

5.11 Socioeconomics

This section describes the socioeconomic setting of the area that would be potentially affected by the proposed Ridgecrest Solar Power Project (RSPP or Project) and discusses the socioeconomic impacts caused by the construction and operation of the proposed Project. The section covers a range of economic and demographic characteristics of the area, including population, employment and economy, housing, public services and utilities, schools, and local government and finance. Environmental justice considerations are addressed specifically. Laws, ordinances, regulations, and standards (LORS) applicable to the Project socioeconomic factors, and a list of agency contacts, are discussed below.

The socioeconomic discussion presented in the following pages is intended to support compliance both by the California Energy Commission (CEC) with the requirements of the California Environmental Quality Act (CEQA) and by the Bureau of Land Management (BLM) with the requirements of the National Environmental Policy Act (NEPA). The two agencies are conducting a joint review of the Project and a combined CEQA/NEPA document will be prepared.

Summary

Project development would cause minimal adverse socioeconomic impacts and substantial positive impacts on local socioeconomic conditions. RSPP construction and operation employment would provide additional income to Kern County and other nearby areas, as would local expenditures for materials and services. The Project construction workforce would average 405 workers over a 28-month period (with a short term peak of 633), while the long-term operations work force will be 84 full-time employees. Construction will generate approximately \$59 million annually in economic benefit and operations will generate approximately \$9.7 million annually.

Most non-local construction workers are expected to commute rather than relocate to the Project area for an extended period of time. The closest housing opportunities and amenities to the Project site are in Ridgecrest, about five miles to the northeast; no other sizable communities are within approximately one hour from the site by car.. Some workers may use RV parks, hotels, or motels in the Ridgecrest area or rent apartments. However, Project population and housing impacts would be very small. No significant impacts are expected on local public services or utilities during construction.

The Project's modest size operation work force of 84 employees would not lead to significant population growth or other effects that could adversely affect local socioeconomic conditions. The Project is not expected to have disproportionate impacts on minority or low income populations (i.e., adverse environmental justice impacts). The Project site is in an undeveloped area with very few nearby residents, regardless of ethnicity or economic standing, and no local residents would experience any significant adverse impacts.

In addition to increasing employment and local revenue, the Project would have beneficial socioeconomic impacts by ensuring an adequate supply of electrical power to fuel the State's economy, and by helping California meet its Renewable Portfolio Standard and greenhouse gas emissions reduction goals.

It is conceivable that there potentially could be cumulative adverse socioeconomic impacts in the Ridgecrest area if all the cumulative projects occur as proposed and on the proposed schedules. However, the Project's contribution to such impacts would not be cumulatively considerable.

5.11.1 LORS Compliance

A summary of potentially applicable LORS is presented in Table 5.11-1 and in the text following the table. The Project will comply with all applicable Federal, State, and local LORS.

Table 5.11-1 LORS Applicable to Socioeconomics

LORS	Applicability	Where Addressed in AFC
Federal:		
Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations"	As a result of this Executive Order, U.S. Environmental Protection Agency (EPA) issued guidelines requiring Federal agencies and State agencies receiving Federal funds to develop strategies to address environmental justice issues.	Section 5.11.2
Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241	Prohibits discrimination on the basis of race, color, or national origin by all Federal agencies or activities receiving Federal financial assistance.	Section 5.11.1
State:		
California Taxation and Revenue Code Section 73	Allows property tax exclusion for certain types of solar energy systems.	Sections 5.11.1 and 5.11.3
Education Code Section 17620	The governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities, subject to any limitations (set forth by Section 65995 of the Government Code [GC]).	Sections 5.11.1 and 5.11.3
California GC Sections 65995-65998 (amended by Senate Bill [SB] 50)	Public agencies may impose fees, charges or other financial requirements on developers to offset the cost of school facilities.	Sections 5.11.1 and 5.11.3
Title 14 California Code of Regulations (CCR) Section 15131	The CEQA guidelines state that economic or social information may be included in an Environmental Impact Report, but economic and social effects shall not be treated as significant effects on the environment.	Sections 5.11.2 and 5.11.3
Local:		
Kern County General Plan (Land Use, Conservation, and Open Space Element Elements)	Establishes goals and implementing policies to achieve a diversified economic base and adequate City services and infrastructure.	Section 5.11.1.3

5.11.1.1 Federal LORS

Executive Order 12898

Executive Order 12898, as well as the President's February 11, 1994, Memorandum on Environmental Justice (sent to the heads of all departments and agencies), are intended to ensure that Federal departments and agencies identify and address disproportionately high and adverse human health or environmental effects of their policies, programs and activities on minority populations and low income

populations, commonly referred to as “environmental justice.” This consideration extends to permits issued by Federal agencies. Because the Project will require a Federal agency approval (under the Endangered Species Act, for a right-of-way from the Bureau of Land Management (BLM), and for Stormwater discharges), the Executive Order applies to the proposed Project.

Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241 (codified as amended in various sections of 42 United States Code.)

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin by all Federal agencies or activities receiving Federal financial assistance.

5.11.1.2 State LORS

California Taxation and Revenue Code Section 73

Section 73 of the California Revenue and Taxation Code allows a property tax exclusion for certain types of solar energy systems installed between January 1, 1999, and December 31, 2016. This section was amended in 2008 to include the construction of an active solar energy system incorporated by an owner-builder in the initial construction of a new building that the owner-builder does not intend to occupy or use.

Education Code Section 17620

Education Code Section 17620 authorizes school districts to levy a fee, charge, dedication, or other requirement against any development project for the construction or reconstruction of school facilities, provided that the district can show justification for levying of fees. Government Code (GC) 65995 limits the fee to be collected to the statutory fee unless a school district conducts a Facility Needs Assessment (GC Section 65995.6) and meets certain conditions. The administering agency implementing school impact fees for the Project is the Sierra Sands Unified School District (SSUSD).

California GC Sections 65995-65998 (amended by SB 50)

GC Sections 65995-65998 limit fees, charges, dedications, or other requirements for the construction (or reconstruction) of school facilities in connection with, or made a condition of, the development of property. Senate Bill (SB) 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 Section 17620 with support of a Facility Needs Assessment) may not exceed \$0.31 per square foot of covered, enclosed space.

Title 14 CCR Section 15131

The regulations implementing CEQA state that economic or social factors of a project may be included in a CEQA document but 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. Additionally, economic, social, and particularly housing factors should 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. The CEC’s licensing process is legally CEQA-equivalent.

5.11.1.3 Local LORS

Kern County General Plan

The Kern County General Plan was adopted in 2004. This section discusses applicable land use designations and policies described in the Kern County General Plan.

Although the proposed Project does not require socioeconomic-related permits, the Kern County General Plan contains goals related to maintaining and improving the socioeconomic conditions of the County.

The Land Use Element of the Kern County General Plan states that “because of the close interrelationship between land use, conservation, and open space issues, Kern County’s Land Use, Conservation, and Open Space Element provides for a variety of land uses for future economic growth while also assuring the conservation of Kern County’s agricultural, natural, and resource attributes.”

5.11.1.4 Involved Agencies and Local Contacts

No socioeconomics-related permits are required by the proposed Project. Table 5.11-2 lists Federal and local agency contacts for the Project.

Table 5.11-2 Agencies and Agency Contacts

Agency Contact	Phone/Email	Permit/Issue
Karen Henry EPA, Region IX 75 Hawthorne Street San Francisco, CA 94105	(415) 972-3844 henry.karen@epa.gov	Executive Order 12898 (Environmental Justice)
Ted James, AICP, Director Kern County Planning Department Public Services Building 2700 "M" Street, Suite 100 Bakersfield, CA 93301-2370	(661) 862-8600 planning@co.kern.ca.us	Kern County General Plan

5.11.1.5 Required Permits and Permitting Schedule

There are no socioeconomics-related permits are required for the proposed Project. Therefore, there are no applicable permitting agencies or agency contacts.

5.11.2 Affected Environment

5.11.2.1 Study Area

This section discusses potentially affected socioeconomic resources for the Project. The Project footprint comprises a large, contiguous area consisting of approximately 3,920 acres. The Project site is located immediately south of U.S. Highway 395 and approximately five miles southwest of the city of Ridgecrest, California. The Project is located on flat, desert terrain on public land managed by BLM.

The Project site is located in northeastern Kern County, California. For the purposes of the socioeconomic analysis, the study area is considered to be the counties within a two-hour drive from the Project site on mapped roads (Federal, State, city and county). This includes portions of the counties of Kern, Los Angeles, and San Bernardino. To simplify the analysis by focusing on the most likely communities of residence for commuters, those cities and communities within 30-minute drive times are specifically included in the analysis. Also included are all cities and communities in Kern County with populations over 20,000 individuals and all cities with populations over 40,000 individuals in Los Angeles and San Bernardino Counties that are within a two-hour drive time of the Project site.

Figure 5.11-1 depicts the counties and municipalities relevant to this analysis, along with the approximate drive times from the Project site. These municipalities include Ridgecrest, Apple Valley, Hesperia, Lancaster, Palmdale, and Victorville.

5.11.2.2 Population

The Project is located in Kern County, which is the thirteenth most populous county in southern California, and is the third largest county in land area in the State, covering more than 8,100 square miles. The population of Kern County grew from 665,519 in 2000 to an estimated 823,550 in 2008. This growth represents a population increase of approximately 24 percent in 8 years. Population estimates and future population projections for the counties within the study area are summarized in Table 5.11-3.

Table 5.11-3 County Population Estimates, Projections, and Average Annual Growth Rates

County	2000	2008 (July 1)	Average Annual Growth Rate 2000-2008	2010 Projection	Average Annual Growth Rate 2008-2010	2020 Projection	Average Annual Growth Rate 2010-2020	2030 Projection	Average Annual Growth Rate 2020-2030
Kern	665,519	823,550	3.0%	871,728	2.9%	1,086,113	2.5%	1,352,627	2.5%
Los Angeles	9,578,960	10,347,437	1.0%	10,514,663	0.8%	11,214,237	0.7%	11,920,289	0.6%
San Bernardino	1,721,942	2,060,722	2.5%	2,177,596	2.8%	2,581,371	1.9%	2,958,939	1.5%
<i>California</i>	34,105,437	38,148,493	1.5%	39,135,676	1.3%	44,135,923	1.3%	49,240,891	1.2%
Source: California DOF 2007									

The population of Ridgecrest in 1990 was 28,295. As shown in Table 5.11-4, the population had contracted to 24,927 by 2000. However, the population rebounded, and in 2009 the population of Ridgecrest was estimated at 28,353. Ridgecrest is projected to continue to grow at a rate similar to Kern County. The population of Kern County is projected to grow to 1,352,627 by 2030. The estimated population of Apple Valley (San Bernardino County) in 2009 was 69,861, an annual percent increase of approximately 4.5 percent since 2000. Hesperia and Victorville, also within San Bernardino County, experienced annual growth rates of 4.5 and 8.1 percent, respectively, from 2000 to 2009. Palmdale and Lancaster, the nearest cities in Los Angeles County, had estimated populations of 151,346 and 145,074 in 2009, respectively. San Bernardino County and Los Angeles County are expected to grow to 2,957,753 and 11,920,289, respectively, by 2030.

Table 5.11-4 Study Area Communities Population Growth

City	April 1, 1990	April 1, 2000	January 1, 2009	Percent Annual Change (2000-2009)
Kern County				
Ridgecrest	28,295	24,927	28,353	1.5
Los Angeles County				
Lancaster	97,300	118,718	145,074	2.5
Palmdale	68,946	116,670	151,346	3.3
San Bernardino County				
Apple Valley	46,079	54,239	69,861	3.2
Hesperia	50,418	62,590	88,184	4.5
Victorville	40,674	64,029	109,441	8.1
Source: California Department of Finance, 2009a,b				

5.11.2.3 Housing

Permanent Housing

Table 5.11-5 presents the housing resources in the study area counties of Kern, Los Angeles, and San Bernardino. As of January 1, 2009, Kern County had 279,769 total housing units, with a vacancy rate of 9.9 percent. Of the other counties in the study area, San Bernardino County had the highest vacancy rate (11.6 percent), and Los Angeles County had the lowest (4.2 percent). Among the cities relevant to the Project, Ridgecrest had a vacancy rate of 8.5 percent. Of the three counties, Los Angeles County had the highest number of households (3,274,667) and the highest number of total housing units (3,418,698).

Table 5.11-5 Study Area Housing Characteristics, as of 1/1/2009

County/City	Total Housing Units	Total Vacant Housing Units	Vacancy
Kern County	279,769	27,553	9.9%
Ridgecrest	11,950	1,018	8.5%
Los Angeles County	3,418,698	144,031	4.2%
Lancaster	49,321	4,159	8.4%
Palmdale	46,254	3,500	7.6%
San Bernardino County	690,234	610,352	11.6%
Apple Valley	24,983	2,089	8.4%
Hesperia	28,815	1,864	6.5%
Victorville	35,703	2,754	7.7%
California	13,530,719	798,312	5.9%
Source: California DOF, 2009c.			

Temporary Housing

Temporary housing would likely be used by temporary construction workers and a small proportion of operational workers. Temporary housing in the form of hotel/motel rooms are present throughout the three counties of the study area, typically concentrated in major urban areas or near major transportation nodes. For the purposes of this analysis, only those hotels in the closest population center were tabulated under the assumption that construction and operations workers would concentrate in this area for commuting ease. Based on information from the website Travelocity.com, there are about 649 guest rooms among seven hotels and motels in the area surrounding Ridgecrest alone, with extensive additional temporary housing available in the communities within two hours of the proposed Project site. There is a relatively high demand for hotels/motels in the area, due to the close proximity to China Lake Naval Air Weapons Station (NAWS); however, an additional five to six hotels are either under construction or have been approved for construction in the City of Ridgecrest. These hotels are projected to add at least 200 rooms to the available rooms in the area. Additional temporary housing opportunities are available in the form of recreational vehicle facilities, mobile home sites, and weekly rental units.

5.11.2.4 Economy and Employment

Study area employment statistics by civilian industry sector by county for 2007 are summarized in Table 5.11-6. The educational, health, and social services sector is the largest non-government employment sector in Kern County. This sector accounts for over 18 percent of the total jobs in Kern County. Additional leading industries in the area include agriculture, forestry, fishing and hunting, and mining; transportation and warehousing, and utilities; and construction. The sector with the lowest number of persons employed is the information sector, employing 4,638 people. China Lake NAWS is located to the north of the City of Ridgecrest and is the major employer in the vicinity of the Project. China Lake NAWS employs approximately 4,400 civilian employees and about 1,000 military personnel (including tenant Operation Test and Evaluation Force squadron VX-9) and is supported by over 1,500 contractor employees.

Table 5.11-6 Employment by Industry for Kern, Los Angeles, and San Bernardino Counties – 2007

Sector	Kern County Employment		Los Angeles County Employment		San Bernardino County Employment	
	Total	Percent of Total	Total	Percent of Total	Total	Percent of Total
Agriculture, forestry, fishing and hunting, and mining	39,165	12.9	13,124	0.3	5,031	0.6
Construction	26,105	8.6	310,072	6.9	81,045	9.7
Manufacturing	15,701	5.2	546,678	12.1	89,955	10.8
Wholesale trade	10,794	3.6	189,005	4.2	36,161	4.3
Retail trade	34,630	11.4	480,343	10.6	104,368	12.5
Transportation and warehousing, and utilities	16,504	5.5	233,148	5.2	63,767	7.7
Information	4,638	1.5	196,086	4.3	14,887	1.8
Finance, insurance, real estate, and rental and leasing	14,686	4.9	331,458	7.3	54,040	6.5
Professional, scientific, management, administrative, and waste management services	24,537	8.1	529,879	11.7	68,787	8.3
Educational, health, and social services	56,944	18.8	841,497	18.6	162,779	19.5
Arts, entertainment, recreation, accommodation, and food services	23,006	7.6	432,174	9.6	66,536	8.0
Other services (except public administration)	14,305	4.7	270,463	6.0	41,486	5.0
Public administration	21,581	7.1	140,380	3.1	44,669	5.4
Total	302,596	100	4,514,307	100	833,511	100

Source: California Employment Development Department (EDD), 2009a

The largest civilian employment sector in Los Angeles County is the educational, health, and social services sector. This sector accounts for 841,497 jobs, almost 19 percent, of the total number of jobs in the county. Other leading industries include manufacturing; professional, scientific, and management, and administrative and waste management; and retail trade. The largest civilian employment sector in San Bernardino County is also educational, health, and social services. This sector accounts for 162,779 jobs or 19.5 percent of the total jobs in the county. Other leading industry sectors include retail trade, manufacturing, and construction.

Table 5.11-7 presents the projected new jobs by occupation for those counties in the study area. For the purposes of employment data tabulation, the California Employment Development Department (EDD) groups Riverside and San Bernardino counties as one statistical area. Hence, they are presented in Table 5.11-7 together. Kern County and Los Angeles County are presented separately. The highest number of new jobs projected in Kern County is within the occupation of farmworkers and laborers, crop, nursery, and greenhouse. Job growth is also anticipated for cashiers, retail salespersons, and elementary school teachers (except special education). In Los Angeles and San Bernardino County, retail sales are projected to have the most job openings. This is followed by personal and home care aides and cashiers in Los Angeles County and cashiers and waiters and waitresses in San Bernardino County.

**Table 5.11-7 Occupational Projections –
Kern, Los Angeles, and San Bernardino/Riverside Counties and the State of California, 2006-2016**

Occupation	Number of Job Openings
Kern County	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	14,270
Cashiers	3,820
Retail Salespersons	3,760
Elementary School Teachers, Except Special Education	2,160
Laborers and Freight, Stock, and Material Movers, Hand	2,140
Waiters and Waitresses	2,040
Combined Food Preparation and Serving Workers, Including Fast Food	1,950
Truck Drivers, Heavy and Tractor-Trailer	1,940
Office Clerks, General	1,730
Correctional Officers and Jailers	1,690
Los Angeles County	
Retail Salespersons	63,140
Personal and Home Care Aides	51,810
Cashiers	48,060
Office Clerks, General	35,820
Waiters and Waitresses	34,590
Laborers and Freight, Stock, and Material Movers, Hand	32,440
Customer Service Representatives	29,880
Registered Nurses	24,810
Elementary School Teachers, Except Special Education	22,810
Combined Food Preparation and Serving Workers, Including Fast Food	21,070
Riverside and San Bernardino Counties	
Retail Salespersons	24,360
Cashiers	20,170
Waiters and Waitresses	15,340

**Table 5.11-7 Occupational Projections –
Kern, Los Angeles, and San Bernardino/Riverside Counties and the State of California, 2006-2016**

Occupation	Number of Job Openings
Laborers and Freight, Stock, and Material Movers, Hand	13,460
Combined Food Preparation and Serving Workers, Including Fast Food	12,880
Elementary School Teachers, Except Special Education	11,450
Office Clerks, General	11,190
Personal and Home Care Aides	9,710
Customer Service Representatives	8,890
Registered Nurses	8,380
California	
Retail Salespersons	261,600
Cashiers	191,300
Waiters and Waitresses	180,100
Office Clerks, General	138,300
Personal and Home Care Aides	125,100
Laborers and Freight, Stock, and Material Movers, Hand	120,900
Customer Service Representatives	111,600
Registered Nurses	99,000
Elementary School Teachers, Except Special Education	93,200
Combined Food Preparation and Serving Workers, Including Fast Food	93,200
Source: California EDD, 2009b	
Job openings are the sum of new jobs and net replacements for the 10-year period. Some occupations may have declining employment during the projection period due to industry change; however, they have a substantial number of job openings due to the need for replacements. Net Replacement openings are an estimate of the number of job openings expected because people have permanently left an occupation. It estimates the net movement of 1) experienced workers who leave an occupation and start working in another occupation, stop working altogether, or leave the geographic area minus 2) experienced workers who move into such an opening. It does not represent the total number of jobs to be filled due to the need to replace workers.	

5.11.2.5 Project Related Employment

Tables 5.11-8 through 5.11-10 present County employment figures for those skilled workers (by craft) required for construction and operation of the Project as estimated by the Project proponent. Existing employment figures for 2006 are provided, as well as employment projections for the selected occupations for 2016. Kern County and Los Angeles County are presented separately in Table 5.11-8 and Table 5.11-9, respectively. The EDD groups Riverside and San Bernardino into one statistical area for data presentation purposes. Thus, these two counties are presented together in Table 5.11-10. As of 2006, there were the following numbers of skilled workers in Kern County: construction workers (19,190); carpenters (2,740); and construction laborers (4,860). Los Angeles County has a relatively large number of construction workers (143,280), as well as metal workers (2,700). San Bernardino County had 116,810 construction workers in 2006. Specialized workers in some relevant positions, including paving, surfacing, and tamping equipment operators, power plant operators, and construction trade helpers, were relatively scarce for all counties in the study area.

Table 5.11-8 Local Labor Pool by Craft – Kern County

Occupational Title	Annual Average Employment		Employment Change		Average Annual Job Openings		
	2006	2016	Number	Percent	New Jobs	Net Replacements	Total
Construction Managers	2,460	2,820	360	14.6	36	34	70
Construction Workers	19,190	21,310	2,120	11.0	212	321	533
Carpenters	2,740	3,060	320	11.7	32	37	69
Cement Masons and Concrete Finishers	990	1,100	110	11.1	11	29	40
Construction Laborers	4,860	5,590	710	14.6	71	37	108
Paving, Surfacing, and Tamping Equipment Operators	100	110	10	10.0	1	2	3
Operating Engineers and Other Construction Equipment Operators	1,500	1,590	70	4.7	7	29	36
Drywall and Ceiling Tile Installers	920	980	60	6.5	6	13	19
Electricians	2,350	2,580	230	9.8	23	61	84
Painters, Construction and Maintenance	990	1,120	130	13.1	13	18	31
Plumbers, Pipefitters, and Steamfitters	1,340	1,530	190	14.2	19	28	47
Sheet Metal Workers	280	300	20	7.1	2	7	9
Helpers - Construction Trades	250	260	10	4.0	1	8	9
Maintenance and Repair Workers, General	2,630	3,100	470	17.9	47	7	54
Welders, Cutters, Solderers, and Brazers	1,110	1,430	320	28.8	32	24	56
Plant and System Operators	1,460	1,600	140	9.6	14	39	53
Power Plant Operators	190	220	30	15.8	3	7	10
Architects, Surveyors, and Cartographers	400	500	100	25.0	10	10	20
Engineering Managers	380	460	80	21.1	8	8	10
Supervisors, Construction and Extraction Workers	2,460	2,820	360	14.6	36	34	70
Machinists	410	480	70	17.1	7	6	13
Source: California EDD, 2009c							

Table 5.11-9 Local Labor Pool by Craft – Los Angeles County

Occupational Title	Annual Average Employment		Employment Change		Average Annual Job Openings		
	2006	2016	Number	Percent	New Jobs	Net Replacements	Total
Construction Managers	15,490	16,440	950	6.1	95	216	311
Construction Workers	143,280	153,890	10,610	7.4	1,061	2,347	3,408
Carpenters	28,070	30,050	1,980	7.1	198	380	578
Cement Masons and Concrete Finishers	4,150	4,530	380	9.2	38	120	158
Construction Laborers	31,330	34,810	3,480	11.1	348	236	584
Paving, Surfacing, and Tamping Equipment Operators	790	870	80	10.1	8	16	24
Operating Engineers and Other Construction Equipment Operators	4,410	4,780	370	8.4	37	85	122
Drywall and Ceiling Tile Installers	8,600	8,850	250	2.9	25	118	143
Electricians	13,040	13,700	660	5.1	66	336	402
Painters, Construction and Maintenance	13,240	14,250	1,010	7.6	101	235	336
Plumbers, Pipefitters, and Steamfitters	12,090	12,900	810	6.7	81	249	330
Sheet Metal Workers	2,700	2,860	160	5.9	16	66	82
Helpers - Construction Trades	6,670	7,020	350	5.2	35	169	204
Maintenance and Repair Workers, General	30,520	32,930	2,410	7.9	241	75	316
Welders, Cutters, Solderers, and Brazers	8,410	8,890	480	5.7	48	78	226
Plant and System Operators	4,620	4,980	360	7.8	36	104	140
Power Plant Operators	320	360	40	12.5	4	11	15
Architects, Surveyors, and Cartographers	6,470	7,030	560	8.7	56	135	191
Engineering Managers	8,410	8,840	430	5.1	43	170	213
Supervisors, Construction and Extraction Workers	15,490	16,440	950	6.1	95	216	311
Machinists	10,400	10,380	-20	-0.2	0	161	161
Source: California EDD, 2009c							

Table 5.11-10 Local Labor Pool by Craft - Riverside and San Bernardino Counties

Occupational Title	Annual Average Employment		Employment Change		Average Annual Job Openings		
	2006	2016	Number	2006	2016	Number	2006
Construction Managers	4,380	5,110	730	16.7	135	160	295
Construction Workers	116,810	132,160	15,350	13.1	1,061	2,347	3,408
Carpenters	28,850	32,390	3,540	12.3	198	380	578
Cement Masons and Concrete Finishers	4,110	4,690	580	14.1	38	120	158
Construction Laborers	27,930	32,080	4,150	14.9	348	236	584
Paving, Surfacing, and Tamping Equipment Operators	630	720	90	14.3	8	16	24
Operating Engineers and Other Construction Equipment Operators	4,790	5,460	670	14.0	37	85	122
Drywall and Ceiling Tile Installers	7,570	8,310	740	9.8	25	118	143
Electricians	6,740	7,600	860	12.8	66	336	402
Painters, Construction and Maintenance	7,950	9,210	1,260	15.8	101	235	336
Plumbers, Pipefitters, and Steamfitters	4,630	5,330	700	15.1	81	249	330
Metal Workers and Plastic Workers	19,460	20,800	1,340	6.9	0	1,024	1,024
Helpers - Construction Trades	120	130	10	8.3	35	169	204
Maintenance and Repair Workers, General	11,920	13,690	1,770	14.8	241	75	316
Welders, Cutters, Solderers, and Brazers	3,960	4,640	680	17.2	48	178	226
Plant and System Operators	2,030	2,380	350	17.2	36	104	140
Power Plant Operators	310	370	60	19.4	4	11	15
Architects, Surveyors, and Cartographers	1,420	1,670	250	17.6	56	135	191
Engineering Managers	1,370	1,600	230	16.8	43	170	213
Supervisors, Construction and Extraction Workers	10,990	12,380	1,390	12.6	95	216	311
Machinists	2,630	2,960	330	12.5	0	161	161
Source: California EDD, 2009c							

According to 2009 employment figures for all occupations presented, these occupations are anticipated to either remain constant or grow by 2016. The largest growth by occupation in Kern County is anticipated to be welders, cutters, solderers, and brazers (28.8 percent) and architects, surveyors, and cartographers (25.0 percent). In Los Angeles County, the occupations with the largest amount of anticipated growth are power plant operators (12.5 percent) and construction laborers (11.1 percent). For San Bernardino County, the two occupations with the largest amount of anticipated growth are architects, surveyors, and cartographers (17.6 percent) and welders, cutters, solderers, and brazers and plant and system operators (17.2 percent). Local population projections indicate that growth is still expected within Kern County in the next 10 to 20 years. Based on the local availability of housing and resources, increased populations will continue to require construction workers, providing jobs within the community.

Existing Unemployment Rates

As of May 2009, Kern County had a labor force of 379,500 workers, of which 352,600 were employed. Los Angeles and San Bernardino counties had labor forces of 4,968,100 and 875,100 workers, respectively. In Los Angeles County, 4,403,800 workers were employed. In San Bernardino County, 762,800 workers were employed. The highest unemployment rate for any county in the study area is in Kern County (14.2 percent), followed by San Bernardino (12.8 percent), and Los Angeles County (11.4 percent). The labor force of the study area counties and communities is presented in Table 5.11-11.

Table 5.11-11 Employment Data in the Study Area (May 2009)

County/City	Labor Force	Total Employment	Number Unemployed	Unemployment Rate	Median Household Income¹
Kern County	379,500	325,600	53,900	14.2%	\$44,620
Ridgecrest	16,200	14,800	1,300	8.2%	\$50,920
Los Angeles County	4,968,100	4,403,800	564,300	11.4%	\$52,628
Lancaster	57,300	48,200	9,100	15.9%	\$46,666
Palmdale	56,700	48,700	8,000	14.1%	\$55,240
San Bernardino County	875,100	762,800	112,300	12.8%	\$54,093
Apple Valley	26,600	22,900	3,700	14.0%	\$48,946
Hesperia	31,200	26,100	5,100	16.4%	\$48,244
Victorville	30,600	25,900	4,700	15.4%	\$48,462
California	18,535,500	16,506,000	2,029,500	10.95	\$55,361
¹ 2005-2007 Average					
Source: California EDD 2009d; U.S. Census Bureau 2008					

Projected Unemployment Rates

While no State-generated figures exist for projected unemployment rates in Kern, Los Angeles, and San Bernardino Counties, a recent report prepared for the United States Conference of Mayors regarding the role of metropolitan areas in the American Recovery and Reinvestment Act does present near-term unemployment projections for the nation through 2010 and for major metropolitan areas through late 2009. At the time of publishing (January 2009), IHS Global Insight estimated that the nationwide unemployment rate would rise above 9.0 percent by early 2010. The report states that southern California metro-economies have experienced a sharp decline in the housing market, which has led to a loss of many jobs in the construction industry.

5.11.2.6 Public Services and Utilities

This subsection describes public services and utilities in the Project area.

Law Enforcement

The Kern County Sheriff's Department provides police protection and public safety services in the vicinity of the subject property. These services include traffic and neighborhood police protection and public safety services. According to the Kern County Sheriff's Department website, the Ridgecrest Substation of the Sheriff's Department is staffed by one sergeant, one senior deputy sheriff, 11 deputy sheriffs, and nine active reserve deputies. This station provides law enforcement services to an estimated 1,026 square miles, which include the Project site and linear facilities. The County Sheriff would respond to the Project plant site from the Ridgecrest Substation, which is located at 128 East Coso Street, approximately seven miles northeast of the site. According to the Kern County Sheriff's Office, average response time to the Project site depends on the severity of the incident and the location of the deputies on call.

The California Highway Patrol 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. Since the Project will have its own security, no impact to the City's law enforcement is expected.

Fire Protection

According to the Kern County Fire Department's website, fire protection in the Project area is provided by the Kern County Fire Department. The Kern County Fire Department is a full-service department providing fire management, fire operations, fire and environmental safety, and emergency medical services to the residents of Kern County. There are two fire stations in the City of Ridgecrest (Fire Station [FS] 74 and 77) and one in the CDP of Inyokern (FS 73). The nearest fire station is FS 77, located approximately 4.5 miles to the northeast of the Project site at 815 West Dolphin Avenue in the City of Ridgecrest (Kern County Fire Department 2009). Average response time is estimated to be dependent on the nature of the emergency and station response availability. The Kern County Fire Department has 14 Mutual Aid Agreements with neighboring fire suppression organizations to strengthen the emergency services available to customers. Since the Project will have its own fire suppression on site, no impact to the City's fire suppression is expected.

Hospitals

Emergency medical services in the Project area are provided by Liberty Ambulance Service (1325 W. Ridgecrest Boulevard Ridgecrest, California 93555), which provides transportation, including ambulance service and monitoring, service area performance standards, and communication systems. According to staff at Liberty Ambulance Service, patients are transferred to the appropriate hospital based on the injury and availability of space at the local hospitals; however, based on the site location, patients are usually transferred to the Ridgecrest Regional Hospital (RRH). The nearest hospital to the Project plant site is the RRH. Table 5.11-12 provides a summary of the hospital services in the Project area.

Electricity

Electrical service to local consumers is provided by Southern California Edison.

Water and Wastewater

The Project proposes to use Indian Wells Valley Water District (IWWVD) water for Project uses (e.g., mirror washing water, boiler feed water makeup) and for domestic uses by site personnel (e.g., drinking, showers, sanitary) (see Section 5.17, Water Resources). Total Project water consumption is estimated at approximately 150 acre-feet per year. The Project will utilize a septic tank and leach field for treatment and disposal of sanitary wastes. No hookups to public sewer systems will occur.

Table 5.11-12 Hospitals Serving the Project Area

Hospital/Address	Available Services
Ridgecrest Regional Hospital 1081 North China Lake Boulevard Ridgecrest	RRH is licensed for 80 beds, including 4 intensive care unit beds. Departments include cardiology, a critical care unit, surgical, and radiological groups.
Barstow Community Hospital 555 South 7 th Street Barstow	The Barstow Community Hospital has 56 licensed beds and offers services such as an emergency room, a critical care unit, and general surgery services.
Antelope Valley Hospital and Medical Center, 1600 West Avenue J Lancaster	24-hour Emergency Room, Obstetrical Services, Critical Care Units, Rehabilitation, Maternal Child Health Care, Physical Therapy, Home Care Services, Radiology, Transportation Services, and Mental Health Care. An estimated 420 beds are available.
Kern Medical Center 1700 Mt. Vernon Avenue Bakersfield	Kern Medical Center is a 222 bed acute-care teaching hospital. Services include intensive care, critical care, surgery, pulmonary care, and cardiology.

Solid Waste

Non-hazardous solid waste generated at the Project site during both construction and operation phases will be transported off site for recycling or disposal to a permitted Class III landfill. As noted in Section 5.16, Waste Management, there are four Class III landfills located in Kern County within approximately 75 miles of the Project site: the Boron, Ridgecrest-Inyokern, Tehachapi, and U.S. Borax landfills. The Ridgecrest-Inyokern landfill is closest -- less than 10 miles from the Project site.

5.11.2.7 Schools

Educational needs in the Project area are served by the Sierra Sands Unified School District (SSUSD). As of March 2009, there were six elementary schools (K-5), two middle schools (6-8), one high school (9-12), and one continuation high school (9-12). Table 5.11-13 summarizes data for schools within the SSUSD. Total enrollment in the SSUSD was 5,509 students during the 2008-2009 school year and the district does not expect substantial change during Project construction. The school district expects to have the necessary capacity to accommodate new students as a result of the operation of the Project.

5.11.2.8 Fiscal Resources

The local jurisdiction that will contain Project facilities and that have taxing power over the Project is Kern County. For the fiscal year (FY) 2008-2009, net assets as of July 23, 2008, for Kern County totaled approximately \$1.68 billion, which was an increase of over \$0.28 billion from FY 2007-2008. Kern County's key expenditures were on public protection, which composed 37 percent of total expenditures. A summary of Kern County's expenses and revenues for the FY is provided in Table 5.11-14.

Table 5.11-13 Summary of Schools and Enrollment in Sierra Sands Unified School District

School Name	Grades	Location	Students
Faller Elementary School	K-5	1500 Upjohn Avenue, Ridgecrest	490
Gateway Elementary School	K-5	501 S. Gateway Boulevard, Ridgecrest	505
Inyokern Elementary School	K-5	6601 Locust Avenue, Inyokern	203
Las Flores Elementary School	K-5	720 Las Flores Avenue, Ridgecrest	477
Pierce Elementary School	K-5	674 N. Gold Canyon, Ridgecrest	378
Rand Elementary School	K-5	PO Box 157, Coeur D'Alene & Elmo, Johannesburg	8

Table 5.11-13 Summary of Schools and Enrollment in Sierra Sands Unified School District

School Name	Grades	Location	Students
Richmond Elementary School	K-5	1206 Kearsarge, Ridgecrest	447
James Monroe Middle School	6-8	340 W. Church Avenue, Ridgecrest	545
Murray Middle School	6-8	921 E. Inyokern Road, Ridgecrest	683
Burroughs High School	9-12	500 French Avenue, Ridgecrest	1,623
Mesquite High School	9-12	140 Drummond Avenue, Ridgecrest	144

Source: SSUSD, 2008-2009 School Year

Table 5.11-14 County of Kern Expenses and Revenues for FY 2008-2009

Expenses	Amount \$1.68 billion	Percentage 100%
General Government	\$153,422,702	9%
Public Protection	\$615,633,104	37%
Public Ways and Facilities	\$83,051,389	5%
Health and Sanitation	\$247,558,856	15%
Public Assistance	\$461,103,573	27%
Education	\$10,466,703	1%
Recreation and Cultural Services	\$14,748,928	1%
Debt Service	\$8,542,697	1%
Appropriations for Contingency-General Purpose	\$12,655,364	1%
Provisional for Reserves/Designations	\$75,781,153	5%
Revenues	\$1.68 billion	100%
Taxes	\$373,326,922	22%
Licenses, Permits, and Franchises	\$20,197,021	1%
Fines, Forfeitures, and Penalties	\$23,477,539	1%
Revenue from Use of Money & Property	\$24,694,654	1%
Intergovernmental Revenues	\$669,248,787	41%
Charges for Services	\$167,310,921	10%
Miscellaneous Revenues	\$18,416,656	1%
Other Financing Sources	\$243,580,766	14%
Balances from Prior Year	\$126,871,128	8%
Cancellation of Prior Year Reserves/Designations	\$15,840,075	1%
Revenues minus Expenses	\$0.00	--

Source: County of Kern, Auditor/Controller/County Clerk, 2009

5.11.3 Environmental Impacts

The following sections discuss the expected impacts of Project construction and operation on the socioeconomic resources of the Project area.

5.11.3.1 Evaluation Methods and Significance Criteria

For the purposes of this evaluation, local environmental impacts were determined by considering anticipated Project demands during construction and operation within the context of the existing and projected socioeconomic resources of the Ridgecrest, Kern County, Los Angeles County, and San Bernardino County. The criteria used to determine the significance of Project-related socioeconomic impacts are those suggested in the CEQA guidelines. Project-related impacts would be considered significant if they:

- Induce substantial growth or concentration of population;
- Displace a large number of people or existing housing;
- Cause a substantial decrease in employment or property values;
- Result in the addition of students into an impacted school;
- Cause a substantial increase in the demand for public services that would affect local agencies' ability to provide public services; or
- Cause substantial disruption or division of the physical arrangement of an established community.

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

5.11.3.2 Construction

The following subsections describe the potential construction phase impacts of the Project on population, housing, employment, public services, utilities, schools, and the economic base and fiscal resources of the Ridgecrest, Kern County, Los Angeles County, and San Bernardino County.

Project Work Force and Population

Project construction is expected to occur over a total of 28 months. Including linear and plant site facilities, Project construction will require an average of 405 workers per day over the entire 28-month construction period with manpower requirements peaking at approximately 633 workers in Month 11 of construction (see Table 5.11-15). A wide variety of construction trades will be required. The number of workers by trade required for Project construction is shown in Table 5.11-15.

According to the Electric Power Research Institute (EPRI) report titled *Socioeconomic Impacts of Power Plants*, construction workers will commute as much as two hours to construction sites from their homes, rather than relocate. The proposed Project would be expected to draw from the construction workforce in the entire region, not merely those workers that are available within the immediate area.

With the exception of some specialized trades involving a limited number of workers, it is anticipated that the Project construction workforce would be drawn from the regional area. Even at the peak of construction (633 workers), the availability of approximately 684,110 construction, engineering, electrical, and other similar workers in Kern, Los Angeles, and San Bernardino Counties would be more than sufficient to meet the Project employment needs, with the Project requiring approximately 0.9 percent of the available workforce. It is anticipated that the Project construction work force would be drawn in large part from the local area (i.e., Ridgecrest and Kern County) and to a more limited extent from Los Angeles and San Bernardino Counties. Project construction labor demand would not significantly affect the availability of construction labor in the region.

Table 5.11-15 Project Construction Workforce by Skill

Manpower by Trade	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28
Surveyor	4	19	14	11	11	14	12	16	10	10	11	10	6	6	6	6	8	10	5	6	6	6	3	-	-	-	-	-
Operator	32	82	85	82	84	79	62	57	56	53	53	47	42	34	33	38	39	37	16	18	17	16	10	5	7	6	3	1
Laborer	50	112	104	96	104	145	125	121	123	110	117	102	84	62	58	66	68	82	56	60	58	56	48	38	42	39	32	9
Truck Driver	16	30	26	23	23	27	23	23	21	20	21	17	15	12	11	13	13	13	5	5	5	5	5	3	4	3	2	6
Oiler	1	6	5	4	4	10	4	5	4	4	4	3	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-
Carpenter	3	16	20	24	27	42	47	48	50	60	60	60	60	60	60	60	60	60	60	60	40	20	7	5	4	3	-	-
Boilermaker	-	-	-	-	-	-	-	-	-	-	-	11	11	11	11	11	11	-	-	-	-	-	-	-	-	-	-	-
Paving Crew	-	11	-	23	10	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pipe Fitter	-	2	3	4	4	5	26	42	76	89	124	145	171	188	231	221	214	210	210	162	106	79	53	42	20	4	2	-
Electrician	1	2	4	9	21	28	28	31	45	68	77	84	84	84	84	71	65	54	30	30	26	26	20	18	15	15	9	-
Cement Finisher	-	4	16	10	26	69	71	86	86	76	71	67	52	52	52	52	52	52	12	9	4	4	2	2	2	2	1	-
Ironworker	1	4	8	9	12	13	13	17	22	23	30	30	23	23	23	23	23	23	23	23	18	15	15	13	13	6	-	-
Millwright	-	-	-	-	-	-	-	-	10	11	12	14	17	17	17	17	17	13	13	13	13	13	13	13	9	6	-	-
Tradesman	-	18	30	37	42	52	48	28	21	19	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Manager	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2
Construction Manager	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2
PM Assistant	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2
Support	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2
Support Assistant	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2
Engineer	8	8	8	9	8	10	9	9	9	8	10	9	9	8	7	9	9	9	9	9	9	9	10	8	10	8	6	5
Timekeeper	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	2
Administrator	6	6	5	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	6	6	6	5	6	6	4	4
Welder	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Subtotal*</i>	141	339	347	366	401	519	493	508	558	576	633	624	601	584	613	614	606	590	465	421	328	275	212	171	151	117	72	38
<i>Total FTEs/Month**</i>	132	336	343	364	399	515	493	505	559	574	633	623	601	583	615	616	605	591	464	422	328	274	214	170	152	115	73	37

* This row is the sum of the rows above it. Due to the division and rounding of given hours by skill, this number may differ from the number of employees per month reported in the row that follows.

** Total number of full time equivalents (FTEs) per month as referenced in other technical areas of this AFC.

Population

As noted above, it is anticipated that the vast majority of the construction workforce (a peak workforce of 633 workers and an average of 405 workers per day over the 28-month duration of Project construction) would commute to the Project site rather than relocate. Thus, impacts to population are expected to be very small, and the Project would not induce substantial growth. Additionally, the Project site is uninhabited and no existing populations would be displaced.

Housing

As described above, it was assumed that few if any construction workers would permanently relocate to the nearby community of Ridgecrest area during the proposed Project construction phase. This is because construction workers typically commute relatively long distances to their work sites. Should some construction workers choose to stay temporarily at a local area hotel/motel, there are at least seven hotels (with five to six more hotels under construction), in the vicinity to meet this demand. In order to confirm availability, hotel room reservations should be made as early as possible. Should a portion of the workers relocate to the area for the duration of their construction assignments, impacts to available housing and population would be minor, as the permanent housing vacancy rate in Ridgecrest is estimated at 8.52 percent. In addition, because of the availability of hotel and motel accommodations, when made in advance, the planned hotel construction in the area, and the housing vacancy rates in nearby communities as described above, workers who choose to relocate temporarily would not be expected to have a significant impact on housing availability.

Employment and Economy

Project construction would create a temporary, positive impact on the local economic base and fiscal resources. Construction employment wages and salaries would provide additional income to the area, as would local expenditures for construction materials and services. The total Project construction payroll has been estimated at approximately \$53.3 million in total (approximately \$22.8 million annually). Local expenditures for construction materials and supplies are estimated at \$15 million in total (\$6.4 million annually). These include everything from permanent materials and equipment to small tools and consumables, concrete, rebar, formwork materials, asphalt, fencing, and local purchases in support of the field staff.

Project construction would be expected to create an average of 405 jobs, peaking at 633 direct jobs in month 11. These direct jobs would create both indirect and induced secondary employment in the region. Indirect employment is defined as employment that will be generated by the purchase of goods and services required by the Project. Induced employment is defined as employment that will be generated by the purchase of goods and services by the businesses that are indirectly supported by the Project.

An input-output model (IMPLAN ProfessionalTM) was used to estimate economic impacts within Los Angeles, San Bernardino, and Kern Counties based on Project construction-phase expenditures that would benefit the local economies.¹

¹ IMPLAN is an economic impact modeling tool that uses region-specific input/output accounts by industry to estimate secondary impacts of economic stimuli. Secondary impacts include (1) indirect impacts that occur due to the purchase of goods and services by firms involved with Project construction and operation, and (2) induced impacts, which result from household spending. Secondary impacts can occur in the form of employment, income, output, and taxes.

Social Accounting Matrices (SAM) multipliers were used for the impact analysis. SAM multipliers are recommended 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 multipliers for the Project impact analyses were derived by editing the specific industry data for the seven-county study area in the IMPLAN input/output relationships to represent the direct economic impacts associated with the Project (e.g., estimated annual construction cost and annual operation cost). 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 (NAICS) code 21, which is used for "Power plants, new construction." All figures are in 2009 dollars.

For the purpose of the input-output model, the following Project expenditures (rounded values) were assumed to be the Project expenditures which would benefit the local economies: 1) Annual Payroll (\$22,841,795) and 2) Annual Local Expenditures (\$6,428,571).

Based on the assumptions stated above (during the 28-month construction phase), the estimated annual beneficial economic output impacts within Los Angeles, San Bernardino, and Kern Counties would be as follows (rounded values):

Direct expenditures	=	\$23,000,000
Indirect regional revenues	=	\$18,000,000
Induced regional revenues	=	\$18,000,000
Total annual impact	=	\$59,000,000

Also, using the assumptions stated above, during the construction phase, the Project's estimated annual job creation within Los Angeles, Kern, and San Bernardino Counties would be as follows:

Direct (Project) jobs	=	405 workers
Indirect jobs	=	204 workers
Induced jobs	=	229 workers
Total jobs creation	=	838 workers

These additional jobs would result from the Project's local construction expenditures and spending by local construction workers. These indirect and induced jobs are expected to be filled both locally and regionally, and would result in positive economic impacts.

Public Services

No significant impacts are expected on local public services during construction. Current police, fire, and medical facilities should be sufficient to handle emergencies at the site. A security fence would be erected around the entire perimeter of the construction site; no significant adverse impacts to the Kern County Sheriff's Department or the Kern County Fire Department would be expected. Fire extinguishers will be available on site during "hot work," and personnel will be trained in their proper use; no significant impacts would be expected on local fire fighting agencies. Communication equipment will be available on site at all times to contact outside agencies if emergencies arise. No significant impacts are expected on local public social and medical services; construction workers would be expected to obtain health insurance from their employers.

Utilities

There would be very minor demands on utility services during construction as a result of onsite activities. Project construction would require utility services (electricity, water, sanitary wastewater and solid waste disposal). Sanitary wastes generated during construction would be collected in portable, self-contained toilets and hauled to an appropriate disposal site, and bottled water would be used for drinking. No significant impacts would be expected.

Schools

The overwhelming proportion of the Project construction workforce would be expected to commute to the site daily. Further, construction workers who relocate temporarily for a work assignment typically do not bring their families with them. Negligible impacts on school capacity would occur.

Fiscal Resources

Local expenditures on construction materials, supplies, and equipment are estimated to total approximately \$6.4 million annually during construction, which, at the Kern County sales tax rate of 8.25 percent, would generate approximately \$530,000 in annual sales tax revenue. The 8.25 percent Kern County sales tax rate is divided into 7.25 percent for the State and 1.00 percent to Kern County. Based

on local construction expenditures of \$6.4 million, the annual sales tax generated for the State is estimated at approximately \$466,000, and the annual Kern County sales tax revenues are estimated at approximately \$64,000. Fiscal impacts associated with operation of the Project are considered beneficial.

5.11.3.3 Operation

The following subsections describe the potential impacts of Project operations on socioeconomic conditions and resources.

Project Work Force and Population

The Project is expected to employ a total of approximately 84 workers during operation. Yearly operations payroll is expected to be about \$2.6 million. Some of the Project operations jobs may involve relocation to the area for workers with specialized technical or managerial skills. Given the moderate size of the Project work force and the likelihood that some of these workers already would be residents of the local area, Project population impacts would be less than significant.

Housing

Operation of the Project is expected to have an insignificant impact on housing because of the small number of workers needed for operation of the plant and the availability of local housing (e.g., current vacancy rates of 8.52 percent in Ridgecrest). Because of the availability of housing in the immediate vicinity of the Project plant site and the minimal Project-related population increase, no substantial change is expected in community interaction patterns, social organization, social structures, or social institutions.

Employment

As stated above, 84 full-time employees would be needed to operate and maintain the Project facility, including operations and power block routine maintenance staff; solar field project and maintenance staff; clerical and technical staff; and administrative and management staff. Most of the 84 employees will be hired locally with some specialized employees coming from outside the local area.

An input-output model (IMPLAN Professional™) was used to estimate economic impacts within Los Angeles, Kern, and San Bernardino Counties based upon operation-phase Project expenditures which would benefit the local economies. For the purpose of the input-output model, the expenditures that would benefit local economies were assumed to be approximately \$2.7 million annually. This value was used as an input into the model to predict employment and economic impacts.

Based on the information described above, the annual estimated economic impacts from the operation of the Project within the study area would be as follows (rounded values):

Direct expenditures	=	\$3,000,000
Indirect regional revenues	=	\$4,000,000
Induced regional revenues	=	\$3,000,000
Total annual impact	=	\$10,000,000

Based upon the Implan model results, the Project's estimated annual job creation during the operation phase) is estimated as follows:

Direct jobs (Project)	=	84 workers
Indirect jobs	=	38 workers
Induced jobs	=	32 workers
Total jobs creation	=	154 workers

Public Services

Project operation would slightly increase demands on local police, fire, medical, and other emergency services. Population immigration is expected to be minimal and one additional industrial facility (the Project) with a small workforce would not be expected to have a significant adverse impact on the capacity of most local public services.

Utilities

The preferred water source for the Project is the potable water provided by the IWWWD. Mirror washing, power cycle makeup and ancillary equipment cooling water needs of the Project would be met by further treatment of the potable water supply. Additional potable water for uses such as drinking water, sanitary uses, safety showers, etc. will be obtained from the IWWWD. The Project will be fueled with propane gas delivered via off-site delivery truck and will generate its own electrical power for onsite consumption. Utilities impacts would be less than significant.

Schools

Operation of the Project is expected to have an insignificant local and regional impact on schools because of the relatively small number of workers needed for operation of the plant (maximum of 84 employees).

The proposed Project would be required to pay a school impact fee to SSUSD. The school impact fee for non-residential projects in the SSUSD is \$0.47 per square foot of new floor space. Based on a total square footage of 119,926 square feet, office and warehouse space, the proposed Project would be required to pay a total school impact fee of approximately \$56,400 to the schools.

Fiscal Resources

At present, there is no property tax assessed on solar components (mirrors, solar boiler, heat exchangers) improvements by law (Section 73 of the California Revenue and Taxation Code). Components included under the exemption include storage devices, power conditioning equipment, transfer equipment, and parts. The proposed Project property value is estimated at roughly \$1 billion. After applying the California solar equipment property tax exemption, the taxable portion of the property value would be approximately \$20 million. Assuming a Kern County property tax rate of 1.0 percent, the first operational year would generate an estimated \$200,000 in property taxes. These taxes would be distributed among local agencies and programs in Kern County. Fiscal impacts associated with operation of the Project are considered beneficial.

During operation, it is expected that the annual purchases for materials supplies, equipment, and services within the three-county study area would total approximately \$2.7 million. In the event that all purchases are made within Kern County, which has a tax rate of 8.25 percent, these expenditures would generate approximately \$220,000 in annual sales tax revenue. The 8.25 percent Kern County sales tax is divided into 7.25 percent for the State of California and 1.00 for Kern County.

5.11.3.4 Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations" was signed by then-President Bill Clinton on February 11, 1994. The purpose of this Executive Order is to identify and address whether high and adverse human health or environmental effects from Federal actions are likely to fall disproportionately on minority and/or low income populations of the community.

According to the guidelines established by the EPA to assist Federal agencies to develop strategies to address environmental justice impacts, a minority and/or low income population is considered present if the minority and/or low income population percentage of the affected area is 50 percent or more of the

area's general population; Council on Environmental Quality (CEQ) guidance additionally suggests determining whether minority and/or low income populations in potentially affected areas are present in proportions meaningfully greater than those of the general population of the area. The thresholds for poverty level for an individual (under 65 years of age) and a family of four (including two related children under 18 years) in 2007 were income levels of \$10,787 and \$21,027, respectively. The CEQ defines the term "minority" as persons from any of the following groups: Black/African American; Asian; Native Hawaiian or Other Pacific Islander; American Indian or Alaska Native; and Hispanic, regardless of race. Additionally, for the purposes of this analysis, "minority" also includes all other nonwhite racial categories such as "some other race" and "two or more races."

The Federal guidelines set forth a three-step screening process:

- 1) Identify which impacts of the Project are high and adverse;
- 2) Determine if minority or low income populations exist within the high and adverse impact zones; and
- 3) Examine the spatial distribution of high and adverse impact areas to determine if these impacts are likely to fall disproportionately on the minority and/or low income population.

To assess the potential for disproportionate environmental impacts on minority or low income populations as a result of the Project, population, poverty, and minority data within a six-mile radius of the Project site were gathered using database and mapping software provided by the U.S. Census Bureau. The Project site is located entirely within Census Block Group 55.01.5. There are seven census tracts and 26 census block groups within the 6-mile radius of the Project plant site.

As shown in Table 5.11-16, as of 2009 approximately half of the residents of Kern County were considered to be part of a minority population (50.6 percent). Figure 5.11-2 illustrates the proportion of the population in each block group that was considered minority. The proportions of minority populations in populated census block groups located within the six-mile radius ranged between 11.15 to 47.69 percent, with a 23.79 percent average. Census Block Group 55.01.5, which contains the Project site, had a substantially lower minority population (12.69 percent) than the surrounding area and the County as a whole. The block group having the highest minority levels was Block Group 53.00.3, which is located within approximately six miles northeast of the Project site. At 47.7 percent, the percentage minority population of Block Group 53.00.3 is still lower than the 50.6 percent total minority proportion of the Kern County population as a whole. The average percent minority of the census block groups located within a six-mile radius of the Project site is 20.7 percent, which is below the total minority proportion of Kern County. Therefore, the Project area is not considered to contain minority populations that would raise concern in an environmental justice analysis.

Table 5.11-16 Environmental Justice Characteristics

Geographic Area (Census Tract)	Block Group	Total Population	Total Minority (Percentage Minority)	Percentage of the Population Living Below the Poverty Level
53.00				26.3
	1	680	29.85	
	2	0	0	
	3	1,193	47.69	
54.01				6.6
	1	793	21.44	
	2	1,394	23.17	
	3	836	17.11	
	4	1,340	19.03	
	5	1,204	14.78	
54.02				10.9
	1	1,529	26.23	
	2	1,618	15.64	
	3	1,718	20.02	
54.03				15.4
	1	1,514	21.00	
	2	2,291	22.04	
	3	898	15.48	
	4	1,237	17.30	
	5	927	37.86	
54.04				11.8
	1	1,192	24.33	
	2	2,476	26.17	
	3	2,361	23.85	
	4	724	20.72	
55.01				12.4
	1	843	11.15	
	2	1,761	13.00	
	3	374	21.39	
	5	733	12.69	
	6	947	18.48	
55.03				13.0
	1	551	17.97	
Kern County		661,645	50.55	20.8
California		33,871,648	53.30	14.2
Source: U.S. Census Bureau 2009.				
Note: Italicized census block group contains the Project site				

Table 5.11-16 shows the proportion of people with income considered below poverty (low income population) in the census blocks within a six-mile radius of the Project site. Figure 5.11-3 illustrates the proportion of the population below the poverty level for each block group within a six-mile radius of the Project site. The proportion of the low income population in the study area ranged from 6.6 to 26.3 percent. Census Tract 54.01 had the lowest proportion of low income population at 6.6 percent. The highest proportion of low income individuals occurred in Census Tract 53.00, which is located approximately five miles north of the Project site. The proportion of individuals living below poverty levels in this block group (26.3 percent) is slightly greater than the Kern County average (20.8 percent).

The primary environmental justice issues for power plant siting and development would be related to potential air emissions, noise levels, and water use that could adversely affect the health of the local community or negatively impact environmental quality. These impacts overall are discussed in detail in other sections of this AFC. Within the context of environmental justice, impacts are determined by evaluating whether the Project will have a disproportionately high and adverse impact on low income and minority populations.

The proposed Project is not expected to disproportionately impact low income or minority populations, based on a number of factors. The Project site is not located within six miles of a census tract with a minority or low income population exceeding 50 percent of the tract total. Although Census Tract 53.00 had a low income population greater than that of the county (5.5 percent greater), it is located approximately five miles from the Project site and would not be likely to disproportionately experience Project-related impacts. The census tract in which the Project is actually located, 55.01, has a poverty rate of 12.4 percent, which is below the county average. Additionally, the Project site is located in an undeveloped area away from residential areas and population centers and would likely affect very few, if any, nearby populations, regardless of ethnic or financial standing.

5.11.3.5 Cumulative Impacts

The potential for cumulative socioeconomic impacts exists where there are multiple projects proposed in an area that have overlapping construction schedules and/or project operations that could impact similar resources. Projects with overlapping construction schedules and/or operations collectively could result in a demand for labor that cannot be met by the Project area labor pool, which could lead to an influx of nonlocal workers and their dependents. This population increase could impact socioeconomic resources.

Construction workers typically commute long distances to their job sites, and there are temporary (hotels) and permanent housing opportunities in the Ridgecrest area. However, if all the cumulative projects are developed as proposed and on the expected schedules, there conceivably could be the potential for cumulative adverse impacts on housing in the Ridgecrest area.

The influx of workers would be accompanied by an increase in economic activity from spending in local business establishments by these workers as well as spending in local businesses by the Projects themselves for construction materials and supplies, various kinds of services, etc. However, these same workers also would increase the demand for certain kinds of government services and infrastructure (e.g., police and fire services and medical facilities/services). The RSPP would not contribute considerably to potential adverse socioeconomic impacts during construction or operation.

5.11.4 Mitigation Measures

No significant adverse socioeconomic impacts have been identified and thus, no mitigation measures are required.

5.11.5 References

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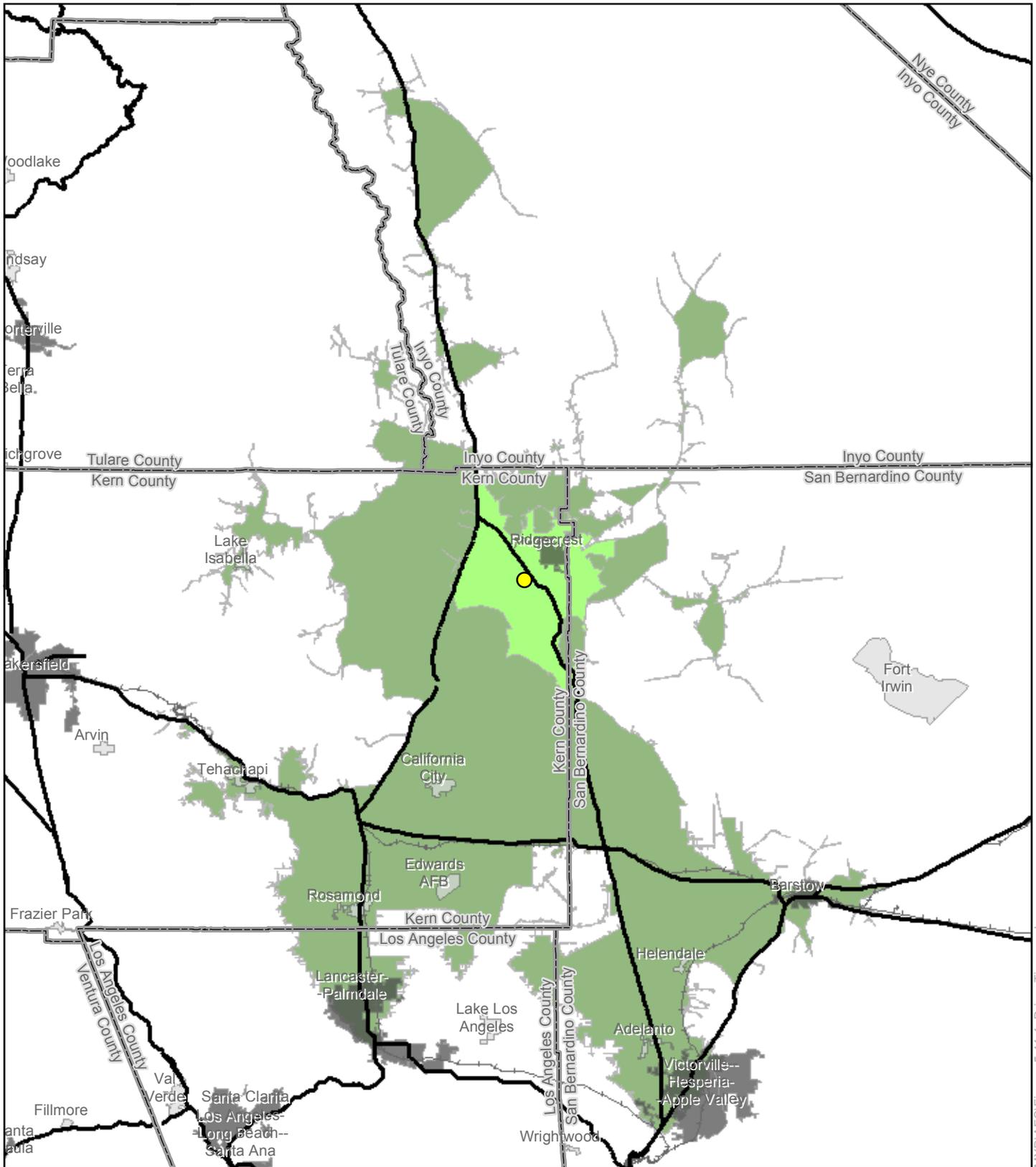
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Legend

- Plant Site
- Cities (Population)**
 - 0 - 20,000
 - >20,000
- Drive Time**
 - 30 minutes
 - 2 hours

1 inch = 20 miles

0 20 40 Miles

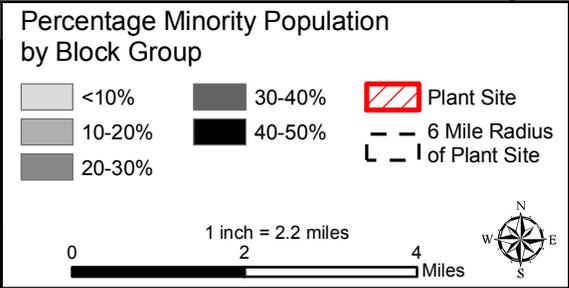
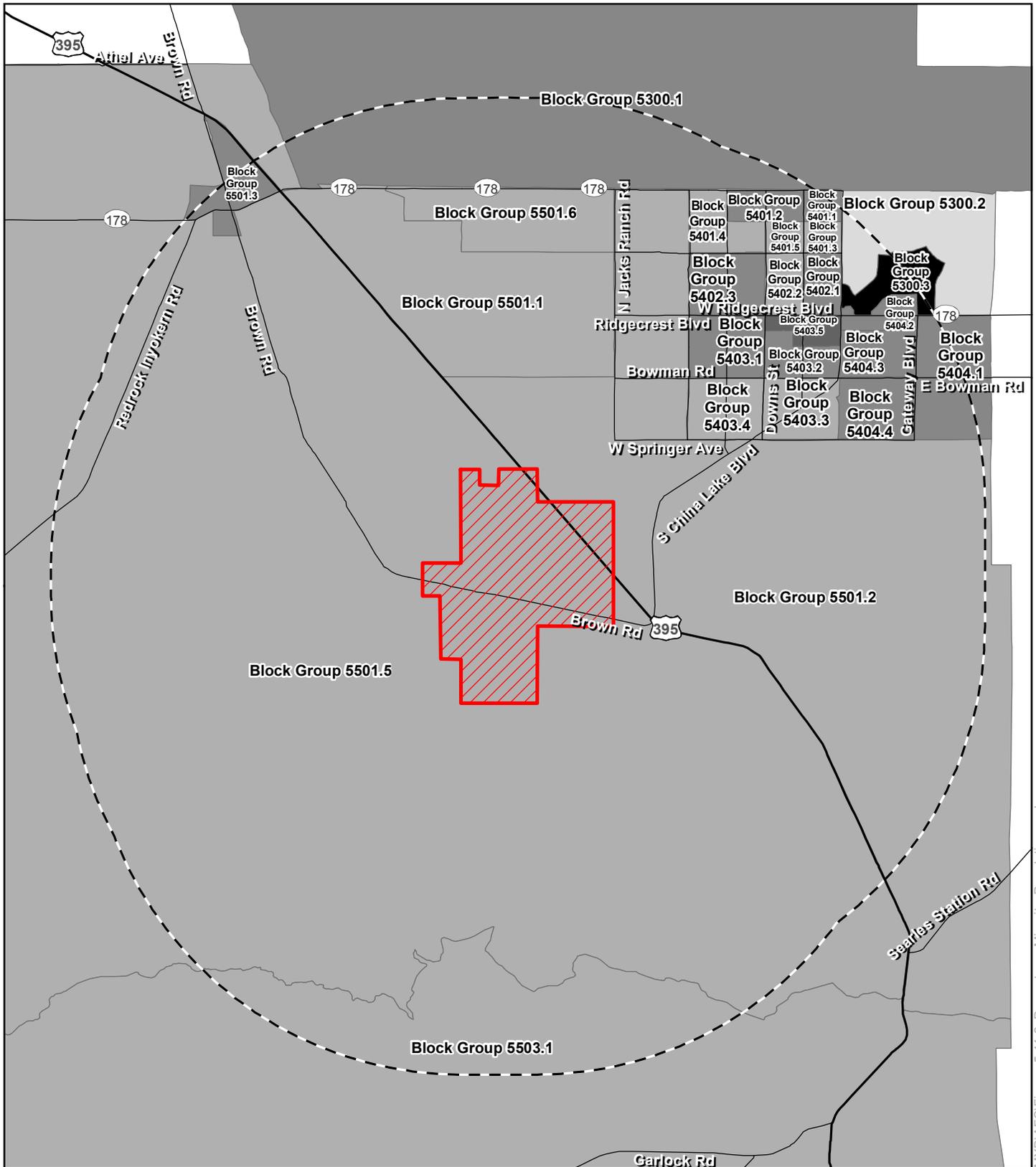
Ridgecrest Solar Power Project

Figure 5.11-1 Drive Time

Source: ESRI

Date: September 2009

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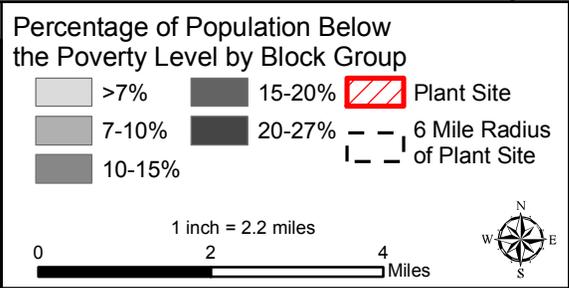
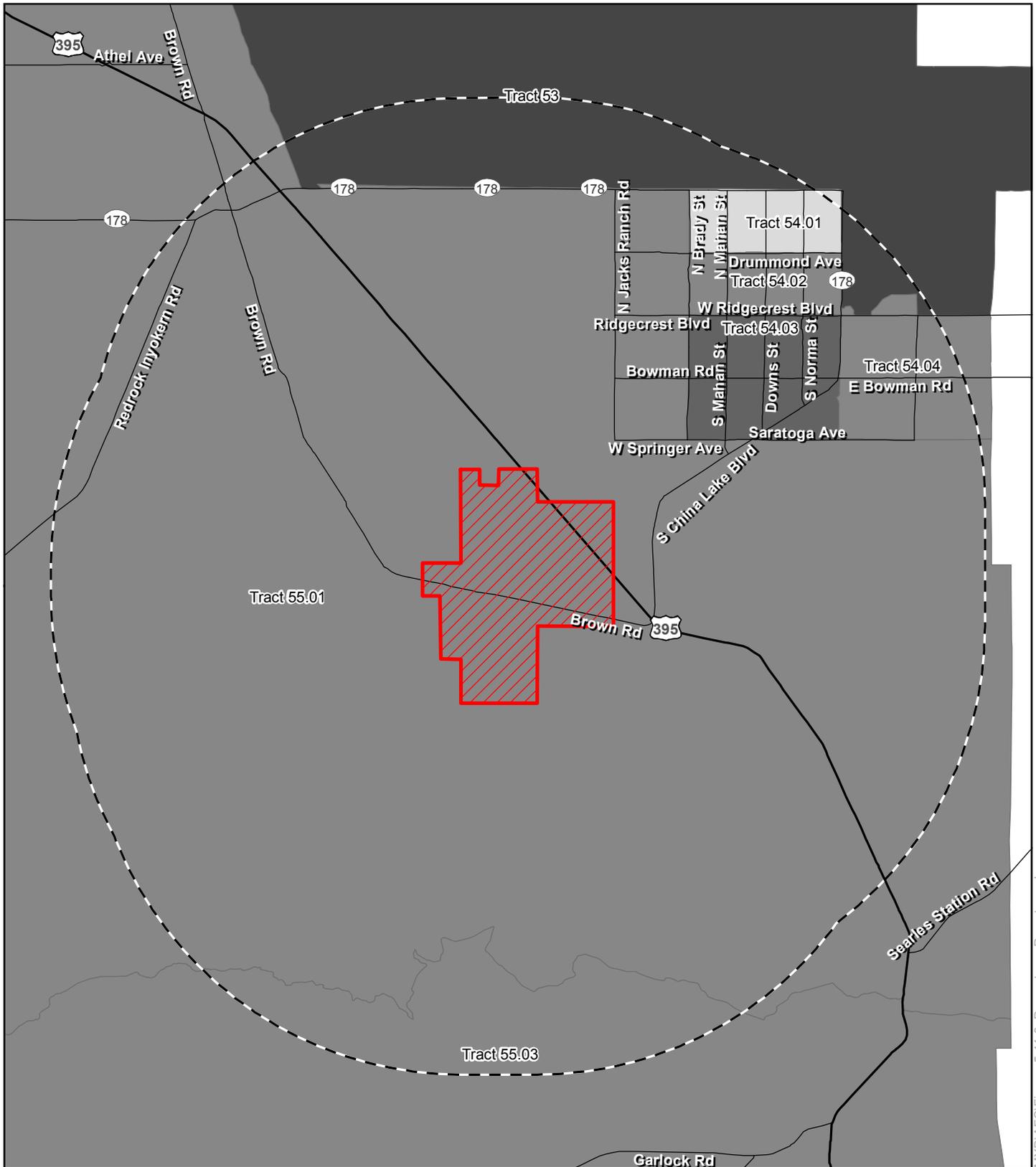


Ridgecrest Solar Power Project

**Figure 5.11-2
Percentage Minority Population**

Source: US Census, 2000

Date: September 2009



Ridgecrest Solar Power Project

**Figure 5.11-3
Percentage Population Below the Poverty Level**

Source: US Census, 1999

Date: September 2009