41,938	52,527	10,589	2.52%

Sources: California DOF, 2010b; Arizona DES, 2011; U.S. Census, 2000a; U.S. Census, 2010a (Census 2000 counts include changes from the Count Question Resolution program. Data may not match data published in Census 2000 reports.); U.S. Census, 2010b.

Notes: Cities are shown (Riverside County and La Paz County) in order of their relative distance from the project site. Data from California DOF, 2010b Census 2000 counts include changes from the Count Question Resolution program. Data may not match data published in Census 2000 reports.

(1) Data for 2000 not available.

(2) These are the communities nearest the project site that represent the local level of the Study Area.

(3) This community was incorporated as part of the Study Area because the population as of 2010 was approximately 40,000.

5.10.3.4 *Housing*

Permanent and temporary housing units within the Study Area are analyzed below. Housing within the Study Area may be used by workers during construction and operation of the Project.

Permanent Housing Resources

Current vacant housing estimates and vacancy rates are presented for communities and counties within the Study Area in Table 5.10-5. Vacancy rates are high in the Study Area, with a total of 527,651 vacant units in the counties within the Study Area. In 2010, Riverside County had a vacancy rate of 14.3 percent; of the 800,707 total units available, 114,447 were vacant.[2] Of the other counties in the Study Area, La Paz County in Arizona had the highest vacancy rate of 39.8 percent, and San Diego County had the lowest vacancy rate of 6.7 percent.

Due to the current economic downturn, the communities closest to the project site had very high vacancy rates in 2010, ranging from 17.5 to 60.2 percent with a combined total of 2,936 vacant units. The communities throughout the entire Study Area had vacancy rates ranging from 5 to 60.2 percent, with a total of 72,831 vacant units (see Table 5.10-5).

Table 5.10-5
Housing Estimates

Jurisdiction	Total Housing Units	Occupied Housing Units	Vacant Housing Units (1)	Vacancy Rate
Riverside County, CA	800,707	686,260	114,447	14.3%
Ripley(2)	295	218	77	26.1%
Blythe	5,473	4,513	960	17.5%
Coachella	9,903	8,998	905	9.1%
Indio	28,971	23,378	5,593	19.3%
Indian Wells	5,137	2,745	2,392	46.6%
La Quinta	23,489	14,820	8,669	36.9%
Palm Desert	37,073	23,117	13,956	37.6%
Rancho Mirage	14,243	8,829	5,414	38.0%
Cathedral City	20,995	17,047	3,948	18.8%
Palm Springs	34,794	22,746	12,048	34.6%
Imperial County, CA	56,067	49,126	6,941	12.4%
Palo Verde(2)	211	84	127	60.2%
El Centro	14,476	13,108	1,368	9.5%

[2] Vacant housing units are defined as for rent; not occupied; for sale only; sold, not occupied; for seasonal, recreational, or occasional use; and all other vacancies (California DOF, 2010c).

Table 5.10-5
Housing Estimates

Jurisdiction	Total Housing Units	Occupied Housing Units	Vacant Housing Units (1)	Vacancy Rate
Calexico	10,651	10,116	535	5%
La Paz County, AZ	15,846	9,530	6,316	39.8%
Cibola(2)	210	99	111	52.8%
Ehrenberg(2)	655	327	328	50%
Quartzite	3,174	1,841	1,333	41.9%
Yuma County, AZ	86,878	70,289	16,589	19%
Yuma	39,754	33,570	6,184	15.5%
Mohave County, AZ	100,428	75,262	25,166	25%
Lake Havasu City	32,304	23,421	8,883	27.4%
San Diego County, CA	1,164,786	1,086,865	77,921	6.7%
San Bernardino County, CA	699,637	611,618	88,019	12.6%
Maricopa County, AZ	1, 530,720	1,338,468	192,252	12.5%
California	13,680,081	12,577,498	1,102,583	8.1%

Sources: California DOF, 2010c; U.S. Census 2010c.

Notes:

(1) Vacant housing units are defined as for rent; rented, not occupied; for sale only; sold, not occupied; for seasonal, recreational, or occasional use; and all other vacancies.

(2) Denotes a Census Designated Place (CDP). A CDP is a recognizable community or concentration of population that is not an incorporated place. CDPs are usually included with incorporated places in census place tabulations. CDPs are recognizable unincorporated communities identified by the Census Bureau with the help of local governments.

Temporary Housing Resources

Temporary housing will likely be used by construction workers. Temporary housing in the form of hotel and motel rooms are present throughout the Study Area, and are typically concentrated in urban areas or near major transportation facilities. Other types of temporary housing units within the Study Area that may be used include campgrounds and RV parks, as well as the vacant housing units detailed further below.

Hotel and Motel Accommodations

A list of hotels and motels with 15 or more rooms identified in the Study Area are listed below in Table 5.10-6. Many of these communities have relatively small populations, and were therefore not included as communities evaluated as part of the Study Area. However, many of these communities could provide temporary housing options for construction workers.

Data compiled by Smith Travel Research identified 21 hotels/motels with 15 or more available rooms (a total of 1,032 rooms) in the City of Blythe, California. Additionally, there is one hotel in Ehrenberg, Arizona with 84 rooms and one hotel in Quartzite, Arizona with 50 rooms available (STR, 2011a; STR, 2011b).

There are a substantial number of hotels and motels with 15 or more rooms identified in the communities within the Study Area as indicated in Table 5.10-6. An additional 210 hotels, with a total of 20,813 available rooms, were identified in these communities located within the Study Area. There are a total of 233 hotels or motels and 21,979 rooms within the Study Area, which suggests that there are significant hotel or motel rooms available for use as temporary housing (STR, 2011a; STR, 2011b; and STR 2011c).

Table 5.10-6
Availability of Hotels and Motels in the Study Area

Community	(1) Hotels and Motels	
	Number of Hotels/Motels	Total Number of Rooms
Blythe, CA	21	1,032
Ehrenberg, AZ	1	84
Quartzite, AZ	1	50
Indio, CA	13	808
Indian Wells, CA	5	1,508
Cathedral City, CA	5	719
Palm Desert, CA	14	2,300
La Quinta, CA	4	1,098
Palm Springs, CA	55	5,232
Rancho Mirage, CA	6	1,598
Salome, AZ	1	19
Parker, AZ	9	468
Lake Havasu, AZ	23	1,475
Yuma, AZ	39	3,521
Brawley, CA	5	297
Calexico, CA	7	291
El Centro, CA	24	1,479
Totals	**233**	**21,979**

Sources: STR, 2011a; STR, 2011b; STR, 2011c; and STR, 2011d.

Notes:
(1) Hotels and Motels with a minimum of 15 rooms. Hotel and motel data were provided by Smith Travel Research (STR) for communities within an approximate two-hour drive time to the project site.

RV Parks/Campgrounds

Table 5.10-7 shows the availability of RV park spaces and BLM-operated campground spaces within the Study Area. Campgrounds and RV parks offer less expensive overnight options than hotels and motels. These temporary housing resources will likely be used primarily by construction workers. For construction workers that own their own RVs or trailers, RV parks with utility hook-ups and other amenities could serve as a long-term rental option for workers. There are at least five RV parks located near Blythe, California, with a combined total of 777 spaces. RV parks are primarily located along the Colorado River and receive higher levels of use during the summer months. Additional RV parks are located in Quartzsite, Arizona. There are 15 RV parks located in the vicinity of Quartzite, with a combined total of 1,876 spaces.

BLM operates two campgrounds approximately five miles west of the project site: Wiley's Well Campground (21 campsites) and Coon Hollow Campground (28 campsites), both located south of I-10 on Wiley's Well Road within the Mule Mountains Long-Term Visitor Area (LVTA). Both of these facilities operate year-round and offer campsites, picnic tables, grills, shade ramadas, and handicapped-accessible vault toilets (BLM, 2002; Wildernet, 2011; Figure 5.6-2). Vehicle camping is allowed anywhere on BLM-administered land with 300 feet of any posted Open Route, except for special areas with specific camping regulations. Facilities are not provided in camping locations on BLM-administered land, outside of the two campgrounds, and there is a 14-day limit for camping in any one location. After 14 days, campers wishing to stay in the area are required to move 25 miles from their original camping location.

Long-term camping is available by permit in LTVAs on BLM lands. There are two LTVA's within the vicinity of the project site: Mule Mountains (2,554 acres) and Midland (512 acres) (see Figure 5.6-2 for the location of these LTVAs). The Mule Mountains and Midland LTVAs provide long-term camping opportunities. The Midland LTVA is located north of the city of Blythe. LTVAs accommodate visitors who wish to camp for as long as seven consecutive months. Winter visitors who wish to stay in a LTVA must purchase either a long term permit for $180 that is valid for the entire season or any part of the season (which runs from September 15 through April 15), or a short term permit for $40 that is valid for 14 consecutive days. Permit holders may move from one LTVA to another within the permitted timeframe.

Table 5.10-7
Availability of RV Parks and BLM Campground Spaces in the Study Area

Community	RV Spaces	Campground Spaces
Blythe, CA	777	-
Quartzite, AZ	1,876	-
Mule Mountains LTVA		
Wiley's Well Campground	0	21
Coon Hollow Campground	0	28
Totals	**2,653**	**49**

5.10.3.5 *Economy and Jobs*

Study Area employment statistics by county are provided for 2010 in Tables 5.10-8a, 5.10-8b, and 5.10-8c.

The largest employment sector in the California counties within the Study Area was the government, which ranged from 18.37 to 29.06 percent. The construction sector ranged from 2.05 to 6.7 percent, while transportation, warehousing, and utilities ranged from 2.23 to 16.27 percent.

The largest employment sector in La Paz and Yuma counties was the government, in Maricopa County it was educational and health services, and in Mohave it was retail trade. The construction sector ranged from 4.42 to 9.71 percent in all Arizona counties within the Study Area, while transportation, warehousing, and utilities was relatively low, ranging from 2.39 to 4.19 percent.

Table 5.10-8a
Riverside and Imperial County Employment by Industry Sector

Industry Group	Riverside County Employment		Imperial County Employment		California Employment	
	Total	Percent of Total	Total	Percent of Total	Total	Percent of Total
Agriculture	12,800	2.38%	10,500	16.58%	381,600	2.67%
Natural Resources, Mining, and Construction	36,000	6.7%	1,300	2.05%	586,600	4.1%
Manufacturing	38,000	7.08%	2,600	4.1%	1,242,400	8.7%
Transportation, Warehousing, and Utilities	19,500	3.63%	10,300	16.27%	464,900	3.25%
Wholesale Trade	19,100	3.55%	1,600	2.52%	643,200	4.5%
Retail Trade	78,200	14.57%	6,800	10.74%	1,508,800	10.56%
Information	10,200	1.9%	400	0.63%	429,000	3%
Financial Activities	19,300	3.59%	1,300	2.05%	759,800	5.32%
Professional and Business Services	50,600	9.42%	2,400	3.79%	2,069,400	14.49%
Educational and Health Services	58,600	10.91%	3,700	5.84%	1,786,900	12.51%
Leisure and Hospitality	68,500	12.76%	3,300	5.21%	1,493,700	10.46%
All Other Services	18,100	3.37%	70	1.1%	484,700	3.39%
Government	107,800	20.08%	18,400	29.06%	2,427,100	16.99%
Total*	**536,700**	**100(1)**	**63,300**	**100%(1)**	**14,278,100**	**100%(1)**

Source: California EDD, 2011b.
Notes:
Data presented in this table is reflective of the total of this table
(1)There is a very slight margin of error due to rounding.

Table 5.10-8b
San Diego and San Bernardino County Employment by Industry Sector

Industry Group	San Diego County Employment		San Bernardino County Employment		California Employment	
	Total	Percent of Total	Total	Percent of Total	Total	Percent of Total
Agriculture	9,700	0.78%	2,100	0.35%	381,600	2.67%
Natural Resources, Mining, and Construction	55,900	4.54%	24,500	4.15%	586,600	4.1%
Manufacturing	92,400	7.51%	46,700	7.92%	1,242,400	8.7%
Transportation, Warehousing, and Utilities	27,500	2.23%	47,000	7.97%	464,900	3.25%
Wholesale Trade	39,200	3.18%	29,700	5.03%	643,200	4.5%
Retail Trade	130,000	10.56%	76,400	12.96%	1,508,800	10.56%
Information	25,200	2.04%	5,700	0.96%	429,000	3%
Financial Activities	67,100	5.45%	21,700	3.68%	759,800	5.32%
Professional and Business Services	208,000	16.91%	70,900	12.02%	2,069,400	14.49%
Educational and Health Services	147,100	11.96%	75,200	12.75%	1,786,900	12.51%
Leisure and Hospitality	154,600	12.57%	53,500	9.07%	1,493,700	10.46%
All Other Services	47,200	3.83%	19,500	3.3%	484,700	3.39%
Government	226,000	18.37%	116,500	19.76%	2,427,100	16.99%
Total	**1,229,900**	**100%(1)**	**589,400**	**100%(1)**	**14,278,100**	**100%(1)**

Source: California EDD, 2011b.

Notes:

Data presented in this table is reflective of the total of this table.

(1)There is a very slight margin of error due to rounding.

Table 5.10-8c
Arizona Counties Employment by Industry Sectors

Industry Group	La Paz County Employment		Yuma County Employment		Maricopa County Employment		Mohave County Employment	
	Total	Percent of Total	Total	Percent of Total	Total	Percent of Total	Total	Percent of Total
Agriculture	309	5.65%	3,205	5.2%	6,636	0.36%	551	0.96%
Natural Resources, Mining, and Construction	242(1)	4.42%	4,046	6.56%	132,509	7.33%	5,570	9.71%
Manufacturing	155	2.83%	1,998	3.24%	116,296	6.44%	3,195	5.57%
Transportation, Warehousing, and Utilities	131(2)	2.39%	1,873	3.03%	75,742	4.19%	2,094	3.65%
Wholesale Trade	97	1.77%	1,580	2.56%	91,623	5.07%	1,134	1.97%
Retail Trade	1,314	24.04%	8,716	14.14%	240,829	13.33%	10,439	18.21%
Information	N/A(3)	N/A	562	0.91%	35,980	1.99%	1,060	1.84%
Financial Activities	84	1.53%	1,732	2.81%	156,616	8.67%	1,948	3.39%
Professional and Business Services	126	2.3%	2,263	3.67%	149,902	8.3%	2,340	4.08%
Educational and Health Services	330	6.03%	7,712	12.51%	257,311	14.25%	8,844	15.43%
Leisure and Hospitality	N/A(3)	N/A	6,009	9.75%	201,993	11.18%	7,168	12.5%
All Other Services	340	6.22%	3,303	5.36%	105,663	5.85%	4,280	7.46%
Government	2,337	42.76%	18,619	30.21%	234,517	12.98%	8,690	15.16%
Total	**5,465**	**100%(1)**	**61,618**	**100%(1)**	**1,805,617**	**100%(1)**	**57,313**	**100%(1)**

Source: U.S. BEA, 2009.

Notes:

All numbers are current as of 2009.

There is a very slight margin of error with percentages due to rounding.

(1) This number reflects construction only. Natural resources and mining numbers are not shown on the Bureau of Economic Analysis (BEA) table to avoid disclosure of confidential information; however, estimates for these items are included in the BEA totals (not included in this table).

(2) Utilities are not included in this number. This category of employment is estimated at less than 10 jobs, and, therefore is not included. This category is included in totals on the BEA table, but not included on this table.

(3) Numbers are not available under this category to avoid disclosure of confidential information.

Table 5.10-9a, 5.10-9b, 5.10-9c, and 5.10-9d present a 10-year employment projection of new jobs by industry for counties in the Study Area from 2008 to 2018. For the purposes of employment projections, the California Employment Development Department (EDD) groups Riverside and San Bernardino

counties as one statistical area; therefore, they are presented in Table 5.10-9a together. Imperial and San Diego County are listed separately. Employment by industry projections for California are included as well. Data for projected employment was not available for Arizona State or counties.

The highest number of new jobs projected for Riverside and San Bernardino counties is in educational and health services at a 22.8 percent increase. Construction and transportation and warehousing, and utilities sectors are projected to grow at 5 and 6.1 percent, respectively. In Imperial County educational and health services and natural resources, mining, and construction are anticipated to have the largest growth at 23.5 percent. San Diego County employment is projected to have the largest growth in educational and health services at 20.7 percent, while construction is projected to grow by 18.9 percent. The largest growth in California over this time period is anticipated to be in the educational and health services industry at 24.5 percent, while transportation, warehousing, and utilities and construction are projected to grow by 8.1 and 9 percent, respectively.

Table 5.10-9a
Riverside and San Bernardino County Industry Employment Projections

Industry	Average Employment		Employment Change	
	2008	2018	Numerical	Percent
Agriculture	15,900	15,200	-700	-4.4
Natural Resources and Mining	1,200	1,100	-100	-8.3
Construction	90,700	95,200	4,500	5.0
Manufacturing	106,900	97,300	-9,600	-9.0
Transportation and Warehousing, and Utilities (1)	70,200	74,500	4,300	6.1
Wholesale Trade	54,100	59,900	5,800	10.7
Retail Trade	168,600	182,600	14,000	8.3
Information	14,900	15,000	100	0.7
Financial Activities	46,700	45,400	-1,300	-2.8
Professional and Business Services	137,400	152,500	15,100	11.0
Educational and Health Services	131,500	161,500	30,000	22.8
Leisure and Hospitality	131,000	144,200	13,200	10.1
All Other Services	40,800	44,400	3,600	8.8
Government	229,900	247,300	17,400	7.6

Source: California EDD, 2010f.

Notes: (1) Industry sectors are grouped together in California Employment Development Department data sets.

Table 5.10-9b
Imperial County Industry Employment Projections

Industry	Average Employment		Employment Change	
	2008	2018	Numerical	Percent
Agriculture	11,400	11,700	300	2.6
Natural Resources, Mining, and Construction (1)	1,700	2,100	400	23.5
Manufacturing	2,500	2,900	400	16.0
Transportation, Warehousing, and Utilities (1)	1,800	2,000	200	11.1
Wholesale Trade	1,800	2,000	200	11.1
Retail Trade	7,600	8,400	800	10.5
Information	400	400	0	0.0
Financial Activities	1,300	1,400	100	7.7
Professional and Business Services	3,000	3,200	200	6.7
Educational and Health Services	3,400	4,200	800	23.5
Leisure and Hospitality	3,600	3,700	100	2.8
All Other Services	1,000	1,100	100	10.0
Government	18,500	19,700	1,200	6.5

Source: California EDD, 2010f.
Notes: (1) Industry sectors are grouped together in California Employment Development Department data sets.

Table 5.10-9c
San Diego County Industry Employment Projections

Industry	Average Employment		Employment Change	
	2008	2018	Numerical	Percent
Agriculture	10,500	10,700	200	1.9
Natural Resources and Mining	400	300	-100	-25.0
Construction	76,100	90,500	14,400	18.9
Manufacturing	102,800	105,000	2,200	2.1
Transportation and Warehousing	29,000	30,700	1,700	5.9
Utilities	6,900	7,300	400	5.8
Wholesale Trade	44,900	49,200	4,300	9.6
Retail Trade	142,000	152,400	10,400	7.3
Information	38,500	41,200	2,700	7.0
Financial Activities	75,200	79,600	4,400	5.9
Professional and Business Services	215,100	239,100	24,000	11.2
Educational and Health Services	137,300	165,700	28,400	20.7
Leisure and Hospitality	164,000	176,800	12,800	7.8
All Other Services	48,400	51,600	3,200	6.6
Government	225,100	246,200	21,100	9.4

Source: California EDD, 2010f.

Table 5.10-9d
California Industry Employment Projections

Industry	Average Employment		Employment Change	
	2008	2018	Numerical	Percent
Agriculture	389,300	386,500	-2,800	-0.7
Natural Resources and Mining	28,700	28,300	-400	-1.4
Construction	787,700	858,600	70,900	9.0
Manufacturing	1,425,300	1,292,400	-132,900	-9.3
Transportation, Warehousing, and Utilities (1)	504,600	545,600	41,000	8.1
Wholesale Trade	703,500	801,600	98,100	13.9
Retail Trade	1,640,900	1,798,800	157,900	9.6
Information	475,500	492,400	16,900	3.6
Financial Activities	850,300	847,900	-2,400	-0.3
Professional and Business Services	2,237,200	2,619,100	381,900	17.1
Educational and Health Services	1,724,700	2,146,400	421,700	24.5
Leisure and Hospitality	1,572,600	1,775,800	203,200	12.9
All Other Services	511,300	560,000	48,700	9.5
Government	2,518,900	2,725,600	206,700	8.2

Source: California EDD, 2010f.
Notes: (1) Industry sectors are grouped together in California Employment Development Department data sets.

Existing Unemployment Rates

Table 5.10-10 indicates the civilian labor force, total employment, number unemployed, and unemployment rate for the Study Area. As indicated in the table, unemployment rates within the Study Area are high on average, especially nearest the project site.

As of June 2011, Riverside County had a labor force of 900,200 individuals, of which 770,800 were employed, with an unemployment rate of 14.4 percent and 129,400 persons unemployed. San Bernardino had an unemployment rate of 14 percent, with 118,600 unemployed individuals. The local communities closest to the project site have unemployment rates higher than Riverside County's unemployment rate of 14.4 percent. Blythe had an unemployment rate in June, 2011 of 17.2 percent, with a total of 1,200 unemployed persons. Current data for Ripley, Palo Verde, Cibola, Ehrenberg, and Quartzite was not available.

Of the counties within the Study Area, Maricopa County, Arizona had the lowest unemployment rate (8.8 percent) and Imperial County, California had the highest unemployment rate (28.5 percent). The communities within the Study Area ranged from 5.1 to 31.6 percent unemployed.

California had a labor force of 18,071,900, of which 15,888,800 were employed. The unemployment rate in California as of June 2011 was 12.1 percent, with a total of 2,183,100 individuals unemployed. Of the

counties within the Study Area, only San Diego and Los Angeles counties had a lower unemployment rate than the state-wide average.

Table 5.10-10
Civilian Labor Force, Total Employment and Employment Rates for the Study Area

Jurisdiction	Civilian Labor Force	Total Employment	Number Unemployed	Unemployment Rate
Riverside County, CA	**900,200**	**770,800**	**129,400**	**14.4%**
(1)Ripley	-	-	-	-
Blythe	7,000	5,800	1,200	17.2%
Coachella	12,200	9,500	2,700	22.3%
Indio	27,000	22,800	4,200	15.5%
Indian Wells	1,700	1,600	100	5.1%
La Quinta	14,400	13,300	1,100	7.6%
Palm Desert	24,400	22,300	2,100	8.6%
Rancho Mirage	6,400	5,500	800	12.8%
Cathedral City	25,800	22,200	3,600	14.1%
Palm Springs	25,800	22,900	2,900	11.2%
Imperial County, CA	**76,000**	**54,300**	**21,600**	**28.5%**
(1)Palo Verde	-	-	-	-
El Centro	22,000	16,000	6,000	27.1%
Calexico	15,300	10,400	4,800	31.6%
La Paz County, AZ	**7,736**	**7,029**	**707**	**9.1%**
(1)Cibola	-	-	-	-
(1)Ehrenberg	-	-	-	-
(1)Quartzite	-	-	-	-
Yuma County, AZ	**92,098**	**66,954**	**25,144**	**27.3%**
Yuma	49,785	38,797	10,988	22.1%
Mohave County, AZ	**92,722**	**82,681**	**10,041**	**10.8%**
Lake Havasu City	24,534	22,690	1,844	7.5%
Maricopa County, AZ	**1,995,744**	**1,820,921**	**174,823**	**8.8%**
San Diego County, CA	**1,565,800**	**1,403,700**	**162,100**	**10.4%**
San Bernardino County, CA	**844,200**	**725,600**	**118,600**	**14.0%**
(2) Los Angeles County, CA	**4,837,800**	**4,237,600**	**600,200**	**12.4%**
California	18,071,900	15,888,800	2,183,100	12.1%

Sources: California EDD, 2011d, 2011e; BLS, 2011a; BLS 2011, b.

Notes: Data is current as of June of 2011 unless otherwise indicated for California and May of 2011 for Arizona.
(1) Data not available.
(2) Los Angeles County was added to this table because some union construction workers will be drawn from Los Angeles County as discussed below.

The California EDD does not project future unemployment rates. However, a review of recent monthly unemployment rates indicates that these rates have been trending upward throughout the Study Area in California (California EDD, 2011e). The Bureau of Labor Statistics does not project future unemployment rates for Arizona State or counties.

Project Related Employment

The employment projections for skilled workers (by craft) required for construction of the Project is provided, as estimated by the Applicant. Table 5.10-11a through 5.10-11h lists the availability of labor by craft union to be used for construction of the Project. Labor will come from labor unions affiliated with the Building and Construction Trades Council in Riverside, California. Availability of craft labor for the Project is analyzed based on seven critical crafts necessary to construct the Project: boilermakers, iron workers, pipefitters, carpenters, laborers, electricians, and operating engineers. These crafts will account for the majority of the construction work hours. The labor unions with jurisdiction over the location of the Project will be the primary source of manpower for the Project. Other labor unions in the surrounding area will be considered the secondary draw area for manpower, should it be required to attract additional workers from outside the primary home locals. This is distinguished on Table 5.10-11a through 5.10-11g. Sufficient manpower appears to be available through these unions to meet Project manpower requirements. The distance from these unions was measured to Blythe. As previously discussed, Blythe is approximately 13 miles from the project site.

As indicated in Tables 5.10-11a through 5.10-11g, some construction workers may be drawn from areas beyond a two-hour commuting distance. For example, the Iron Workers Local 416 will provide labor for project construction, which is located in Norwalk, California, approximately 224 miles from the Blythe area. Some construction workers will commute daily to the project site, even in excess of the generally assumed two-hour commuting distance. Others are expected to stay in temporary housing, either during the week and commute home over the weekend, for a portion or entirety of the construction phase of approximately 36 months[3]. The Applicant will make every effort to hire workers from unions with territory closest to the project site. Should construction workers located beyond the two-hour commute temporarily relocate to the project area for the duration of the 36-month construction period, or a portion thereof, it is anticipated that they will stay in temporary housing (hotels/motels, RV parks, vacant housing units, or campsites) closer to the project site and within an approximate two-hour driving distance.

[3] The entire project construction schedule is 36 months from Start Construction to Guaranteed Substantial Completion. This document shows a craft labor staffing starting table that begins in month 0 and completes in month 35 (36 months). There are 34 months of staffing as the craft resources are planned to be complete and demobilized prior to the Guaranteed Completion date.

Boilermakers:

Table 5.10-11a
Availability of Boilermakers

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Total Number of Welders	Miles to Blythe, CA
Primary Union							
92	Bloomington, CA	480	50	530	181	280	173
Secondary Unions							
627	Phoenix, AZ	400	80	480	330	275	150
4	Paige, AZ	500	80	580	216	300	420
549	Pittsburg, CA	340	78	418	230	141	581
	Total	**1,720**	**288**	**2,008**	**957**	**996**	--

Source: Construction Labor Survey, 2011

The Project will be within the territory of Boilermakers Union Local 92 (San Bernardino County), which covers southern portions of California and Nevada. Local 92 has 530 active members comprised of 480 journeymen and 50 apprentices. Of these 530 members, 280 are certified welders. As of July, 2011 Local 92 had 181 members out of work.

The remaining locals that comprise the secondary unions have a total active membership of 1,478 boilermakers; 776 workers are currently available.

Carpenters:

Table 5.10-11b
Availability of Carpenters

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
Primary Union						
944	San Bernardino, CA	1,998	500	2,498	800	172
Secondary Unions						
408	Phoenix, AZ	2,500	200	2,700	472	150
2361	Orange, CA	5,412	993	6,405	356	205
1780	Las Vegas, NV	713	124	837	83	209
1977	Las Vegas, NV	5,585	424	6,009	2,333	209
547	San Diego, CA	1,855	750	2,605	300	217
409	West Side, CA	2,198	248	2,446	380	224

Table 5.10-11b
Availability of Carpenters

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
1506	Lost Angeles, CA	1,553	340	1,893	219	224
630	Long Beach, CA	1,259	318	1,577	280	226
209	San Fernando, CA	1,619	583	2,202	220	244
150	Ventura, CA	1,700	300	2,000	250	290
743	Bakersfield, CA	269	80	349	70	336
713	Alameda, CA	2,954	264	3,218	370	581
152	Contra Costa, CA	3,733	337	4,070	564	598
35	San Rafael, CA	338	30	368	60	615
971	Reno, NV	1,180	48	1,228	149	624
751	Santa Rosa, CA	895	90	985	187	652
	Total	**35,761**	**5,629**	**41,390**	**7,093**	--

Source: Construction Labor Survey, 2011

The Project is within the territory of Local 944, located in San Bernardino, California. Total active membership for Local 944 as of July 2011, was 2,498 members comprised of 1,998 journey persons and 500 apprentices. There are 800 members currently unemployed. The secondary unions have a total active membership of 38,892 carpenters with 6,293 workers currently available.

Electricians:

Table 5.10-11c
Availability of Electricians – Inside Wiremen

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
Primary Union						
440	Riverside, CA	545	180	725	243	173
Secondary Unions						
640	Phoenix, AZ	1,595	144	1,739	202	150
477	San Bernardino, CA	511	169	680	100	172
357	Las Vegas, NV	3,500	500	4,000	150	209
441	Santa Ana, CA	1,800	360	2,160	349	210
569	San Diego, CA	1,345	243	1,588	352	217
11	Los Angeles, CA	3,520	880	4,400	1,050	224

Table 5.10-11c
Availability of Electricians – Inside Wiremen

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
518	Globe, AZ	195	20	215	39	238
570	Tucson, AZ	500	135	635	77	266
952	Ventura, CA	440	30	470	73	290
413	Santa Barbara, CA	276	49	325	24	318
428	Bakersfield, CA	500	100	600	63	336
595	Dublin, CA	1,300	193	1,493	240	572
617	San Mateo, CA	648	120	768	160	593
401	Reno, NV	430	48	478	140	623
551	Santa Rosa, CA	630	164	794	67	652
	Total	**17,735**	**3,335**	**21,070**	**3,329**	--

Source: Construction Labor Survey, 2011.
Notes: Numbers in above table represent Inside Wiremen only.

The Project is within the territory of Electrician's Union Local 440, located in Riverside, California. Local 440 has 725 active workers comprised of 545 journey persons and 180 apprentices. As of July 2011, the local had 243 members out of work.

Iron Workers:

Table 5.10-11d
Availability of Iron Workers

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
Primary Unions						
416	Norwalk, CA	1,645	255	1,900	289	224
433	Los Angeles, CA	2,780	558	3,338	1,037	224
Secondary Unions						
75	Phoenix, AZ	505	85	590	153	150
229	San Diego, CA	820	127	947	243	217
	Total	**5,750**	**1,025**	**6,775**	**1,722**	--

Source: Construction Labor Survey, 2011

The Project is within the territory of Iron Workers Locals 416 (Reinforcing) located in Norwalk and 433 (Structural) located in Los Angeles, both within Los Angeles County. Between the two primary locals, there are 4,425 journey persons and 813 apprentices, for a total membership combined of 5,238 Iron

Workers. As of July 2011, there were almost 1,300 Iron Workers available for work between these two locals.

Laborers:

Table 5.10-11e
Availability of Laborers

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
Primary Union						
1184	Riverside, CA	3,975	111	4,086	449	172
Secondary Unions						
383	Phoenix, AZ	780	0	780	175	150
783	San Bernardino, CA	1,133	47	1,180	234	172
872	Las Vegas, NV	3,900	56	3,956	1,200	209
89	San Diego, CA	1,815	110	1,925	187	217
802	Wilmington, CA	1,000	100	1,100	134	233
585	Ventura, CA	521	42	563	145	291
	Total	**13,124**	**466**	**13,590**	**2,524**	--

Source: Construction Labor Survey, 2011

The Laborer Union Local 1184 is located in Riverside. Local 1184 has 3,975 laborers and 111 apprentices, totaling 4,086 active members, with 449 out of work.

Operating Engineers:

Table 5.10-11f
Availability of Operating Engineers

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
Primary Union						
12	Pasadena, CA	8,000	500	8,500	2,500	221
Secondary Union						
428	Phoenix, AZ	1,325	33	1,358	445	150
	Total	**9,325**	**533**	**9,858**	**2,945**	--

Source: Construction Labor Survey, 2011

The Operating Engineers Union Local 12 (Los Angeles County) is the primary local for the Project, and has its territory in southern California. As of 2011, Local 12 had 8,000 operators and 500 apprentices,

totaling 8,500 active members, 2,500 of which are available for work. The secondary union had 445 operating engineers available for work.

Pipefitters:

Table 5.10-11g
Availability of Pipefitters

Local Union	City and State	Number of Journey Persons	Number of Apprentices	Total Active Members	Number Available 2011	Miles to Blythe, CA
Primary Union						
364	Colton, CA	900	145	1,045	135	170
Secondary Unions						
469	Phoenix, AZ	1,930	400	2,330	141	150
398	Pomona, CA	800	190	990	287	195
525	Las Vegas, NV	1,600	300	1,900	1,150	209
582	Santa Ana, CA	435	188	623	141	210
230	San Diego, CA	1,133	193	1,326	248	217
250	Los Angeles, CA	3,850	307	4,157	742	224
494	Long Beach, CA	140	60	200	50	226
761	Burbank, CA	725	249	974	224	232
484	Ventura, CA	241	43	284	109	290
114	Santa Barbara, CA	230	35	265	60	318
460	Bakersfield, CA	310	50	360	109	336
246	Fresno, CA	350	60	410	42	440
467	San Mateo, CA	754	130	884	179	591
342	Concord, CA	2,000	275	2,275	270	591
159	Martinez, CA	430	40	470	186	597
350	Reno, NV	445	62	507	224	623
	Total	**16,273**	**2,727**	**19,000**	**4,297**	--

Source: Construction Labor Survey, 2011

The Project is in the territory of Pipefitters Union Local 364, located in Colton (San Bernardino County), California. Local 364 has 1,045 active members comprised of 900 journey persons and 145 apprentices. As of July 2011, the local had 135 members out of work.

Additional Laborers:

In addition to the seven most critical crafts, project construction will also require employment of cement masons, millwrights, teamsters, insulation workers, brick layers, painters, and sheet metal workers.

Projected employment of boom crane operators is provided as well. These construction workers will be drawn from unions located in communities throughout Riverside, San Bernardino, and Los Angeles counties in California and Maricopa County in Arizona. Availability of these remaining construction crafts are indicated in Table 5.10-11h. The California EDD groups Riverside and San Bernardino counties as one statistical area; therefore, they are presented in Table 5.10-11h together.

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Table 5.10-11h
Availability of Workers by Craft

Location		Industry / Craft							
		Cement Masons and Concrete Finishers	Millwrights	Teamsters	Insulation Workers	Brick Layers	Painters, Construction and Maintenance	Sheet Metal Workers	Crane and Tower Operators
Riverside and San Bernardino County									
Average Employment	2008	3,780	120	24,030	N/A	2,020	5,040	1,070	150
	2018	3,910	120	26,300	N/A	2,100	5,120	990	130
Employment Change	Numerical	130	0	2,270	N/A	80	80	-80	-20
	Percent	3.4%	0.0%	9.4%	N/A	4.0%	1.6%	-7.5%	-13.3%
Imperial County									
Average Employment	2008	160	N/A	800	N/A	N/A	120	N/A	N/A
	2018	170	N/A	900	N/A	N/A	120	N/A	N/A
Employment Change	Numerical	10	N/A	100	N/A	N/A	0	N/A	N/A
	Percent	6.3%	N/A	12.5%	N/A	N/A	0.0%	N/A	N/A
San Diego County									
Average Employment	2008	1,640	N/A	8,910	310	820	7,660	2,240	140
	2018	1,880	N/A	10,160	370	950	8,310	2,450	140
Employment Change	Numerical	240	N/A	1,250	60	130	650	210	0
	Percent	14.6%	N/A	14.0%	19.4%	15.9%	8.5%	9.4%	0.0%
California									
Average Employment	2008	23,200	2,300	141,200	2,900	9,100	61,000	15,500	3,600
	2018	24,900	2,200	157,700	3,300	9,800	62,700	15,100	3,400
Employment Change	Numerical	1,700	-100	16,500	400	700	1,700	-400	-200
	Percent	7.3%	-4.3%	11.7%	13.8%	7.7%	2.8%	-2.6%	-5.6%

Source: California EDD, 2011f.
Notes:
N/A: Data not available. Employment projections by occupation not available for Arizona State or counties.

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5.10.3.6 *Fiscal Resources*

A summary of Riverside County's expenses and revenues for the fiscal year 2008-2009 is provided in Table 5.10-12. As the Project is located in Riverside County, the county is the local agency with taxing power. As such, it is the only county in the Study Area that may experience direct impacts from the Project in the form of additional expenses or revenues from taxes, permits, and other sources. Riverside County tax revenue for fiscal year 2008-2009 totaled approximately $2.68 billion, and expenditures totaled approximately $2.81 billion. The majority of expenses were on public safety, public assistance, and health.

Table 5.10-12
Riverside County Revenues and Expenses for Fiscal Year 2008-2009

Revenues and Expenses	Amount (Dollars)	Percent
Revenues	$2,680,333,700	(1)100%
Property Taxes	$514,346,645	19.19%
Other Taxes	$71,799,093	2.67%
Special Benefit Assessments	--	--
Licenses, Permits, Franchises	$39,348,972	1.46%
Fines, Forfeitures and Penalties	$108,175,457	4.03%
From Use of Money and Property	$73,250,069	2.73%
From Other Governmental Agencies	$1,434,272,696	53.51%
Charges for Current Services	$407,440,444	15.2%
Miscellaneous Revenue	$23,407,752	0.87%
Other Financing Sources	$4,372,947	0.16%
Transfers In	$3,919,625	0.14%
Expenses	$2,811,225,809	(1)100%
General Government	$266,618,304	9.48%
Public Safety	$1,130,507,154	40.21%
Public Ways and Facilities	$138,351,633	4.92%
Health	$386,588,688	13.75%
Sanitation	--	--
Public Assistance	$770,486,529	27.4%
Education	$15,730,714	0.55%
Recreation and Cultural	$280,226	0.01%
Debt Services	$88,262,561	3.13%
Transfers Out	$14,400,000	0.51%

Source: California State Controller, 2011
Notes:
(1) There are slight discrepancies due to rounding.

5.10.3.7 *Education*

The project site is located within the Palo Verde Unified School District. Palo Verde Unified serves Blythe and other remote areas of Riverside County and consists of three elementary schools, two middle schools, one high school, and a continuation high school. Palo Verde Unified is the district with authority to assess school impact fees from the Project. Table 5.10-13 includes the schools and enrollment in Palo Verde Unified.

Table 5.10-13
Summary of Schools and Enrollment in Palo Verde Unified School District, 2009-2010

School Name	Community	Grades	Location	Students
Felix J. Appleby Elementary School	Blythe	K – 6	401 S. Third Street	571
Margaret White Elementary School	Blythe	K – 6	610 N. Broadway	712
Ruth Brown Elementary School	Blythe	K – 6	241 N. Seventh Street	715
Blythe Middle School	Blythe	7 – 8	825 N. Lovekin Blvd.	562
Palo Verde Valley Community Day	Blythe	6 – 10	190 North Fifth Street	34
Palo Verde High School	Blythe	9 – 12	667 N. Lovekin Blvd.	927
Twin Palms Continuation	Blythe	9 – 12	811 West Chanslor Way	74

Source: National Center for Education Statistics, 2011

5.10.3.8 *Public Services and Facilities*

Law Enforcement

The Riverside County Sheriff Department provides law enforcement and public safety to the project site. The Sheriff Department services include traffic control and neighborhood policing, emergency calls, and crime prevention. The Riverside County Sherriff Department's Colorado River Station at 260 North Spring Street in Blythe provides service from the community of Red Cloud to the west, to the Arizona State line in the east, Imperial County line to the south, and San Bernardino County line to the north. Communities included in this service are Desert Center, Eagle Mountain, Blythe, Hayfield, Midland, Nicholls Warm Springs, Ripley, and the Colorado River area.

According to the Riverside County Sheriff's Department, the average response time to the project site depends on the location of the deputies on call and the severity of the situation, however response time is estimated at 20 minutes (Krisel, 2011).

The California Highway Patrol (CHP) is the primary law enforcement agency for state highways and roads. Services include law enforcement, traffic control, accident investigation, and the management of hazardous materials spill incidents.

Fire Protection

To the extent that offsite assistance is required, Riverside County Fire Department (RCFD) will provide fire protection and emergency services to the project site (see section 5.16 Worker Health and Safety for

information pertaining to onsite fire protection); services include municipal and wildland fire protection and prevention services, pre-hospital emergency medical services including paramedics, hazardous materials response, and technical rescue services. Table 5.10-14 lists the response times to the project site.

The project site is located within the RCFD's East Desert Division. The East Desert Division encompasses the lower Coachella Valley, east to the Arizona State line. There are two battalions, nine permanently staffed fire stations, and two all-volunteer fire stations. The fire stations nearest the project site are within the jurisdiction of RCFD Battalion 8. These include the Blythe, Ripley, Blythe Air Base, River Bend, and Lake Tamarisk fire stations. The closest station to the project site is Ripley Fire Station 44, on 13987 Main Street, approximately five miles from the project site. This station has two fire fighters and one paramedic. Ripley Fire Station 44 has one Type 1 fire engine and operates 24 hours per day, seven days a week (Neumann, 2011).

Other nearby fire stations are Blythe Air Base Fire Station 45, Blythe Fire Station 43, River Bend Fire Station 46 (volunteer only), and Lake Tamarisk Fire Station 49 in Desert Center. Each of these fire stations has one Type 1 fire engine and provides paramedic services. Each of these fire stations has three personnel (two firefighters and one certified paramedic), with the exception of Lake Tamarisk, which has four personnel (two firefighters and two certified paramedics). The River Bend volunteer station is a reserve volunteer station and does not operate 24 hours per day, seven days a week. This station will provide reserve personnel in case of an emergency but will not respond directly to an emergency (Neumann, 2011). All stations are dispatched by CAL FIRE Riverside Unit/RCFD Emergency Command Center under the integrated Fire Protection System.

The fire protection system will be designed to protect personnel and limit property loss and plant downtime in the event of a fire. The primary source of fire protection water will be the service/firewater storage tank in each plant, and the fire water storage tank in the common area. An electric jockey pump and electric-motor-driven main fire pump will be provided to maintain the water pressure in each plant and the common area fire main to the level required to serve all firefighting systems. In addition, a back-up diesel engine-driven fire pump will be provided in each plant and the common area to pressurize the fire loop if the power supply to the electric-motor-driven main fire pump fails. A fire pump controller will be provided for each fire pump.

The fire pumps will discharge to a dedicated underground firewater loop piping system. Normally, the jockey pumps will maintain pressure in the firewater loop. Both the fire hydrants and the fixed-suppression systems will be supplied from the firewater loop. Fixed fire suppression systems will be installed at determined fire risk areas, such as the transformers and turbine lube oil equipment. Sprinkler systems will also be installed in areas such as Administration/ Control/Warehouse/Maintenance Building/Heliostat Assembly Building, and fire pump enclosure as required by National Fire Protection Association (NFPA) and local code requirements. Handheld fire extinguishers of the appropriate size and rating will be located, in accordance with NFPA 850, throughout the facility. Generator step-up transformers and other oil-filled transformers will be contained and provided with a deluge system.

Section 5.5, Hazardous Materials Handling, includes additional information for fire and explosion risk.

Hazardous Materials Emergency Response

The Riverside County Hazardous Materials Management Division under the Department of Environmental Health is the Certified Unified Program Agency (CUPA) with three participating agencies: Banning Fire Department, Corona Fire Department, and the RCFD. The CUPA Program conducts inspections of businesses that handle hazardous materials, generate hazardous waste, treat hazardous waste and/or maintain underground storage tanks. RCFD will handle the response to emergency releases of hazardous material or waste for the Project. The closest RCFD Hazardous Materials Response Team is located in Palm Desert. Hazardous Material Team/Station 81 is located at 37995 Washington Street in Palm Desert, California. Station 81 will respond with one Hazardous Materials Response Unit staffed with three personnel, and one Hazardous Materials Support Unit staffed with two personnel. One member of the five person team is a certified paramedic. The response time to the project site is approximately two hours (Neumann, 2011).

Emergency response times are listed in Table 5.10-14.

Table 5.10-14
Emergency Response Times

Station	Approximate Time to Project Site
Riverside County Sheriff's Department Colorado River Station	20 minutes
Riverside County Fire Department Hazardous Waste and Materials Response Palm Desert Station 81	2 hours
Blythe Fire Station 43	27-29 minutes
Ripley Fire Station 44	14-16 minutes
Blythe Air Base Fire Station 45	28-30 minutes
River Bend Fire Station 46	N/A
Lake Tamarisk Fire Station 49	1 hour and 15 minutes
Medevac to Desert Regional Medical Center (helicopter)	1 hour and 20 minutes

Sources: Neumann, 2011; Krisel, 2011; Cox, 2011.

Hospital Facilities and Emergency Response

Table 5.10-15 provides a summary of the following hospital services in the area of the project site:

- Palo Verde Hospital in Blythe, 13 miles northeast of the project site. This facility provides intensive care services.

- John F. Kennedy Memorial Hospital in Indio, 110 miles west of the project site.

- Desert Regional Medical Center in Palm Springs, 130 miles west of the project site. Desert Regional Medical Center is the closest trauma care center to the project site and the only trauma center in the Coachella Valley. It is a Level II trauma center and provides a full range of specialists and services available 24 hours a day. Transport time to the project site is

approximately one hour and twenty minutes (round trip) by helicopter medical evacuation (Medevac) transport (Cox, 2011).

- La Paz Medical Services, a family health care clinic located in Quartzsite, Arizona operated by La Paz Regional Hospital. This clinic provides general medical services and treatments. Table 5.10-15 provides a summary of the hospital services in the area of the project site.

The CHP located at the Thermal Station, in Thermal, California may respond to a traumatic injury requiring Medevac via helicopter from the project site. However, the CHP usually covers Medevac situations in the area surrounding Palm Springs and rarely in the Blythe area (Guzman, 2011). There are a number of additional Medevac services that service the project area. If an accident were to occur at the project site, the paramedic or first responder will call in the emergency. Based on rotation and proximity, a Medevac service is dispatched to the project site for evacuation to Desert Regional Medical Center in Palm Springs. The companies that provide Medevac services to the project site are Merci Air Service, Reach Helicopter, Care Flight, and the CHP. The Medevac response time is estimated at 1 hour and 20 minutes.

Table 5.10-15
Hospitals and Clinics Serving the Project Area

Hospital/Address	Available Services
Palo Verde Hospital 250 North First Street Blythe, California 92225	Hospital, blood bank, computerized tomography scan, intensive care unit, labor/delivery/recovery rooms, magnetic resonance imaging, nuclear medicine, outpatient services, ultrasound.
La Paz Medical Services 150 East Tyson Road, Quartzsite, AZ 85359	General medical services and treatments.
John F. Kennedy Memorial Hospital 47111 Monroe Street Indio, CA 92201	Hospital, cardiac and vascular, orthopedics and JFK Bone and Joint Institute, obstetrics, outpatient rehabilitation, women and children, emergency department, emergency and express care.
Desert Regional Medical Center 1150 N. Indian Canyon Drive Palm Springs, CA 92262	Hospital, comprehensive cancer center, inpatient rehabilitation, institute of orthopedics and neurosciences, women and infants center, wound center, hospice, surgery, emergency/trauma services, cardiac/heart care, anesthesiologists, and physical therapists.

5.10.3.9 *Utilities*

Electricity and Gas

Rio Mesa I, II, and III will connect to the SCE grid through the new CRS which is interconnected to SCE's Palo Verde-Devers 500 kV line located approximately 10 miles north of the site on an east-west ROW. SCE has developed a service plan for the CRS to interconnect additional projects and allow for future growth. SCE's service plan will include the new CRS and other system upgrades that will be for the benefit of Rio Mesa SEGF and other interconnecting customers in the region, as well as future growth. CRS construction is expected to be completed and the substation in service in 2013, before the Rio Mesa SEGF comes on line. Power from each of the three Rio Mesa SEGF plants will be interconnected to the California Independent System Operator (CAISO) grid via a common 220 kV

gen-tie line to the new CRS. The design of the CRS and associated upgrades will be performed by SCE and is analyzed conceptually from input provided by SCE based on the requirements of Rio Mesa and other generation projects in the queue, as well as future load growth requirements (see Section 3.0, Transmission System Engineering for more detail).

The project's natural gas system will be connected to the TCGT North Baja Transmission Line, which passes through the land owned by the Metropolitan Water District of Southern California (MWD) and adjacent to the existing Western Area Power Administration (WAPA) 161 kV transmission line that also runs through the project site. However, the TCGT is not a natural gas retailer. Current plans are for the gas supply to be obtained from one or more suppliers on the TCGT pipeline that currently is under contract with the Applicant.

5.10.3.10 *Water and Wastewater*

Raw water will be drawn from wells located within the common area. Each 250 MW plant will require up to 85 acre-feet per year (afy), raw water make-up, or a total of 260 afy for the entire 750 MW (nominal) Rio Mesa SEGF. This includes approximately 5 afy for common area uses. The make-up flow rates are based on pumping for 24 hours per day, 365 days per year. The actual system design will include higher pumping rates for operational and emergency needs.

A treated water tank sized to accommodate a two-day reserve of process water that will include makeup for the demineralizer and wet-surface air cooler (WSAC) will be located in the common area. A separate mirror wash tank will be provided in the power block area. In addition, a combined service water/firewater storage tank that has sufficient capacity for service water and a dedicated 2-hour reserve volume for firewater will be provided in the power block area. A dedicated firewater storage tank, with the capacity to fight a 2-hour fire, also will be provided in the common area.

The primary wastewater collection system will collect process wastewater from all of the plant equipment, including the boilers and WSAC blowdowns. To the extent practical, process wastewater will be recycled and reused. Each plant will have an on-site wastewater treatment (WWT) system consisting of either a thermal distillation system with mechanical vapor compression or RO with ion exchange. Distillate/permeate collected from the WWT plant will be recycled to the treated water storage tank for reuse within the plant. Concentrate from the WWT system will be disposed in two evaporation ponds in the common area and allowed to evaporate. Each pond will be lined with a high-density polyethylene liner to prevent infiltration of process water into the soil below. Provisions for avian protection netting will be determined based on local jurisdiction and agency requirements. When needed, pond sludge will be removed from the project site by an outside contractor.

Water supply and wastewater are described in Section 5.15, Water Resources.

5.10.3.11 *Solid Waste*

Waste management is the process whereby all wastes at the Rio Mesa SEGF are properly collected, treated (if necessary), and disposed. Wastes will include process and sanitary wastewater, nonhazardous waste and hazardous waste. Waste management is discussed in greater detail in Section 5.14, Waste Management.

5.10.4 Environmental Analysis

This subsection addresses the potential environmental impacts of the Project.

5.10.4.1 *Significance Criteria*

The criteria used to determine the significance of the Project-related socioeconomic impacts are based on the criteria identified in the Guidelines for Implementation of CEQA, Appendix G (CEQA, 2011). Project-related impacts will be considered significant if they:

- Induce substantial population growth;
- Displace substantial numbers of people or existing housing;
- Result in substantial adverse environmental impacts associated with the provision of utility services;
- Result in substantial adverse physical impacts associated with the provision of public services; and/or
- Physically divide an established community.

Project socioeconomic impacts could also be considered significant, if they were to cause substantial change in community interaction patterns, social organization, social structures, or social institutions; cause substantial conflict within community attitudes, values, or perceptions; or cause substantial inequities in the distribution of Project costs and benefits.

5.10.4.2 *Construction Impacts*

Construction of the entire Project, from site preparation and grading to commercial operation, is expected to take place from the fourth quarter of 2013 to the second quarter of 2016. Major milestones are listed in Table 5.10-16; however, the construction order may change. Construction of the shared facilities is anticipated to occur with the construction of Rio Mesa I.

Table 5.10-16
Construction Milestones

Activity	Date
Rio Mesa I	
Begin Construction	Fourth Quarter 2013
Startup and test	Third Quarter 2015
Commercial operation	Fourth Quarter 2015
Rio Mesa II	
Begin construction	First Quarter 2014
Startup and test	Fourth Quarter 2015
Commercial operation	First Quarter 2016

Table 5.10-16
Construction Milestones

Activity	Date
Rio Mesa III	
Begin construction	Second Quarter 2014
Startup and test	First Quarter 2016
Commercial operation	Second Quarter 2016

Construction Workforces

Project construction is expected to take place in three phases and employ an average of 1,040 workers a month for the approximate three-year construction period. Construction employment is expected to peak at a maximum of approximately 2,500 workers in month 21 of the proposed schedule. Projected employment by construction trade and month is presented for a 36-month construction period in Table 5.10-17. These construction trades include occupations that will be directly related to Project construction. Employment projections were estimated by the Applicant for those skilled workers (by craft) required for construction of the Project. Most of these workers are anticipated to commute to the project site from the primary or secondary unions nearest the project site or seek temporary housing closer to the project site.

Availability of laborers by craft is indicated by union on Table 5.10-11a through 5.10-11g. The unions that have territory incorporating the location of the Project will be the primary source of manpower for the Project. The other unions in the surrounding area will be considered the secondary draw area for manpower, should it be required to attract additional workers from outside the primary local unions. Some construction workers may be drawn from areas beyond a two-hour commuting distance. For example, the Iron Workers Local 416 will provide labor for project construction, which is located in Norwalk (Los Angeles County), California, approximately 224 miles west of the project site. It is anticipated that many construction workers will commute daily to the project site. Others are expected to stay in temporary housing, either during the week and commute home over the weekend, for a portion of construction, or for the entire construction phase of approximately 36 months.

Sufficient workers are available through these local unions to meet Project manpower requirements. As indicated on Table 5.10-11h, there is a shortage of boom crane operators. These employees may need to be drawn from larger labor markets and stay in the project area during the course of construction, or a portion thereof. Even at the peak of construction, the availability of sufficient construction workers, as shown in Table 5.10-11h, will be more than adequate to meet the Project employment needs. Therefore, Project construction labor demand will not significantly affect the availability of labor in the Study Area.

The Applicant will make every effort to hire workers from unions closest to the project site. Should construction workers located beyond the two-hour commute temporarily relocate to the project area for the duration of the 36-month construction period, or a portion thereof, it is anticipated that they will stay in temporary housing (hotels/motels, RV parks, vacant housing units, or campsites) closer to the project site and within an approximate two-hour driving distance.

Table 5.10-17
Construction Trade Projection

Craft by Month	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Boilermakers	0	1	2	5	7	9	15	16	15	18	46	58	85	104	123	153	195	245	292	328	382	405	400	383	343	303	236	173	140	112	88	29	3	3	3	
Carpenters	0	1	5	16	31	52	80	101	120	136	156	164	169	167	157	139	128	116	99	93	93	87	86	84	80	70	59	50	43	36	31	14	7	6	4	
Cement Masons		0	1	2	4	7	11	14	17	19	22	24	25	25	23	20	18	16	13	11	12	11	10	10	10	9	7	6	5	5	4	1	0	0	-	
Electricians	1	2	3	10	23	40	58	60	58	59	85	116	145	163	176	203	252	316	384	446	509	554	577	579	552	495	418	348	281	220	170	85	35	17	7	
Iron Workers	0	1	3	9	18	31	48	62	75	90	116	133	153	165	170	170	172	170	163	157	161	153	139	128	115	97	76	62	51	44	40	14	3	3	2	
Labor	1	3	9	22	42	67	103	119	131	145	172	176	174	175	171	163	160	150	131	117	114	112	111	108	103	91	80	71	63	56	50	23	17	15	13	
Millwrights	0	1	2	4	7	8	12	12	10	13	46	61	95	112	120	129	141	155	168	176	218	236	231	226	216	201	159	135	125	114	107	34	0	0	0	
Operators	1	2	5	13	24	37	56	64	69	76	95	100	104	110	114	118	126	130	129	127	134	138	136	131	122	107	89	74	63	54	46	20	10	8	7	
Pipe Fitters	0	3	8	17	29	41	61	74	83	94	136	156	199	234	273	328	400	479	564	631	719	766	768	749	695	613	494	398	317	250	201	84	22	11	3	
Teamster	1	1	2	4	6	9	17	19	20	22	30	32	33	34	35	35	35	35	34	32	32	31	30	28	26	22	20	18	17	16	15	7	5	5	5	
Total Manual Labor	**5**	**13**	**42**	**102**	**192**	**301**	**461**	**540**	**599**	**673**	**905**	**1,018**	**1,182**	**1,289**	**1,362**	**1,459**	**1,627**	**1,812**	**1,978**	**2,118**	**2,373**	**2,493**	**2,488**	**2,428**	**2,261**	**2,009**	**1,639**	**1,336**	**1,104**	**907**	**753**	**311**	**103**	**68**	**44**	**-**

Note: The entire project construction schedule is 36 months from Start Construction to Guaranteed Substantial Completion. This table shows a craft labor staffing starting table that begins in month 0 and completes in month 35 (36 months). There are 34 months of staffing as the craft resources are planned to be complete and demobilized prior to the Guaranteed Completion date.

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Table 5.10-18 below lists the estimated peak craft labor requirements for construction of the Project and current craft availability of the primary locals where the Project falls within their territory. If the Project were to be constructed today, there will be a shortage of boilermakers, electricians, and pipefitters and welders from within the primary unions. However, as indicated in Tables 5.10-11a, 5.10-11c, and 5.10-11g there are sufficient craft personnel available in the secondary unions. According to these tables, there are an additional 330 boilermakers available for work from Phoenix, Arizona (Local 627); 302 electricians available for work from Phoenix, Arizona (Local 640) and San Bernardino, California (Local 477); and 1,170 pipefitters and welders available for work from Phoenix, Arizona (Local 469), Pomona, California (Local 398), and Los Angeles, California (Local 250). There are additional available laborers throughout all of the secondary unions as indicated on Tables 5.10-11a through 5.10-11g. Additionally, there is a nation-wide shortage of long boom crane operators, and those who have experience will be required for project construction. It is possible that project labor demand for long boom crane operators may significantly impact the availability of this specialized craft (see Table 5.10-11h).

Table 5.10-18
Comparison of Projected Employment with Peak Project Demand by Trade

Local/Primary Craft Union	Estimated Peak Employment	Current Out-of-Work as of July 2011	Difference
Boilermakers Local 92	280	181	-99
Carpenters Local 944	112	800	+688
Electricians Local 440	462	243	-219
Iron Workers Local 413/433	144	1,326	+1,182
Laborers Local 1184	140	449	+309
Operating Engineers Local 12	119	2,500	+2,381
Pipefitters Local 364	630	135	-495

Source: Construction Labor Survey, 2011.

In addition to the seven most critical crafts, project construction will also require employment of cement masons, millwrights, teamsters, insulators, brick layers, painters, and sheet metal workers. These construction workers will be drawn from unions. The Applicant will make every effort to hire these union workers from within Riverside County. Table 5.10-11h indicates that there is sufficient availability of these remaining construction crafts in Riverside, San Bernardino, Imperial, and San Diego counties.

Construction Impacts on Population

The majority of the projected construction workforce is anticipated to either commute daily to the project site or seek temporary housing closer to the project area within a two-hour driving distance. Should construction workers seek temporary housing closer to the project area during the 36-month construction period, or portion thereof, the impact will be temporary, and therefore, is not anticipated to induce substantial growth. The impacts of Project construction on regional population levels are, expected to be

minimal. In addition, the project site is not located within an existing community or residences, therefore construction of the Project is not expected to displace existing population or physically divide an existing community.

Construction Impacts on Housing

It is anticipated that many construction workers will commute daily to the project site. Others are expected to stay in temporary housing, either during the week and commute home over the weekend, for a portion of construction, or for the entire construction phase of approximately 36 months. Construction workers often commute relatively long distances to their work sites. However, some construction workers may seek temporary housing closer to the project site, or within a two-hour driving distance to the project site.

Even if it is assumed that of the 2,500 peak construction workforce demand in month 21 of construction, approximately half seek temporary housing closer to the project area, there are 233 hotel/motels with 21,979 total rooms, as indicated on Table 5.10-6,within a two-hour drive time. Of these, 23 hotel/motels with 1,166 total rooms are located in Blythe, Ehrenberg, and Quartzite, nearest to the project site. Additionally, 20 RV parks and two BLM managed campgrounds are available near the project site.

If construction of the Project requires construction workers to stay in the project area temporarily, it could affect the supply of temporary accommodations and rental housing nearest the project area, especially in month 21 of construction. Should vacant units available for rent and hotels, motels, and other housing options nearest the project site fill to capacity as a result of construction workforce demand (or other demand within the region coupled with project construction demand), workers may be required to commute daily or seek housing options within a two-mile drive of the project site. As indicated in Table 5.10-6, there is a significant amount of temporary housing within a two-mile drive to the project site. As indicated in Table 5.10-5, the vacancy rate is high throughout the Study Area and especially high in those communities closer to the project site.

While project construction has the potential to cause a strain on local housing markets, it will alternatively have beneficial effects on the local economy, especially to hotels, motels, and rental housing, as vacant rooms will likely be filled. This beneficial economic effect is analyzed below through indirect and induced construction impacts on economy and employment.

Should construction workers drawn from unions beyond a two-hour commute require temporary housing accommodations closer to the project site during the course of the 36-month construction period, or portion thereof, there will be sufficient vacant units, hotels, and other forms of accommodations available. Therefore, increased demand on the local housing supply is expected to be negligible. In addition, the project site is located on undeveloped land with no residences on site, and construction of the Project is not expected to displace existing housing.

Direct, Indirect and Induced Construction Impacts on Economy and Employment

Construction of the Project will have positive impacts on the local economy. Benefits associated with construction will be temporary, one-time impacts that will last for the duration of the construction phase of the Project.

The total economic impacts of construction of the Project were estimated using an input-output model that was developed using IMPLAN Version 3 modeling software and data (Minnesota IMPLAN Group, 2011). This analysis estimated the total (direct, indirect, and induced) change in output (sales), employment, and income that will occur as a result of the Project. The *direct* impact component consists of expenditures made specifically for the Project, such as construction labor and materials. These direct impacts generate economic activity elsewhere in the local economy through the multiplier effect, as initial changes in demand "ripple" through the local economy and generate indirect and induced impacts.[4] *Indirect* impacts are generated by the expenditures by suppliers who provide goods and services to the construction Project. *Induced* impacts are generated by the spending of households who benefit from the additional wages and business income they earn through the direct or indirect activity.

The study area for this analysis is Riverside, San Bernardino, and Los Angeles counties in California, and Maricopa County in Arizona, which is different from the Study Area for the Project. This area was selected based on the location of the primary and secondary unions where construction labor force will be drawn within reasonable commuting distance of the project site. Average direct employment for the duration of the construction period will be 1,040 jobs. The total construction payroll, including both craft and staff employees, will be approximately $545,839,300 plus an additional $114,746,000 paid to subcontractors spread over the approximately three-year construction period. Construction payroll and subcontractor costs represent the total labor cost of $660,585,300, which will be used to model economic impacts to the study area. Local expenditures for construction materials and supplies are expected to total approximately $102,043,750 during the construction phase of the Project, within the four counties of this study area. Construction materials and supplies purchased within this study area will likely include, but are not limited to, concrete, rebar, formwork materials, asphalt, fencing, and local purchases in support of field staff.

Based on the assumptions stated above, the total estimated employment creation during the 36-month construction phase within the study area will be as follows:

- Direct (Project) employment: 1,040
- Indirect employment: 257
- Induced employment: 4,631
- Total employment creation: 5,928

The estimated Project indirect and induced employment within this study area is 257 and 4,631 jobs, respectively. These additional jobs result from the $102,043,750 in local construction expenditures as well as the approximately $462,409,710 in spending by local construction workers. The $462,409,710 represents the disposable portion of the construction payroll (assumed to be 70 percent of the total labor

[4] Social Accounting Matrices (SAM) multipliers were used for the impact analysis. SAM multipliers are used by the writers of the IMPLAN software because an induced effect estimate using a SAM multiplier is based on information in the social account matrix, which accounts for social security and income tax leakage, institution savings, and commuting. The SAM accounts for a virtual economy that tracks money as it flows where workers live. IMPLAN sector 36, "Construction of other new non-residential structures," is the IMPLAN sector recommended by the software to correspond closest to the North American Industry Classification System code 21, which is used for "Power plants, new construction."

costs of $660,585,300). Assuming an average direct construction employment of 1,040, the employment multiplier associated with construction of the Project is approximately 5.7 (i.e., [1,040 + 257 + 4,631]/1,040).

The Project will create estimated income within the study area as follows (rounded values in 2011 dollars):

- Direct (total labor costs) income: $660,585,300
- Indirect income: $16,134,726
- Induced income: $222,727,057
- Total income creation: $899,447,083

The indirect and induced income impacts were estimated at $16,134,726 and $222,727,057, respectively. Assuming a total local construction expenditure (payroll) of $660,585,300, the project construction income multiplier is approximately 1.4 (i.e., [$660,585,300 + $16,134,726 + $222,727,057]/$660,585,300).

The top 10 industries that will benefit the most in terms of economic output impacts from construction of the Project include: construction of other new nonresidential structures; real estate establishments; physicians and other medical practitioners; food services and drinking places; private hospitals; wholesale trade businesses; retail stores—food and beverage; retail stores—general merchandise; and nursing and residential care facilities.

Construction Impacts on Local Fiscal Resources

The total capital cost of construction of the Project is approximately $3 billion. The estimated value of materials and supplies that will be purchased locally during construction of the Project is $102,043,750. The project is expected to generate approximately $120,000,000 in total sales/use tax over the duration of the construction phase. Of this total tax liability approximately 6-7 percent will be generated through local purchases of materials, supplies, equipment, and services. As stated above, these purchases are expected to total approximately $102,043,750 during construction phase of the Project. Assuming that purchases are made within Riverside County, which has a tax rate of 7.75 percent as of July 1, 2011, the Project will generate approximately $7,908,390 in sales tax from local sales over the life of the construction phase of the Project.[5] As a result, the construction phase of the Project is expected to have positive financial impacts through increased sales tax revenue.

Table 5.10-19 provides a summary of the inputs to the IMPLAN model and other key factors used to assess potential construction impacts. The table also provides a summary of the economic impacts from construction.

[5] Local is defined for construction impacts as the four-county study area used for IMPLAN modeling.

Table 5.10-19
Summary of Total Economic Impacts from Construction

Capital Cost (in millions)	$3,000
Four-County study area (Riverside, San Bernardino, and Los Angeles, CA and Maricopa, AZ)	
Local Materials and Supply Purchases (in millions)	$102.04
Total Construction Payroll (in millions)	$660.6
Construction Payroll (Disposable) (in millions)	$462.4
Annual Local Construction Expenditures (in millions)	$34.0
Annual Average Local Construction Payroll (in millions)	$220.2
Annual Average Local Construction Payroll (Disposable) (in millions)	$154.1
Average Monthly Direct Construction Employment	1,040
Indirect Employment	257
Induced Employment	4,631
Construction Employment Multiplier	5.7
Indirect Income	$16.1
Induced Income	$222.7
Construction Income Multiplier	1.4
Total Sales Taxes	**$7,908,390**

Notes: Values in millions are rounded. All values are approximate.

Construction Impacts on Education

The majority of the projected construction workforce will either commute daily to the project site or seek temporary housing during the 36-month construction phase. However, it is unlikely that construction workers will relocate permanently closer to the project site with their families due to the temporary nature of construction. The Palo Verde Unified School District is currently not considered at enrollment capacity. In fact, according to the school district, enrollment is decreasing. Enrollment for 2011 is down 35 students from last year, and is projected to continue declining (Bilek, 2011). If there were additional students as a result of construction workers relocating into the project area, Palo Verde Unified will enroll them as required by law. However, the construction phase of the Project is not expected to have a substantial effect on student enrollment in Palo Verde Unified, because there is plenty of capacity.

Construction Impacts on Public Services and Facilities

The construction phase of the Project will not result in a substantial impact on police, fire, or hazardous materials handling resources based on measures described below as well as in Sections 5.01, Air Quality, 5.05, Hazardous Materials, 5.09, Public Health, 5.12, Traffic and Transportation, 5.14, Waste Management, 5.15, Water Resources, and 5.16, Worker Safety.

Project construction will not create significant adverse impacts on medical resources in the area because minor injuries could be treated at Palo Verde Hospital in Blythe, California or La Paz Medical Services in Quartzsite, Arizona. Significant trauma as a result of Project construction, should it occur, is expected to be treated at Desert Regional Medical Center in Palm Springs, California, as identified in Section 5.10.3.8. Additionally, the Applicant or construction contractor will provide a registered nurse onsite trained in first aid.

The Project is not anticipated to impact public services and facilities during construction, and is designed to maximize safe operation. Potential hazards that could affect the facility include earthquake, flood, and fire. The following safety measures will be implemented on-site:

- To protect the health and safety of workers during construction, the Applicant (or construction contractor) will ensure compliance with the Construction Health and Safety Program, and all federal, state, and local health standards that pertain to worker health and safety.
- When workers are first employed with the Project, they will be instructed regarding the hazards and safety precautions applicable to the type of work. Workers will also be directed to read the Code of Safe Practices. When employees are required to work near known job site hazards, they will be instructed in hazards recognition, the procedures for protecting themselves from injury, and the first-aid procedures in the event of injury.
- A Fire Protection and Prevention Plan will be developed and followed throughout all phases of construction. The specified firefighting equipment will be provided to site personnel. On-site fire prevention during construction will consist of portable and fixed firefighting equipment.

Construction Impacts on Utilities

The Project construction will not make significant adverse demands on local water, sanitary sewer, electricity, or natural gas. Water requirements for construction will be supplied by three groundwater wells on-site; therefore, the Project will not impact public water services.

5.10.4.3 *Operational Impacts*

Operation and maintenance staff will be on-site following the Notice to Proceed issued by the regulatory agencies. The number of operations and maintenance staff will increase over time as Project construction is completed. Management, engineering, administrative staff, skilled workers, and operators will serve multiple plants, as indicated in Table 5.10-20. The Project is expected to employ up to 150 full-time employees; 30 employees dedicated to Rio Mesa I, Rio Mesa II and Rio Mesa II each, and 60 at the common area. The facility will be operated seven days a week, from eight to 16 hours per day. These personnel are anticipated to be drawn primarily from Riverside County within the Study Area. It is likely that a small number of Project operations workers may be drawn from larger labor markets and permanently relocate to the project area.

Table 5.10-20
Operations and Maintenance Staff

Staff	Rio Mesa I	Rio Mesa II	Rio Mesa III	Common Area	Total
Solar Field and Power Block Workers	16	16	16	-	48
Technicians	12	12	12	-	36
Operators (Administration Building: shower and sewage calculation)	-	-	-	15	15
Warehouse and Maintenance Personnel	-	-	-	13	13
Administration Personnel (day shift only)	-	-	-	31	31
Total (actual)	28	28	28	59	143
Spare Laborers	2	2	2	1	7
TOTAL	**30**	**30**	**30**	**60**	**150**

Operational Workforce

Total annual operations payroll is estimated to be approximately $16.4 million, with approximately $14 million of that paid to permanent employees, and the remaining $2.4 paid to short-term contract operations employees.

Permanent employees in the energy production sector are generally assumed to be willing to commute for as much as one hour each way to their place of work, which is less than the assumed two-hour commute each way for construction workers (Gilmore et al., 1982). The majority of the projected operations employees are expected to be drawn from areas within Riverside County (approximately 90 percent), representing the local workforce. Some positions, primarily engineering occupations, will require individuals with specialized skills who may need to be recruited from larger statewide or national labor markets (approximately 10 percent). Specialized personnel recruited from outside the region will likely relocate with their families to the project area.

Operation Impacts on Population

Operation of the Project may require some personnel to relocate with their families to the Project area. Assuming all 150 operations workers relocate with their families, vacancy rates are high throughout the Study Area. Given the modest size of the operational workforce and the likelihood that some of these workers may already be residents within the Study Area close to the project site, the Project will have negligible effects on the local population and operation of the Project is not expected to displace existing population or physically divide an existing community.

Operation Impacts on Housing

The available housing resources within the project Study Area are discussed in Section 5.10.3.4 and indicated in Table 5.10-6 and Table 5.10-7. This information demonstrates that some employees who need to relocate could choose to live closer to the project site. Due to the high level of available housing, additional demand for housing is not expected to be significant. The Project will likely have some beneficial effects due to operations, should operations employees permanently relocate to the project area and rent or purchase vacant housing units. Rental activity and real estate establishments are the first and second highest industries that will benefit the most in terms of economic output impacts.

Direct, Indirect and Induced Operation Impacts on Economy and Employment

Operation of the proposed Project will have positive impacts on the local economy through the creation of local employment opportunities and through local expenditures for supplies and services.

When completed, the Project is expected to employ approximately 150 full-time operations employees. It is anticipated that the majority of operations employees will be hired from within Riverside County, California. Additional employees requiring specific skills may be drawn from larger labor markets. However, since this number is not known, Riverside County was used for modeling operations impacts. The Project is expected to have an annual payroll of approximately $16.4 million, which will include all salaries, overtime, benefits, and incentives. Operations employees will include management, engineering, administrative staff, skilled workers, and operators. The annual operations and maintenance budget is approximately $880,000, which is anticipated to be spent locally (within Riverside County) on goods and supplies. These figures were used as inputs into the model to predict economic and employment impacts as a result of Project operations.

The total economic impacts of operation of the Project were estimated using an input-output model that was developed using IMPLAN Version 3 modeling software and data (Minnesota IMPLAN Group, 2011).[6] In addition to the jobs directly related to operation of the Project, operation of the Project will also provide additional indirect and induced jobs.

During the operations phase, the Project's estimated annual employment creation within Riverside County will be as follows (rounded values):

- Direct (Project) employment: 150
- Indirect employment: 1
- Induced employment: 89
- Total employment creation: 240

The estimated Project indirect and induced employment within Riverside County is one and 89 jobs, respectively. These additional jobs result from the $880,000 in local operations and maintenance

[6] IMPLAN sector 31, "Electric power generation, transmission, and distribution," is the IMPLAN sector recommended by the software to correspond closest to the North American Industry Classification System code 21, which is used for operation of power plants.

expenditures and $16.4 million in payroll. The operational phase employment multiplier is estimated at 1.6 (i.e., [150 + 1 + 89]/150).

The Project will create estimated income within Riverside County as follows (rounded values in 2011 dollars):

- Direct (total labor costs) income: $16,400,000
- Indirect income: $53,746
- Induced income: $3,533,907
- Total income creation: $19,987,653

The indirect and induced income impacts are estimated at $53,746 and $3,533,907, respectively. The income multiplier associated with the operational phase of the Project is approximately 1.2 (i.e., [$16,400,000 + $53,746 + $3,533,907]/$16,400,000) and is based on a Type SAM model.

The top 10 industries that will benefit the most in terms of economic output impacts include: rental activity; real estate establishments; electric power generation, transmission, distribution; food services and drinking places; physicians and other medical practitioners; private hospitals; banks and financial institutions; state and local government enterprises; wholesale trade businesses; and retail stores—food and beverage. These impacts will occur in Riverside County and will occur on an annual basis for the duration of the Project operation.

Operation Impacts on Fiscal Resources

The Riverside County Assessor's Office has jurisdiction over the valuation of the Project for property tax purposes. The Project qualifies for the exclusion of certain parts from valuation per the Revenue and taxation Code, Section 73, which includes the heliostats including the mirrors, solar field control system, electrical storage devices, power conditioning equipment, transfer equipment, and parts. Pipes and ducts that are used to carry both solar energy and energy derived from other sources qualify for the exemption only to the extent of 75 percent of their full cash value. Natural gas fired boilers, regardless of purpose, administrative and maintenance facilities, roads, land, and fences will be taxed at their full value. Riverside County will start realizing annual property tax revenue once construction of the Project is complete. Once value is assessed, Riverside County will generate property taxes on all non-pure solar Project components as describe above. The value of the fully and partially taxable Project components is estimated at a general level at this time. The estimate of annual property tax, based on current tax law is approximately $7 million.

The BLM has issued a policy from which it will determine the value of the lease following approval of the Project and issuance of a Record of Decision (ROD), and ROW Grants for each project entity and the common facilities under a joint tenancy arrangement.

Local purchases of materials, supplies, equipment, and services are expected to total approximately $880,000 annually once the Project is fully operational, and are anticipated to be spent within Riverside County. Using the current Riverside County sales tax rate of 7.75 percent, locally purchased materials for

operation of the Project will result in approximately $68,200 of revenue annually for the life of the Project.

Table 5.10-21 provides a summary of the inputs to the IMPLAN model and other key factors used to assess potential economic impacts from operation of the Project. The table also provides a summary of the economic impacts from operations.

Table 5.10-21
Summary of Total Economic Impacts from Operations and Maintenance

Riverside County	
Annual Local Operations and Maintenance (O&M) Purchases	$880,000
Total Annual O&M Payroll (in millions)	$16.4
Annual O&M Employment	150
Indirect Employment	1
Induced Employment	89
O&M Employment Multiplier	1.6
Indirect Income	53,746
Induced Income	3,533,907
O&M Income Multiplier	1.2
Total Annual Sales Taxes	$68,200
Total Annual Property Taxes (in millions)	$7
Palo Verde Unified School District	
One-time School Impact Fee	$10,993

Notes: Values in millions are rounded. All values are approximate. Operations and Maintenance (O&M)

Operation Impacts on Education

The schools in Palo Verde Unified are not currently at enrollment capacity, and the enrollment levels have been declining. Enrollment is down for 2011 by 35 students from 2010. According to the Acting Superintendent and Director of Human Resources, the school district has lost one to two classes per year on average and there is plenty of capacity within the district to handle an increase of students due to operation of the Project. The Project will not impact enrollment and associated facility and staffing impacts by the district. Furthermore, the school district anticipates enrollment will continue to decrease in the near future (Bilek, 2011). Therefore, the Project will likely have some beneficial effects due to operations, should operations employees permanently relocate to the project area with their families, as enrollment is declining throughout the Palo Verde Unified School District.

Development (industrial or residential) within the Palo Verde Unified School District boundaries is currently charged a one-time assessment fee of $0.31 per square foot of principal building areas. Based on approximately 35,460 square feet of administration/storage (occupied structures), the Applicant will

pay the school district a one-time fee of approximately $10,993 in school impact fees as full mitigation for potential school impacts.

Operation Impacts on Public Services

Operation of the Project will not result in a substantial impact on police, fire, or hazardous materials handling resources based on measures described below as well as in Sections 5.01, Air Quality, 5.05, Hazardous Materials, 5.09, Public Health, 5.12, Traffic and Transportation, 5.14, Waste Management, 5.15, Water Resources, and 5.16 Worker Safety.

Operation of the Project will not create significant adverse impacts on medical resources in the area because minor injuries could be treated at Palo Verde Hospital in Blythe, California or La Paz Medical Services in Quartzsite, Arizona. Significant trauma as a result of Project operation is expected to be treated at Desert Regional Medical Center in Palm Springs, California, which is approximately one hour and twenty minutes by Medevac (Cox, 2011).

All operations personnel will be provided with written safety guidance. All construction safety programs and procedures that apply to facility operations will be incorporated into the Plant Operational Safety Program and contained in an Operations Injury and Illness Prevention Program. The Applicant will prepare a Heat Stress Protection Plan and personal protective clothing and equipment will be used during specified work operations. In addition, the Project will have a fire protection system that will be designed to protect personnel and limit property loss and plant downtime in the event of a fire.. Employees will be given safety training courses in fire prevention and the proper use of the portable extinguishers and hose stations. The Applicant will work with engineers from the RCFD to incorporate any necessary fire prevention measures into final design (see Section 5.16, Worker Safety for additional information).

Operation Impacts on Utilities

Operation of the Project will not make substantial adverse demands on sanitary sewer, electricity, or natural gas because the Project's requirements are small.

5.10.5 Cumulative Effects

5.10.5.1 *Summary of Cumulative Effects*

Temporary cumulative socioeconomic impacts could occur when overlapping construction schedules of multiple projects create a demand for workers that cannot be met by the local labor force, thereby inducing in-migration of non-local labor and their households. Operational cumulative socioeconomic impacts could occur when multiple projects cause a substantial increase in population in an area that leads to demand for housing, schools, public services, or utilities that exceeds available capacity.

The Project will have substantial beneficial socioeconomic impacts during construction and operations in terms of job creation, expenditures, and tax revenues. In fact, the positive incremental impacts of the Project, including job creation, expenditures, and tax revenues, will combine with the similar positive socioeconomic impacts from other present and reasonably foreseeable future projects in the project vicinity, including the Blythe Solar Power Project (BSPP), the Rice Solar Energy Project (RSEP), the

Palen Solar Power Project (PSPP), the Desert Sunlight Solar Farm (DSSF), and the Genesis Solar Energy Project (GSEP), to create even greater positive cumulative impacts to the local economy.

Construction of the BSPP, RSEP, PSPP, DSSF, and GSEP may overlap with construction of the Project. Construction of the Devers-Palo Verde No. 2 transmission line including the new SCE CRS is expected to be complete and in service by third quarter 2013, prior to commencement of Project construction in fourth quarter 2013.

The CEC Decision for BSPP analyzed average and peak construction labor needs by construction craft for the BSPP, PSPP, GSEP, RSEP, and DSSF and compared them to the available labor force for these projects. This analysis determined that these projects will have total peak month labor needs of 4,189 workers and total peak month local housing need of 562 housing units. The Project will have peak month labor needs of 2,500 workers during month 21. Assuming 15 percent of workers seek temporary local housing during construction consistent with the assumption for other reasonably foreseeable future projects, the Project will have a local housing need of approximately 628 housing units during peak construction in month 21.

Under the conservative assumption that peak construction periods overlap for all reasonably foreseeable projects including the Project, there would be demand for 1,190 temporary housing units in the cumulative area. There are over 22,000 total motel or hotel rooms within a two-hour commute from the project site. In addition, the communities closest to the project site had very high vacancy rates in 2010, ranging from 17.5 to 60.2 percent with a combined total of 2,936 vacant units. The communities throughout the entire Study Area had vacancy rates ranging from 5 to 60.2 percent, with a total of 72,831 vacant units. RV parks and campsites also are available as temporary housing. Available housing supply in the study area far exceeds conservative estimates of cumulative. There is ample supply of housing units to accommodate workers drawn from outside the two-hour commute area, such as boom crane operators, boilermakers, electricians, pipefitters, welders, and other specialized crafts for which workers are in short supply. In addition, the RSEP includes plans for on-site accommodations for construction workers. Therefore, the incremental effects of the Project, when considered together with other past, present, and reasonably foreseeable future projects, will not result in cumulatively significant, adverse impacts to housing supply during construction. Moreover, the temporary placement of construction workers within existing housing units, motel and hotel rooms, RV parks, and campsites will not result in adverse impacts to schools, public services, or utilities since these facilities have already been accounted for in existing plans for public services and utilities.

Operational labor needs of the reasonably foreseeable future projects and the Project are substantially smaller than construction labor needs and will not contribute to a cumulatively significant increase in demand for housing that exceeds available supply. In addition, cumulative increases in demand for schools caused by permanent relocation of full-time employees within the cumulative area will be addressed by the payment of development impact fees as well as through the payment of property taxes by the projects. The Palo Verde Unified School District is currently below enrollment capacity, enrollment capacity has been declining, and these trends are expected to continue. Therefore, increased demand within this district would have some beneficial effects.

Cumulative operational impacts to public services including police, fire, hazardous materials handling, and medical resources and facilities will not be cumulatively considerable due to compliance with

existing LORS, including preparation of worker safety and fire prevention programs. All reasonably foreseeable future projects and the Project will comply with LORS addressing operational impacts to public services. For additional details on these LORS refer to Sections 5.1 Air Quality, 5.5 Hazardous Materials, 5.9 Public Health, 5.12 Traffic and Transportation, 5.14 Waste Management, 5.15 Water Resources, and 5.16 Worker Safety.

In addition, cumulative operational impacts to utilities will not be cumulatively considerable. The Project will utilize on-site groundwater and treatment wastewater on-site. There is no potential for the Project to contribute to cumulative impacts to water or wastewater systems. Cumulative impacts to groundwater are discussed in Section 5.17.5.15. Cumulative demand for natural gas from reasonably foreseeable future projects and the Project will not exceed existing capacity and require the construction of new facilities or infrastructure to meet demand. Cumulative impacts to electrical infrastructure will not occur.

The Project will not result in significant adverse environmental or public health impacts that could impact any human populations. As a result, there is no potential for the Project to result in disproportionate adverse impacts to communities of concern in the area, including minority or low-income populations. Due to their nature as solar energy projects and their location in relation to the Project and communities of concern, reasonably foreseeable future projects will not compound or increase Project effects in a manner that would result in significant adverse environmental or public health impacts. Therefore, the incremental effects of the Project will not contribute to cumulatively considerable, disproportionate adverse impacts to communities of concern, including low-income and minority populations. No cumulatively significant environmental justice impacts will occur.

5.10.6 Environmental Justice

EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", requires each Federal agencies ensure that part of their mission is to achieve environmental justice and to allow for a meaningful opportunity to participate in the development of, compliance with, and enforcement of federal laws, regulations, and policies affecting human health or environment regardless of race, color, national origin, or income. The EO further stipulates that the agencies conduct their programs and activities in a manner that does not exclude persons from participating in, denying the benefits of, or subjecting persons to discrimination from these programs. The EO requires reviewing agencies to determine whether a proposed action has the potential to have disproportionately high and adverse impacts on minority and/or low income populations. In fulfilling its responsibility under the Warren-Alquist Act, the CEC typically analyzes environmental justice impacts of proposed projects.

Evaluating whether a proposed action has the potential to have disproportionately high and adverse impacts on minority and/or low income populations typically involves: 1) identifying any minority or low income communities within a six mile radius of the project, (2) identifying any potential high and adverse environmental or human health impacts from the project, and 3) if there are any such impacts, examining the spatial distribution of any minority or low income communities to determine if they would be disproportionately affected by these impacts.

Guidelines provided by the CEQ and EPA indicate that a minority community may be defined as one where the minority population comprises more than 50 percent of the total population, or comprises a meaningfully greater share than the share in the general population. Minority communities may consist of

a group of individuals living in geographic proximity to one another, or a geographically disperse set of individuals who experience common conditions of environmental effect. In addition, a minority population may consist of more than one minority group, with the minority percentage in a potentially affected area calculated by aggregating all minority persons (CEQ, 1997).

The CEQ and EPA guidelines do not provide definitions of a low-income community, but do indicate that, like minority populations, low-income communities may consist of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals who would be similarly affected by the proposed action or program.

Data on race and low income for the populations that reside in the six census block groups that are within a six-mile radius of the project site are summarized in Table 5.10-22. The federal government considers race and Hispanic/Latino origin (ethnicity) to be two separate and distinct concepts. People identifying as Hispanic or Latino origin may be of any race. Data on Hispanic/Latino Origin (ethnicity) is summarized in Table 5.10-23.

Data within the six-mile radius was compiled at the census block group level. Census block groups are a smaller geographic subdivision of a census tract and analysis which allow review of the surrounding population's characteristics at a finer geographic resolution than analysis at the census tract level. There are six census blocks intersected by the six-mile radius, and figures 5.10-2, 5.10-3 and 5.10-4 illustrate the sparsely populated nature of the area to the northwest, west, and south of the project site. Block Groups 3, 6 (Census Tract 458), and 2 (Census Tract 124), which include vast expanses of uninhabited land. Block Groups 1 and 2 (Census Tract 459) cover smaller land than the others, but still encompass a large portion of the Palo Verde Valley and Blythe area. Block Group 2 (Census Tract 206) covers a large area of western Arizona. However, the six-mile radius reaches a very small portion of this Block Group.

The potential existence of "high concentration pockets" of minority communities near the project site was evaluated by reviewing 2000 Census data at the block group level. Data at the block group level for race is not currently available for the 2010 Census. The 2010 Census will have this data available online sometime between October and December of 2011. For the purposes of analyzing race and ethnicity and minority populations at the block group level, the 2000 Census provides the most complete data available. Data on poverty is determined at the block group level from the 2000 Census. The data on poverty is sample data and the census block group is the smallest geographic area for which these data are available. Figures 5.10-2, 5.10-3, and 5.10-4 show percentages of minority and low-income populations within a six-mile radius of the project site.

Table 5.10-22
Environmental Justice Characteristics (Race and Poverty)

(1)Geographic Area (Census Block Group)	Total Population	(2)Total Minority Population and Percentage		Low Income Percentage
Riverside County				
458.00.6	1,453	623	42.87%	28.03%
458.00.3	8,308	6,461	77.76%	0%
459.00.2	915	582	63.60%	35.73%
459.00.1	1,036	371	35.81%	15.03%

Table 5.10-22
Environmental Justice Characteristics (Race and Poverty)

(1)Geographic Area (Census Block Group)	Total Population	(2)Total Minority Population and Percentage		Low Income Percentage
Imperial County				
124.00.2	623	184	29.53%	29.21%
La Paz County, AZ				
206.00.2	177	42	23.72%	10.73%
Blythe	12,155	5,420	44.59%	19.93%
Riverside County	1,545,387	531,909	34.41%	13.85%

Source: U.S. Census Bureau 2000b, 2000c.
Notes:
(1) A census block group is a subdivision of a census tract and consists of a group of census blocks. The census block is the smallest geographic unit for which there is census data. Data available at the census block level is found on the 2000 Census. The 2010 Census does not provide race and ethnicity at the block group level. This data will be available in table format some time from October to December of 2011.
(2) Non-Hispanic only. The federal government considers race and Hispanic/Latino origin (ethnicity) to be two separate and distinct concepts. People identifying as Hispanic or Latino origin may be of any race. The data summarized in this table present minority population as individuals that answered a race category other than "white." The data summarized in Table 5.10-X presents Hispanic/Latino as a separate category to determine is the Project may have disproportionately high and adverse impacts on minority communities.

As indicated on Table 5.10-22 , the minority population composition of the areas within a six-mile radius of the project site contain populations above the 50 percent threshold for evaluating environmental justice impacts. As indicated on Figure 5.10-2, Block Group 459.00.2 is adjacent to the eastern edge of the project site. The six-mile radius only covers a small portion of Block Group 458.00.3, which is furthest west of the project site. Additionally, there are no residents within the portion of Block Group 458.00.3 within the six-mile radius. Consequently, it is conservatively judged that Census Block Group 459.00.2 represents a community of concern for environmental justice impacts.

Table 5.10-22 and Figure 5.10-3 show the population within a six-mile radius of the project site living below the poverty line; there are no populations that exceed the 50 percent threshold. However, 35.73 percent of Block Group 459.00.2 was living below the poverty line according to the 2000 census. This represents a percentage that is meaningfully greater than Riverside County as a whole and in nearby Blythe. Block Group 459.00.2 could represent a community of concern for environmental justice impacts based on persons living below the poverty line, as it is meaningfully greater than the percentage of minorities living in the nearest city of Blythe.

Table 5.10-23
Environmental Justice Characteristics (Hispanic/Latino Origin)

(1) Geographic Area (Census Block Group)	Total Population	(2)Total Hispanic/Latino Origin Population and Percentage	
Riverside County			
458.00.6	1,453	753	51.82%
458.00.3	8,308	4,079	49.09%
459.00.2	915	646	70.6%
459.00.1	1,036	398	38.41%

Table 5.10-23
Environmental Justice Characteristics (Hispanic/Latino Origin)

(1) Geographic Area (Census Block Group)	Total Population	(2)Total Hispanic/Latino Origin Population and Percentage	
Imperial County			
124.00.2	623	173	27.76%
La Paz County, AZ			
206.00.2	177	58	32.76%
Blythe	12,155	5,571	45.83%
Riverside County	1,545,387	559,575	36.2%

Source: U.S. Census Bureau, 2000c.

Notes:

(1) A census block group is a subdivision of a census tract and consists of a group of census blocks. The census block is the smallest geographic unit for which there is census data. Data available at the census block level is found on the 2000 Census. The 2010 Census does not provide race and ethnicity at the block group level. This data will be available in table format some time from October to December of 2011.

(2) Hispanic/Latino Origin. The federal government considers race and Hispanic/Latino origin (ethnicity) to be two separate and distinct concepts. People identifying as Hispanic or Latino origin may be of any race. The data summarized in this table present minority population as individuals that answered a race category other than "white." The data summarized in Table 5.10-3 presents Hispanic/Latino as a separate category to determine if the Project may have disproportionately high and adverse impacts on minority communities.

As indicated in Table 5.10-23, the Hispanic/Latino composition of the areas within a six-mile radius of the project site contain populations that are above the 50 percent threshold for evaluating environmental justice impacts. Consequently, it is conservatively judged that Census Block Group 459.00.2 represents a community of concern for environmental justice impacts. As indicated on Figure 5.10-4, Block Group 459.00.2 is adjacent to the eastern edge of the project site. Block Group 458.00.6 is the Block Group where the Project is located. These block groups have a percentage of minorities that is greater on average than the other block groups, the City of Blythe, and Riverside County. However, there are no residents located within Block Group 458.00.6 within six miles of the project site. Therefore, the minority community living within only Block Group 459.00.2, of which there were 646 individuals according to the 2000 census, represents a community of concern for environmental justice.

As discussed elsewhere in this Application, the Project will not result in any significant adverse environmental or public health impacts on anyone. Therefore, if there are no significant adverse impacts to anyone, there will be no disproportionate adverse impact on any minority or low-income populations.

The Project is not located within an existing residential community, and will not displace nearby residences. As a result of proposed mitigation measures and project design, there will be no significant air quality, noise, traffic and transportation, visual resources, water resources, and waste management impacts (see Sections 5.1, Air Quality, 5.7, Noise, 5.12, Traffic and Transportation, 5.13, Visual Resources, 5.15, Water Resources, and 5.14, Waste Management). For these reasons, the rural location of the Project, and the low population concentration within a six-mile radius of the project site, it is anticipated that the Project will not result in adverse impacts on low-income and minority populations. Therefore, no environmental justice impacts will be associated with the Project.

5.10.7 Mitigation Measures

No significant adverse socioeconomic impacts have been identified. For this reason, no mitigation measures are needed or proposed.

5.10.8 Involved Agencies and Agency Contacts

Table 5.10-24
Agency Contacts

Issue	Agency	Contact
Property Valuation	California Board of Equalization	Mike McDade County Assessed Property 3321 Power Inn Road, Suite 210 Sacramento, CA 95826 (916) 274-3361 mike.mcdade@boe.ca.gov
Property Valuation and Rate	Riverside County Assessor	Wendy Alvarado 6221 Box Springs Blvd Riverside, CA 92507 (951) 486-6798 wjalvara@asrclkrec.com
Property Tax Distribution	Riverside County Controller	Pam Elias 4080 Lemon Street, 11th Floor P.O. Box 1326 Riverside, CA 92502 (951) 955-3800
Potential enrollment impacts, school impact fees	Palo Verde Unified School District	Bob Bilek Acting Superintendent/Director of Human Resources (760) 922-4164
Emergency response time; Available resources and impacts to resources	Riverside County Sheriff	Kent Krisel Sergeant Colorado River Station 260 North Spring Street Blythe, CA 92225 (760) 921-5772 klkrisel@riversidesheriff.org
Emergency response time; Available resources and impacts to resources	Riverside County Fire Department	Jason Neumann Fire Captain Riverside County Fire Department Strategic Planning Division (951) 940-6349 jason.neumann@fire.ca.gov

Table 5.10-24
Agency Contacts

Issue	Agency	Contact
Emergency response time; Available resources and impacts to resources	California Highway Patrol	Officer G. Guzman Flight Officer Thermal Station 56-850 Higgins Drive #201 Thermal, CA 92274 (760) 399-1979
Emergency response time, Medevac	Mercy Air Service	Roy Cox Field Operations Manager for California 1670 Miro Way Rialto, CA 92376 (909)829-7030 rcox@airmethods.com
Availability of Labor	San Bernardino and Riverside Counties Building and Construction Trades Council	Jeff Teather Labor Relations Manager-West Region 50 Beale Street San Francisco, CA 94105 (415) 768-3688 jteather@bechtel.com
Right-of-Way Grant and CDCA Plan Amendment	Bureau of Land Management	Cedric Perry Bureau of Land Management 22835 Calle San Juan de Los Lagos Moreno Valley, CA 92553-9046 (951) 697-5200 cperry@blm.gov
Application for Certification	California Energy Commission	Pierre Martinez California Energy Commission 1516 Ninth Street Sacramento, CA 95814 (916) 651-3765 PMartine@energy.state.ca.us

5.10.9 Permits Required and Permit Schedule

Permits dealing with the effects on public services are addressed as part of the building permit process. No permits are required to comply with the socioeconomic impacts of the Project, therefore no table is provided.

5.10.10 References

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Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 5.10.3, pages 5.10-8 to 5.10-39; Section 5.10.4, pages 5.10-41 to 5.10-55; Section 5.10.5, pages 5.10-55 to 5.10-57; Section 5.10.6, page 5.10-61.		
Appendix B (g) (7) (A)	A description of the socioeconomic circumstances of the vicinity and region affected by construction and operation of the project. Include:	Section 5.10.3, pages 5.10-8 to 5.10-39.		
Appendix B (g) (7) (A) (i)	The economic characteristics, including the economic base, fiscal resources, and a list of the applicable local agencies with taxing powers and their most recent and projected revenues;	Section 5.10.3.5, pages 5.10-18 to 5.10-33; Section 5.10.3.6, page 5.10-35.		
Appendix B (g) (7) (A) (ii)	The social characteristics, including population and demographic and community trends;	Section 5.10.3.3, pages 5.10-10 to 5.10-13.		
Appendix B (g) (7) (A) (iii)	Existing and projected unemployment rates;	Section 5.10.3.5 (Existing Unemployment Rates), pages 23-25.		
Appendix B (g) (7) (A) (iv)	Availability of skilled workers by craft required for construction and operation of the project;	Section 5.10.3.5 (Project Related Employment), pages 5.10-25 to 5.10-33.		
Appendix B (g) (7) (A) (v)	Availability of temporary and permanent housing and current vacancy rate; and	Section 5.10.3.4, pages 5.10-14 to 5.10-17.		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (A) (vi)	Capacities, existing and expected use levels, and planned expansion of utilities (gas, water and waste) and public services, including fire protection, law enforcement, emergency response, medical facilities, other assessment districts, and school districts. For projects outside metropolitan areas with a population of 500,000 or more, information for each school district shall include current enrollment and yearly expected enrollment by grade level groupings, excluding project-related changes for the duration of the project schedule.	Section 5.10.3.7, page 5.10-36; Section 5.10.3.8, pages 5.10-36 to 5.10-39; Section 5.10.3.9, pages 5.10-39 to 5.10-40; Section 5.10.3.10, page 5.10-40; Section 5.10.3.11, pages 39-40; Section 5.10.4.2 (Construction Impacts on Education), page 5.10-49; Section 5.10.4.3 (Operation Impacts on Education), pages 5.10-54 to 5.10-55.		
Appendix B (g) (7) (B)	A discussion of the socioeconomic impacts caused by the construction and operation of the project (note year of estimate, model, if used, and appropriate sources), including:	Section 5.10.4.2, pages 5.10-41 to 5.10-50; Section 5.10.4.3, pages 5.10-50 to 5.10-55; Section 5.10.4.2 (Direct, Indirect and Induced Construction Impacts on Economy and Employment), pages 5.10-46 to 5.10-48; Table 5.10-19, page 5.10-49; Section 5.10.4.3 (Direct, Indirect and Induced Operation Impacts on Economy and Employment), pages 5.10-52 to 5.10-53; Table 5.10-21, page 5.10-54.		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (B) (i)	An estimate of the number of workers to be employed each month by craft during construction, and for operations, an estimate of the number of permanent operations workers during a year;	Section 5.10.4.2 (Construction Workforces), pages 5.10-42 to 5.10-45; Tables 5.10-17 and 5.10-18, pages 5.10-43 and 510-45; Section 5.10.4.3 (Operational Workforce), page 5.10-51.		
Appendix B (g) (7) (B) (ii)	An estimate of the percentage of non-local workers who will relocate to the project area to work on the project;	Section 5.10.4.3 (Operational Workforce), page 5.10-51.		
Appendix B (g) (7) (B) (iii)	An estimate of the potential population increase caused directly and indirectly by the project;	Section 5.10.4.2 (Construction Impacts on Population), pages 5.10-45 to 5.10-46; Section 5.10.4.3 (Operation Impacts on Population), page 5.10-51.		
Appendix B (g) (7) (B) (iv)	The potential impact of population increase on housing during the construction and operations phases;	Section 5.10.4.2 (Construction Impacts on Housing), page 5.10-46; Section 5.10.4.3 (Operation Impacts on Housing), page 5.10-52.		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (B) (v)	The potential impacts, including additional costs, on utilities (gas, water, and waste) and public services, including fire, law enforcement, emergency response, medical facilities, other assessment districts, and school districts. Include response times to hospitals and for police, and emergency services. For projects outside metropolitan areas with a population of 500,000 or more, information on schools shall include project-related enrollment changes by grade level groupings and associated facility and staffing impacts by school district during the construction and operating phases;	Section 5.10.4.2, pages 5.10-48 to 5.10-50; Section 5.10.4.2, page 5.10-49; Section 5.10.4.3 pages 5.10-53 to 5.10-55; Section 5.10.4.3, page 5.10-54.		
Appendix B (g) (7) (B) (vi)	An estimate of applicable school impact fees;	Section 5.10.4.3 (Operation Impacts on Education), pages 5.10-54 to 5.10-55.		
Appendix B (g) (7) (B) (vii)	An estimate of the total construction payroll and separate estimates of the total operation payroll for permanent and short-term (contract) operations employees;	Section 5.10.4.2 (Direct, Indirect and Induced Construction Impacts on Economy and Employment), pages 5.10-46 to 5.10-48; Table 5.10-19, page 5.10-49; Section 5.10.4.3 (Direct, Indirect and Induced Operation Impacts on Economy and Employment), pages 5.10-52 to 5.10-53; Table 5.10-21, page 5.10-54.		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (B) (viii)	An estimate of the expenditures for locally purchased materials for the construction and operation phases of the project;	Section 5.10.4.2 (Construction Impacts on Local Fiscal Resources), page 5.10-48; Section 5.10.4.2 (Direct, Indirect and Induced Construction Impacts on Economy and Employment), pages 5.10-46 to 5.10-48; Table 5.10-19, page 5.10-49; Section 5.10.4.3 (Operation Impacts on Fiscal Resources), pages 5.10-53 to 5.10-54; Section 5.10.4.3 (Direct, Indirect and Induced Operation Impacts on Economy and Employment), pages 5.10-52 to 5.10-53; Table 5.10-21, page 5.10-54.		
Appendix B (g) (7) (B) (ix)	An estimate of the capital cost (plant and equipment) of the project;	Section 5.10.4.2 (Construction Impacts on Local Fiscal Resources), page 5.10-48; Table 5.10-19, page 5.10-49.		
Appendix B (g) (7) (B) (x)	An estimate of sales taxes generated during construction and separately during an operational year of the project;	Section 5.10.4.2 (Construction Impacts on Local Fiscal Resources), page 5.10-48; Table 5.10-19, page 5.10-49; Section 5.10.4.3 (Operation Impacts on Fiscal Resources), pages 5.10-53 to 5.10-54; Table 5.10-21, page 5.10-54.		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (B) (xi)	An estimate of property taxes generated during an operational year of the project; and	Section 5.10.4.2 (Operation Impacts on Fiscal Resources), pages 5.10-53 to 5.10-54; Table 5.10-21, page 5.10-54.		
Appendix B (g) (7) (B) (xii)	The expected direct, indirect, and induced income and employment effects due to construction, operation, and maintenance of the project.	5.10.4.2 (Direct, Indirect and Induced Construction Impacts on Economy and Employment), pages 5.10-46 to 5.10-48; Table 5.10-19, page 5.10-49; Section 5.10.4.3 (Direct, Indirect and Induced Operation Impacts on Economy and Employment), pages 5.10-52 to 5.10-53; Table 5.10-21, page 5.10-54.		
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Table 5.10-1, pages 5.10-2 to 5.10-3; Section 5.10.2, pages 5.10-2 to 5.10-8; Section 5.10.8, page 5.10-61.		
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.10.8 Table 5.10-24, pages 5.10-61 to 5.10-62; Section 5.10.9, page 5.10-62.		

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. ____ Date ____

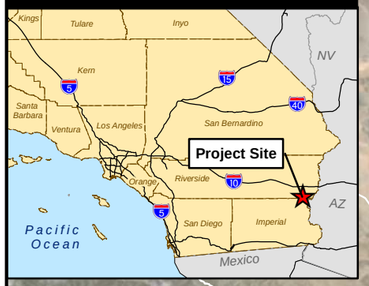
Technical Area: **Socioeconomics** Project: ____ Technical Staff: ____

Project Manager: ____ Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Section 5.10.8 and Table 5.10-24, pages 5.10-61 to 5.10-62.		
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.10.9, page 5.10-62.		

Extra notes:

REGIONAL MAP



San Bernardino County

Mohave County

Lake Havasu City

California

Riverside County

La Paz County

Cathedral City

Palm Springs

Palm Desert

Rancho Mirage

Indio

Indian Wells

La Quinta

Coachella

Blythe

Ripley

Ehrenberg

Quartzite

Project Site

Palo Verde

Arizona

Cibola

San Diego County

Imperial County

Yuma County

El Centro

Calexico

Yuma

USA

Mexico

62

95

10

111

86

78

8

LEGEND

- Project Site
- Transmission Line Corridor
- County Boundary
- State Boundary

SOURCES:
Project Site (BSE, 2010).
T-Line Corridor (VTN, 3-15-11).
Renewable Energy Applications (BLM 8-1-11).
Boundaries, Roads, Cities, States, Counties (ESRI, 2010). Imagery (NAIP,2009).

SOCIOECONOMIC STUDY AREA
RIO MESA SOLAR ELECTRIC GENERATING FACILITY
RIVERSIDE COUNTY, CALIFORNIA

URS

8 0 8 16 Miles

SCALE: 1" = 16 miles (1:1,013,760)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: RC	DATE: 9/21/2011	FIG. NO: 5.10-1
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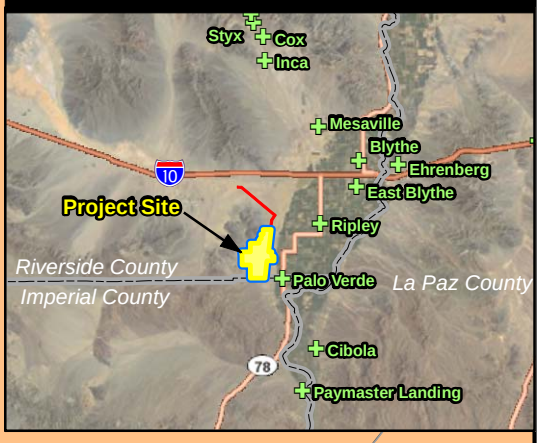
Percent Minority by Block Group

- 0 - 30 %
- 31 -49 %
- 50 - 65 %
- 66 - 80 %
- 6 Mile Buffer

OVERVIEW MAP



Riverside County
Block Group 458.00.6
Minority Population 42.9%

Riverside County
Block Group 459.00.1
Minority Population 35.8%

Riverside County
Block Group 458.00.3
Minority Population 77.8%

Riverside County
Block Group 459.00.2
Minority Population 63.6%

Riverside County
Imperial County

Imperial County
Block Group 124.00.2
Minority Population 29.5%

La Paz County

La Paz County
Block Group 206.00.2
Minority Population 23.7 %

CALIFORNIA
ARIZONA

10
78
Ripley
Palo Verde
Cibola

Project Features

- Project Site (approx. 7,529 ac.; approx. acres: 5,604 MWD, 1,615 BLM, 310 Private)
- ROW Corridor approx. 1,228 ac. (1,300 ft. corridor, 650ft. from c/l; approx acres: 841 BLM, 387 Private)
- Colorado River Substation (88 ac.)
- Colorado River Substation Gen-tie Area (approx. 124 ac.)
- City/Town
- County Boundary
- State Boundary

SOURCES:
Project Site, Transmission Line Corridor (VTN, 3-15-2011).
CRS Substation, Potential Gen-tie Area (Aspen, 3-11-2011).
County, State Boundaries, Roads (ESRI, 2007).
Minority Population (Census, 2000).
6 Mile Buffer (URS, 2011).

MINORITY POPULATION (RACE) BY CENSUS BLOCK RIO MESA SOLAR ELECTRIC GENERATING FACILITY

URS

1 0 1 2 Miles

SCALE: 1" = 2 Miles (1:126,720)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CM | DATE: 9/20/2011 | FIG. NO: **5.10-2**

PM: AL | PROJ. NO: 27651006.50513

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Percent Low-Income
- 0 %
- 1 - 20 %
- 21 - 34%
- 35 - 50%
- 6 Mile Buffer

OVERVIEW MAP

Riverside County
Block Group 458.00.6
Precent Low-Income 28.03%

Riverside County
Block Group 459.00.1
Percent Low-Income 15.3%

Riverside County
Block Group 458.00.3
Percent Low-Income 0%

Riverside County
Block Group 459.00.2
Percent Low-Income 35.73%

Imperial County
Block Group 124.00.2
Percent Low-Income 29.21%

La Paz County
Block Group 206.00.2
Percent Low-Income 10.73 %

10
78
Ripley
Palo Verde
Riverside County
Imperial County
La Paz County
CALIFORNIA
ARIZONA
Cibola

Project Features
- Project Site (approx. 7,529 ac.; approx. acres: 5,604 MWD, 1,615 BLM, 310 Private)
- ROW Corridor approx. 1,228 ac. (1,300 ft. corridor, 650ft. from c/l; approx acres: 841 BLM, 387 Private)
- Colorado River Substation (88 ac.)
- Colorado River Substation Gen-tie Area (approx. 124 ac.)
- City/Town
- County Boundary
- State Boundary

SOURCES:
Project Site, Transmission Line Corridor (VTN, 3-15-2011).
CRS Substation, Potential Gen-tie Area (Aspen, 3-11-2011).
County, State Boundaries, Roads (ESRI, 2007).
Poverty (Census Bureau, 2000).

PERCENTAGE LOW-INCOME BY CENSUS BLOCK RIO MESA SOLAR ELECTRIC GENERATING FACILITY

URS

1 0 1 2 Miles
SCALE: 1" = 2 Miles (1:126,720)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CM	DATE: 9/20/2011	FIG. NO: 5.10-3
PM: AL	PROJ. NO: 27651006.50513	

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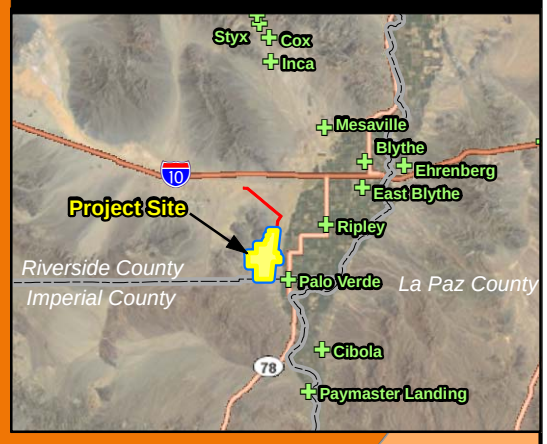
Percent Minority
Latino / Hispanic Population
- 0 - 27.8 %
- 27.9 - 49.9 %
- 50.0 - 70.6 %
- 6 Mile Buffer

OVERVIEW MAP



Riverside County
Block Group 458.00.6
Hispanic/Latino Population 51.8%

Riverside County
Block Group 459.00.1
Hispanic/Latino Population 38.4%

Riverside County
Block Group 458.00.3
Hispanic/Latino Population 49.1%

Riverside County
Block Group 459.00.2
Hispanic/Latino Population 70.6%

Imperial County
Block Group 124.00.2
Hispanic/Latino Population 27.8%

La Paz County
Block Group 206.00.2
Hispanic/Latino Population 32.8 %

10
78
Ripley
Palo Verde
Riverside County
Imperial County
La Paz County
CALIFORNIA
ARIZONA
Cibola

Project Features
- Project Site (approx. 7,529 ac.; approx. acres: 5,604 MWD, 1,615 BLM, 310 Private)
- ROW Corridor approx. 1,228 ac. (1,300 ft. corridor, 650ft. from c/l; approx acres: 841 BLM, 387 Private)
- Colorado River Substation (88 ac.)
- Colorado River Substation Gen-tie Area (approx. 124 ac.)
- City/Town
- County Boundary
- State Boundary

SOURCES:
Project Site, Transmission Line Corridor (VTN, 3-15-2011).
CRS Substation, Potential Gen-tie Area (Aspen, 3-11-2011).
County, State Boundaries, Roads (ESRI, 2007).
Hispanic/Latino Population (Census, 2000).
6 Mile Buffer (URS, 2011).

HISPANIC/LATINO POPULATION BY CENSUS BLOCK RIO MESA SOLAR ELECTRIC GENERATING FACILITY

URS

1 0 1 2 Miles
SCALE: 1" = 2 Miles (1:126,720)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CM | DATE: 9/20/2011 | FIG. NO: **5.10-4**
PM: AL | PROJ. NO: 27651006.50513

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