## 5.10 SOCIOECONOMICS

The Project includes the construction, operation, maintenance, and abandonment of up to 850 megawatts (MW) of capacity by a solar power generating facility and its ancillary systems in two phases (Phase I: 500MW [approximately 5,838 acres]/Phase II 350MW [approximately 2,392 acres]). The Project will consist of up to approximately 34,000 SunCatchers. Construction is anticipated to occur over an approximate four-year period beginning in 2010 and ending in 2014. It is estimated that approximately an average of 400 construction and 180 long-term labor jobs will be required.

The Project is located in an undeveloped area of San Bernardino County, California approximately 37 miles east of Barstow, California and north of Interstate 40 (I-40) between approximately 1,925 to 3,050 feet above mean sea level. The Project is located primarily on Bureau of Land Management (BLM) land within the Barstow Field Office. Approval of the Project Right-of-Way (ROW) Grant Application (Form 299, Applications CACA 49539 and 49537) will result in the issuance of a ROW Grant Permit for use of federal lands administered by the BLM. The Project would require a plan amendment to the 1980 California Desert Conservation Area (CDCA) Plan.

The area where the Project would be constructed is primarily open, undeveloped land within the Mojave Desert. The Cady Mountain Wilderness Study Area (WSA) is located north of the Solar One site. The Pisgah Crater, within the BLM-designated Pisgah Area of Critical Environmental Concern (ACEC), is located south and east of the Project (south of I-40 by several miles). Several underground and above ground utilities traverse the area.

An approved interconnection letter from California Independent Service Operator (CAISO) has been issued for the Project. The associated System Impact Study (SIS) is located in Appendix H. The SIS indicates that additional upgrades to the Southern California Edison (SCE) Lugo-Pisgah No. 2 Transmission Line and upgrades at the SCE Pisgah Substation will be required for the full build out of the 850MW Project. Supplemental studies performed by SCE and CAISO indicate that capacity is available on the existing transmission system to accommodate less than the 850MW Project.

An on-site substation (i.e., Solar One Substation [approximately 3 acres]) will be constructed to deliver the electrical power generated by the Project to the SCE Pisgah Substation. Approximately twelve to fifteen 220kV transmission line structures (90 to 110 feet tall) would be required to make the interconnection from the Solar One Substation to the SCE Pisgah Substation. All of these structures would be constructed within the Project Site.

The Project will include a centrally located Main Services Complex (14.4 acres) that includes three SunCatcher assembly buildings, administrative offices, operations control room, maintenance facilities, and a water treatment complex including a water treatment structure, raw water storage tank, demineralized water storage tank, basins, and potable water tank.

Adjacent to the Main Services Complex, a 14-acre temporary construction laydown area will be developed and an approximately 6-acre construction laydown area will be provided adjacent to the Satellite Services Complex south of the Burlington Northern Santa Fe (BNSF) railroad. Two additional construction laydown areas (26 acres each) one will be located at the south entrance off Hector Road and the other at the east entrance just north of the SCE Pisgah Substation.

Temporary construction site access would be provided off of I-40 beginning east of the SCE Pisgah Substation and would traverse approximately 3.5 miles across the Pisgah ACEC requiring an approximate 30-foot ROW. Long-term permanent access would be provided by a bridge over the BSNF railroad along Hector Road north of I-40. Equipment may be transported during construction via trucks and/or rail car (through the construction of a siding), that would be located on the north side of BNSF railroad and east of Hector Road or as authorized by BNSF.

Water would be provided via a groundwater well located on a portion of the BLM ROW grant north of the Main Services Complex and transported through an underground pipeline. The expected average well water consumption for the Project during construction is approximately 50 acre-feet per year during the construction period. Under normal operation (inclusive of mirror cleaning, dust control, and potable water usage), water required will be approximately 36.2 acre-feet per year. Emergency water may be trucked in from local municipalities.

The following section describes the potential social and economic effects within the Project vicinity and region arising from the construction and operation of the Project. The following discussion considers Project-related effects to population, housing, public services (fire protection, emergency response services, law enforcement, schools, and medical services), utilities, and county tax revenue, and also evaluates the economic benefits that will arise from the Project. The section also evaluates the cumulative effects of the Project, and discusses proposed mitigation measures, the laws, ordinances, regulations, and standards (LORS) relevant to socioeconomics, relevant agencies and agency contacts, and the permits required for the Project.

### 5.10.1 Affected Environment

The Project Site is located primarily on BLM-administered land in central San Bernardino County, approximately 37 miles east of Barstow. San Bernardino County is the largest county in the United States encompassing more than 20,000 square miles. San Bernardino County accounts for 13 percent of the land in California and about 5 percent of the population (U.S. Census Bureau 2008a). Approximately 90 percent of the county is desert (California Economic Development Department [EDD] 2008a). Newberry Springs, the closest community to the Project site, is located approximately 15 miles to the west. Other nearby communities include Daggett, Baker, and Ludlow.

San Bernardino County is part of the Riverside-San Bernardino-Ontario Metropolitan Statistical Area (MSA), as defined by the U.S. Office of Management and Budget. A MSA contains a core urban area with a population of 50,000 or more and consists of one or more counties, including the county containing the "core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core" (U.S. Census Bureau 2008b). The Riverside-San Bernardino-Ontario MSA consists of San Bernardino and Riverside counties. Riverside County borders San Bernardino County to the south. This area (San Bernardino and Riverside counties) is also known as the Inland Empire region.

The Project Site is located within the Desert Planning Region identified in the County of San Bernardino 2007 General Plan (County of San Bernardino 2007). The Desert Planning Region includes about 93 percent (18,735 square miles) of the land within San Bernardino County and much of the Mojave Desert. The area extends north and east from the southwest corner of the county, where much of the county's population and economic activity is concentrated, to the

Nevada border and Colorado River. Approximately 81 percent of the county's total land area is controlled by federal or state agencies, with the BLM managing approximately 47 percent of the county's land base. Publicly owned lands are distributed throughout the Desert Planning Region and tend to be interspersed with privately owned lands. Approximately 4 percent of the county land area is within one of 24 incorporated communities, with the remaining 15 percent or 1.9 million acres of private land distributed throughout the unincorporated parts of the county (County of San Bernardino 2007).

#### *5.10.1.1 Population*

The population of San Bernardino County increased by an estimated 346,000 people or 17 percent between 2000 and 2008, compared to a statewide increase of 11 percent. Average annual growth rates over this period were 2.3 percent in San Bernardino County and 1.5 percent in California. There are 24 incorporated communities located in San Bernardino County, which, together, accounted for about 86 percent of total estimated county population in 2008. The majority of the population in the county is concentrated in the southwest corner of the county.

The populations of Barstow and Victorville, the closest incorporated communities to the Project Site, increased by 12 percent and 40 percent between 2000 and 2008, respectively (Table 5.10-1). The population of Victorville more than doubled between 1990 and 2008. Other incorporated communities located relatively close to the Project Site—Adelanto, Apple Valley, and Hesperia—also saw relatively large increases in population between 2000 and 2008 (Table 5.10-1).

**Table 5.10-1**
**Population 1990, 2000, and 2008**

| Geographic Area | 1990 | 2000 | 2008 | 1990 to 2000 | | 2000 to 2008 | |
|---|---|---|---|---|---|---|---|
| | | | | Absolute Change | Percent Change | Absolute Change | Percent Change |
| Adelanto | 8,517 | 18,130 | 28,181 | 9,613 | 113% | 10,051 | 36 |
| Apple Valley | 46,079 | 54,239 | 70,092 | 8,160 | 18% | 15,853 | 23 |
| Barstow | 21,472 | 21,119 | 23,952 | -353 | -2% | 2,833 | 12 |
| Hesperia | 50,418 | 62,590 | 87,820 | 12,172 | 24% | 25,230 | 29 |
| Victorville | 40,674 | 64,029 | 107,408 | 23,355 | 57% | 43,379 | 40 |
| Unincorporated[1/] | 322,557 | 292,857 | 298,013 | -29,700 | -9% | 5,156 | 2 |
| San Bernardino County | 1,418,380 | 1,710,139 | 2,055,766 | 291,759 | 21% | 345,627 | 17 |
| California | 29,758,213 | 33,873,086 | 38,049,462 | 4,114,873 | 14% | 4,176,376 | 11 |

Note:
1/ Unincorporated represents the population of San Bernardino County that resides in areas outside the county's 24 incorporated communities.
Sources: California Department of Finance 2007a, 2008a

Population estimates prepared by the U.S. Census Bureau indicate that net in-migration accounted for more than half (54 percent) of the population growth in San Bernardino County between 2000 and 2007 (U.S. Census Bureau 2008c). Net in-migration accounted for just 22 percent of estimated population growth in California over the same time period (U.S. Census Bureau 2008d).

Population projections developed for 2010 to 2020 by the California Department of Finance (2007b) anticipate that the population of San Bernardino County will continue to increase at a faster rate than the state average, with respective projected increases of 19 percent and 13 percent (average annual growth rates of 1.7 percent and 1.2 percent). Population is projected to continue to increase in the following decade (2020 to 2030) in both San Bernardino County and California, but at slower rates, with respective average annual growth rates of 1.4 percent and 1.1 percent (California Department of Finance 2007b).

Minority racial and ethnic populations comprised more than half the population in California in 2000 (Table 5.10-2). Statewide, people of Hispanic or Latino origin were the largest single minority group in 2000, accounting for 32 percent of total state population (Table 5.10-2). The minority population was slightly larger than the state average in San Bernardino County in 2000, with White persons accounting for just 43 percent of the population. More recent data available at the state and county level indicate that the minority share of the population has increased in both California and San Bernardino County, with 42 percent and 36 percent of the respective populations in these areas estimated to be White alone in 2007 (U.S. Census Bureau 2007).

The most recent available data on race and ethnicity at the sub-county level are from the 2000 Census. These data indicate that the minority breakdown in Barstow, the closest incorporated community to the Project Site, was very similar to the county in 2000 (Table 5.10-2). Minority populations in the other incorporated communities in the vicinity of the Project Site ranged from 32 percent in Apple Valley to 64 percent in Adelanto (Table 5.10-2).

Data are also presented in Table 5.10-2 for the three census block groups that are within six miles of the Project Site. The sparsely populated nature of the area surrounding the Project Site is reflected in the size of the census block groups, especially Block Group 4 (Census Tract 103), which includes more than 2,700 square miles of land. Minority populations account for less than half of the total population in these areas, ranging from 23 percent to 37 percent of the total population (Table 5.10-2).

**Table 5.10-2**
**Race and Ethnicity, 2000**

| Geographic Area[1/] | Total Population | Percent of Total Population | | | | |
|---|---|---|---|---|---|---|
| | | White[2/] | Hispanic or Latino[2/] | Black or African American[2/] | Other Race[2/3/] | Two or More Races[3/] |
| Adelanto | 18,130 | 36 | 46 | 13 | 3 | 2 |
| Apple Valley | 54,239 | 68 | 19 | 8 | 3 | 3 |
| Barstow | 21,119 | 43 | 36 | 11 | 6 | 3 |
| Hesperia | 62,582 | 62 | 29 | 4 | 2 | 2 |
| Victorville | 64,029 | 47 | 33 | 12 | 4 | 3 |
| Block Group 4, Census Tract 103 | 166 | 69 | 18 | 2 | 1 | 9 |
| Block Group 5, Census Tract 103 | 1,138 | 77 | 15 | 2 | 3 | 3 |
| Block Group 9, Census Tract 104.02 | 14,090 | 63 | 19 | 10 | 4 | 3 |
| San Bernardino County | 1,709,434 | 44 | 39 | 9 | 6 | 2 |
| California | 33,871,648 | 47 | 32 | 6 | 12 | 3 |

Notes:

1/ A census block group is a subdivision of a census tract and consists of a group of census blocks.
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 Hispanic/Latino as a separate category.
3/ The "Other Race" category presented here includes census respondents identifying as "American Indian and Alaska Native," "Asian," "Native Hawaiian and Other Pacific Islander," or "Some Other Race." The relative high percentage of the California population in this category (12 percent) reflects the Asian population, which comprised 11 percent of the state population in 2000.
Source: U.S. Census Bureau 2000a

### *5.10.1.2 Housing*

Housing estimates compiled by the California Department of Finance (2008b) for 2008 are presented for communities in the vicinity of the Project Site in Table 5.10-3. These data indicate that the percent of housing that is vacant in the city of Barstow is almost three times the state average (17.1 percent versus 5.9 percent). The vacancy rate is also substantially higher than the state average in Adelanto (Table 5.10-3). These data identify the total percentage of the housing stock that is vacant, but do not specify what share of those vacant units are available for rent. Vacant housing units may also be for sale only, rented, or sold, but not yet occupied, or for seasonal, recreational, or occasional use. Data compiled as part of the 2000 Census indicated that 16.5 percent of the housing units in Barstow were vacant, with 60 percent of these (9.8 percent of the total housing stock) available for rent (U.S. Census Bureau 2000b). Applying this ratio to the 2008 data, suggests that approximately 1,020 housing units are available for rent in Barstow.

The percentage of vacant housing available for rent in Victorville in 2000 was closer to the state average (39 percent versus 27 percent). Applying this ratio to the number of vacant units in 2008 suggests that approximately 1,050 housing units are available for rent in Victorville. Additional housing units are also available for rent in Adelanto (approximately 750 units), Apple Valley (approximately 600 units), and Hesperia (approximately 600 units) (Table 5.10-3).

**Table 5.10-3**
**Housing Estimates, 2008**

| Geographic Area | Total Units | Type of Housing Unit | | | Percent of Total Vacant | Vacant Units | Estimated Units Available | |
|---|---|---|---|---|---|---|---|---|
| | | Single-Family | Multi-Family | Mobile Homes | | | For Rent[1/] | For Sale[2/] |
| Adelanto | 8,546 | 6,835 | 1,203 | 508 | 15.1 | 1,287 | 757 | 245 |
| Apple Valley | 24,925 | 20,107 | 3,775 | 1,043 | 8.4 | 2,084 | 614 | 604 |
| Barstow | 9,990 | 5,905 | 2,970 | 1,115 | 17.1 | 1,706 | 1,020 | 273 |
| Hesperia | 28,535 | 24,085 | 3,146 | 1,304 | 6.5 | 1,846 | 582 | 535 |
| Victorville | 34,876 | 28,156 | 4,929 | 1,791 | 7.7 | 2,690 | 1,051 | 673 |
| San Bernardino County | 685,642 | 511,906 | 129,035 | 44,701 | 11.6 | 79,637 | 16,113 | 11,946 |

Note:
1/ The 2008 data identify the total percentage of the housing stock that is vacant, but do not specify what share of those vacant units are available for rent. The units available for rent were estimated here using ratios of vacant housing for rent to all vacant housing units from the 2000 Census. These ratios ranged from 20 percent for the county as a whole to 60 percent for the city of Barstow.
2/ The units for sale were estimated using the same approach. The ratios of vacant housing for sale to all vacant housing units ranged from 15 percent for the county as a whole to 29 percent in Apple Valley and Hesperia.
Sources: California Department of Finance 2008b, U.S. Census Bureau 2000b

The share of vacant housing in 2000 for sale, ranged from 15 percent for San Bernardino County as a whole to 29 percent in Apple Valley and Hesperia (U.S. Census Bureau 2000b). Applying these ratios to the number of vacant units in 2008, suggests that 273 housing units are for sale in Barstow, with an additional 673 units for sale in Victorville. Additional housing units are also for sale in Adelanto (approximately 245 units), Apple Valley (approximately 600 units), and Hesperia (approximately 535 units) (Table 5.10-3).

Housing is also likely available in the smaller unincorporated communities in the vicinity of the Project Site. The most recent available data for the area surrounding the Project Site is from the 2000 Census. The 2000 Census identified 1,497 housing units in the four census block groups that include, and extend west from, the Project Site to Barstow (Census Tract 103, Block Groups 1, 5, 7, and 8). This area includes the unincorporated communities of Newberry Springs, Daggett, and Yermo. A total of 379 or 25 percent of the housing units identified in this area in 2000 were vacant, with 100 units available for rent and 50 units for sale (U.S. Census Bureau 2000b).

Data compiled by Smith Travel Research for hotels, motels, and bed and breakfast inns (B&Bs) with 15 or more rooms identified 49 hotels with a total of 3,397 rooms within one hour's driving distance of the Project Site (Table 5.10-4**).** Twenty-seven of these hotels and 1,902 rooms are located in the city of Barstow, with an additional 20 hotels and 1,397 rooms identified in Victorville. Smith Travel Research also identified hotels in Yermo and Helendale. The average annual occupancy rate for hotels in Riverside and San Bernardino counties in 2008 was 73.26 percent, a decrease of 4.1 percent from 2007 (PK Consulting 2008). Applying this ratio (73.26 percent) to the total number of hotel rooms identified within one hour of the Project Site suggests that on average a total of 509 unoccupied rooms were available for rent in Barstow in 2008, 374 unoccupied rooms were available in Victorville, and 26 unoccupied rooms were available in Yermo and Helendale, for a total of at least 908 unoccupied motel and hotel rooms available for

rent within one hour's drive of the Project Site (Table 5.10-4**)**. These estimates do not include hotels, motels, and B&Bs with less than 15 rooms (such as the Ludlow Motel located in Ludlow) and, therefore, likely underestimate the total number of rooms available for rent in the area. These estimates do, however, represent a reasonable approximation of the number of hotel and motel rooms based on the best available data.

Twenty hotels with a total of 863 rooms were identified in communities located from 1 to 1.5 hours drive from the Project Site. These communities included Hesperia, Adelanto, and Apple Valley. Applying the 2008 average occupancy ratio (73.26 percent) suggests that, on average, 231 unoccupied rooms are available for rent within 1 to 1.5 hours drive of the Project Site (Table 5.10-4). A total of 252 hotels with 17,309 rooms were identified in communities within 1.5 to 2 hours drive from the Project Site. These communities include San Bernardino, Ontario, Big Bear Lake, and Riverside. Assuming an annual average occupancy rate of 73.26 percent, suggests that 4,639 unoccupied motel and hotel rooms were available for rent within 1.5 to 2 hours drive from the Project Site (Table 5.10-4). As noted above, these estimates likely underestimate the total number of rooms available for rent in the area because they do not include hotels, motels, and B&Bs with less than 15 rooms. These estimates do, however, represent a reasonable approximation of the number of hotel and motel rooms based on the best available data.

There are at least 11 Recreational Vehicle (RV) parks located within one hour's driving distance of the Project Site. The closest RV parks to the site are located in the unincorporated town of Newberry Springs, which is located approximately 15 miles west of the Project Site. The Newberry Mountain RV and Motel Park and Twin Lakes RV Park have 18 and 45 RV camp spaces, respectively (Go-California.com 2008). Other RV parks within one hour's drive of the Project Site are located in Barstow (five RV parks), Yermo (three RV parks), and Hinkley (one RV site). The unincorporated towns of Yermo and Hinkley are located approximately 33 miles and 47 miles west of the Project Site), respectively.

BLM operates two campgrounds in the vicinity of the Project Site: Owl Canyon Campground and Afton Canyon Campground north of Barstow. These campgrounds also include a limited number of RV hookups. Camping is restricted to recreation use, and long-term camping is not allowed (Patrovsky 2008). Except for "special areas" with specific camping regulations, camping is allowed anywhere on BLM-administered land in the vicinity of the Project Site. Vehicle camping is permitted within 300 feet of any posted Open Route. There are, however, no facilities in these locations and there is a 14-day limit for camping in any one location (BLM 2008).

**Table 5.10-4**
**Motels and Hotels, 2008**

| Geographic Area/Distance[1/] | Number of Hotels[2/] | Total Number of Rooms[2/] | Average Number of Available Rooms[3/] |
|---|---|---|---|
| Barstow | 27 | 1,902 | 509 |
| Victorville | 20 | 1,397 | 374 |
| Other Communities[4/] | 2 | 98 | 26 |
| **Total within 1 hour** | **49** | **3,397** | **908** |
| Apple Valley | 2 | 50 | 13 |
| Hesperia | 10 | 617 | 165 |
| Baker | 4 | 93 | 25 |
| Other Communities[5/] | 4 | 103 | 28 |
| **Total within 1 to 1.5 hours** | **20** | **863** | **231** |
| San Bernardino | 37 | 2,368 | 633 |
| Big Bear Lake | 24 | 1,031 | 276 |
| Ontario | 47 | 5,131 | 1,372 |
| Redlands | 15 | 810 | 217 |
| Riverside | 32 | 1,715 | 463 |
| Other Communities[6/] | 97 | 6,254 | 1,668 |
| **Total within 1.5 to 2 hours** | **252** | **17,309** | **4,639** |
| **Grand Total within 2 hours** | **321** | **21,569** | **5,778** |

Notes:

1/ Travel times from Google Maps.

2/ Data compiled by Smith Travel are for the Riverside-San Bernardino market for 2008 and include hotels, motels, and B&Bs with 15 or more rooms.

3/ The average numbers of unoccupied available rooms were estimated based on the annual average occupancy rate for hotels in Riverside and San Bernardino counties in 2008 (PKF Consulting 2008).

4/ Other communities with hotels within one hour of the Project Site include Yermo and Helendale.

5/ Other communities with hotels within 1 to 1.5 hours include Adelanta, Amboy, and Phelan.

6/ A total of 25 communities with hotels are located within 1.5 to 2 hours category. Communities not shown above include Rancho Cucamonga, Rialto, and Needles, among others.

Source: Smith Travel Research 2008

### *5.10.1.3 Economy and Employment*

The Project Site is located in central San Bernardino County, approximately 37 miles east of Barstow, California. Major employers in the vicinity of Barstow include Fort Irwin National Training Center, the Marine Corps Logistics Base, BNSF Railroad, Northrop Grumman, a defense contractor, and the Barstow Unified School District (City of Barstow 2008).

Total employment increased in San Bernardino County between 2001 and 2006, with a net gain of approximately 119,000 jobs or 16 percent (Table 5.10-5). Statewide, total employment increased by just 4 percent over the same time period (U.S. Bureau of Economic Analysis 2008). Sectors with large absolute increases in job numbers included producer services, retail trade, and consumer services (Table 5.10-5**).** There was also a large growth in the construction sector over this period, with the addition of 13,785 construction jobs between 2001 and 2006.

**Table 5.10-5**
**Employment by Industry in San Bernardino County, 2001 and 2006**

| Economic Sector | 2001 | | 2006 | | 2001 to 2006 | |
|---|---|---|---|---|---|---|
| | Number of Jobs | Percent of Total | Number of Jobs | Percent of Total | Absolute Change | Percent Change |
| Farm employment | 5,103 | 0.7 | 3,595 | 0.4 | -1,508 | -29.6 |
| Mining, forestry, and other | 2,841 | 0.4 | 2,203 | 0.3 | -638 | -22.5 |
| Utilities | 3,659 | 0.5 | 3,816 | 0.4 | 157 | 4.3 |
| Construction | 48,816 | 6.6 | 62,601 | 7.3 | 13,785 | 28.2 |
| Manufacturing | 71,661 | 9.7 | 70,264 | 8.2 | -1,397 | -1.9 |
| Wholesale trade | 29,159 | 3.9 | 39,493 | 4.6 | 10,334 | 35.4 |
| Retail trade | 90,774 | 12.3 | 107,484 | 12.5 | 16,710 | 18.4 |
| Transportation and warehousing | 38,396 | 5.2 | 49,604 | 5.8 | 11,208 | 29.2 |
| Real estate | 27,369 | 3.7 | 38,990 | 4.5 | 11,621 | 42.5 |
| Consumer Services | 100,527 | 13.6 | 114,397 | 13.3 | 13,870 | 13.8 |
| Producer Services | 119,923 | 16.2 | 146,000 | 17.0 | 26,077 | 21.7 |
| Social Services | 78,398 | 10.6 | 87,603 | 10.2 | 9,205 | 11.7 |
| Government | 123,002 | 16.6 | 132,345 | 15.4 | 9,343 | 7.6 |
| **Total employment** | **739,628** | **100.0** | **858,395** | **100.0** | **118,767** | **16.1** |

Note:
1/ Full- and part-time employment includes self-employed individuals. Employment data are by place of work, not place of residence, and, therefore, include people who work in the area but do not live there. Employment is measured as the average annual number of jobs, both full- and part-time, with each job that a person holds counted at full weight.
Source: U.S. Bureau of Economic Analysis 2008

Unemployment rates for San Bernardino County and the incorporated communities in the vicinity of the Project area were higher than the state average in September 2008 (the most recent data available), ranging from 8.5 percent in San Bernardino County as a whole to 13 percent in Adelanto (Table 5.10-6). In all cases, these rates are noticeably higher than they were in September 2007, reflecting the recent downturn in the economy. In Barstow, for example, the unemployment rate was 3.1 percent higher in September 2008, than it was in September 2007 (10.6 percent versus 7.4 percent). In Victorville, the September 2008 rate was 3.2 percent higher than the September 2007 rate (10.4 percent versus 7.2 percent).

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 in all the potentially affected areas since the beginning of 2007 (California EDD 2008b).

**Table 5.10-6**
**Employment Overview, September 2008**

| Geographic Area | Labor Force | Employment | Unemployed Labor Force | Unemployment Rate (Percent)[1/] |
|---|---|---|---|---|
| Adelanto | 6,900 | 6,000 | 900 | 13.0 |
| Apple Valley | 27,200 | 24,600 | 2,600 | 9.4 |
| Barstow | 10,900 | 9,800 | 1,200 | 10.6 |
| Hesperia | 31,600 | 28,100 | 3,500 | 11.1 |
| Victorville | 31,100 | 27,900 | 3,200 | 10.4 |
| San Bernardino County | 898,900 | 822,100 | 76,800 | 8.5 |
| Riverside-San Bernardino-Ontario MSA[2/] | 1,827,900 | 1,662,500 | 165,500 | 9.1 |
| **California** | **18,480,100** | **17,096,400** | **1,383,700** | **7.5** |

Note:
1/ Not seasonally adjusted.
2/ Riverside-San Bernardino-Ontario MSA consists of San Bernardino and Riverside counties.
Source: California EDD 2008c, 2008d

Median household income in San Bernardino County was 89 percent of the state median in 1989 (the most recent data available for the sub-county areas near the Project Site) (Table 5.10-7). The percent of the county's population below the poverty level in 1999 was higher than the state average (16 percent versus 14 percent). Median household income and the percent of the population below the poverty line in Barstow in 1999 was lower and higher, respectively, than the corresponding numbers for San Bernardino County. Median household income in the three census block groups within six miles of the Project Site ranged from 72 percent to 90 percent of the state median in 1999. The percent of the population below the poverty level in the three census block groups ranged from 15 percent to 18 percent (Table 5.10-7).

More recent data available at the state and county levels indicate that median household income in San Bernardino County was 91 percent of the state median in 2005. Approximately 15 percent of the county's population was below the poverty level compared to 13.3 percent statewide (U.S. Census Bureau 2008f). These data are not available at the sub-county level.

**Table 5.10-7**
**Income and Poverty, 1999**

| Geographic Area[1/] | Median Household Income ($)[2/3/] | Percent of State Average | Percent of Population Below the Poverty Level[3/] |
|---|---|---|---|
| Barstow | 35,069 | 74 | 20 |
| Block Group 4, Census Tract 103 | 42,813 | 90 | 15 |
| Block Group 5, Census Tract 103 | 38,409 | 81 | 18 |
| Block Group 9, Census Tract 104.02 | 34,313 | 72 | 16 |
| San Bernardino County | 42,066 | 89 | 16 |
| **California** | **47,493** | **100** | **14** |

Note:
1/ A census block group is a subdivision of a census tract and consists of a group of census blocks.
2/ Median incomes are presented in 1999 dollars unadjusted for inflation.
3/ These data compiled as part of the 2000 Census are the most recent available data for Barstow and the three identified block groups.
Source: U.S. Census Bureau 2000c

### 5.10.1.4 Fiscal Resources

San Bernardino County's proposed budget for 2008-09 included a total of $3,538 million in appropriations intended to finance county operations, an increase of $64 million or 1.9 percent from the county's 2007-08 restated final budget. The 2008-09 proposed budget included $3,118 million in revenue, with approximately $677 million, or 22 percent of the total, generated from property related revenue (16 percent) and other taxes (6 percent) (Table 5.10-8).

San Bernardino County has a sales and use tax rate of 7.75 percent, which consists of the 7.25 percent combined statewide rate and 0.5 percent for the San Bernardino County Transportation Authority. This rate applies to the entire county, with the exceptions of the cities of San Bernardino and Montclair, and Norton Air Force Base, which each have an 8 percent tax rate (California State Board of Equalization 2008). San Bernardino County is the only local agency with taxing powers on the Project Site.

**Table 5.10-8**
**San Bernardino County Expenditures and Revenues**

| | Restated Actual 2006-07 | | Restated Actual 2007-08 | | Proposed 2008-09 | |
|---|---|---|---|---|---|---|
| | ($ million) | (Percent) | ($ million) | (Percent) | ($ million) | (Percent) |
| **Expenditures for Countywide Operations[1/]** | **2,698.5** | **100** | **3,473.7** | **100** | **3,538.3** | **100** |
| Administration | 49.8 | 2 | 58.0 | 2 | 59.1 | 2 |
| Contingencies | 1.4 | 0 | 73.9 | 2 | 75.2 | 2 |
| Financial Administration | 1.9 | 0 | 7.5 | 0 | 7.5 | 0 |
| Debt Service | 20.1 | 1 | 21.4 | 1 | 20.6 | 1 |
| Economic Development Agency | 7.1 | 0 | 7.9 | 0 | 6.6 | 0 |
| Fiscal Group | 49.4 | 2 | 59.2 | 2 | 60.8 | 2 |
| Health Care | 272.1 | 10 | 434.9 | 13 | 370.9 | 10 |
| Human Services | 793.5 | 29 | 846.5 | 24 | 907.4 | 26 |
| Law and Justice Group | 622.1 | 23 | 656.4 | 19 | 676.0 | 19 |
| Public and Support Services Group | 90.0 | 3 | 103.6 | 3 | 100.4 | 3 |
| Other Funds | 301.0 | 11 | 639.8 | 18 | 668.2 | 19 |
| Enterprise Funds | 490.0 | 18 | 564.6 | 16 | 585.5 | 17 |
| **Revenues[1/]** | **2,789.0** | **100** | **3,077.0** | **100** | **3,117.9** | **100** |
| Property Taxes | 452.8 | 16 | 473.9 | 15 | 496.1 | 16 |
| Other Taxes | 179.5 | 6 | 192.4 | 6 | 180.7 | 6 |
| State and Federal Aid | 1,290.4 | 46 | 1,360.4 | 44 | 1,466.2 | 47 |
| Charges for Current Services | 303.3 | 11 | 424.6 | 14 | 337.1 | 11 |
| Other Revenue | 154.2 | 6 | 150.4 | 5 | 165.4 | 5 |
| Enterprise Funds | 408.8 | 15 | 475.3 | 15 | 472.4 | 15 |

Note:
1/These totals do not include operating transfers that provide financing from one fund to another within the county.
Source: County of San Bernardino 2008b

### *5.10.1.5 Education*

There are two school districts located in the vicinity of the Project Site: the Barstow Unified School District and the Silver Valley Unified School District. The Project Site is located within the boundary of the Silver Valley District, which serves the smaller communities located east of Barstow, including Yermo and Newberry Springs. The closest school to the Project Site is Newberry Springs Elementary, which is located on Newberry Road in Newberry Springs, approximately 14 miles west of the Project Site. The closest high school is located in Yermo, approximately 33 miles west of the Project Site. Both of these schools are part of the Silver Valley Unified School District. Information is also provided below for the Barstow Unified School District because workers and their families relocating to the Project Area would likely reside in the greater Barstow area.

The Barstow District is the larger of the two districts, with 13 schools, including nine elementary schools, one junior high school, one high school, one continuation high school, and one community day school, serving the greater Barstow area. A total of 6,949 students were enrolled in the Barstow School District in the 2007/2008 school year (Table 5.10-9), with a student teacher ratio of 20.5 to 1 (Educational Data Partnership 2008). Student enrollment in the Barstow Unified School District has declined slightly in recent years, with 364 (or about 5 percent) fewer students enrolled in 2007/2008 than two years earlier (Table 5.10-9). The Barstow Unified School District currently has no plans to close schools, but is in the process of adjusting their teaching staff to reflect declining student enrollment. A representative of the Barstow Unified School District stated that the district is currently unable to project future enrollment, but estimated that the district would currently be able to accommodate up to approximately 150 new students without requiring additional resources (Wardell 2008).

The Silver Valley Unified School District operates eight schools, including four elementary schools, one middle school, one high school, one alternative school, and a continuation school. A total of 2,657 students were enrolled in this district in the 2007/2008 school year (Table 5.10-9), with a student teacher ratio of 20 to 1 (Educational Data Partnership 2008). Enrollment in the Silver Valley School District has increased in recent years, with 64 (or about 2 percent) more students enrolled in 2007/2008 than two years earlier (Table 5.10-9). Projected enrollment for the Silver Valley Unified School District is presented by grade in Table 5.10-10. A representative of the Silver Valley Unified School District stated that the district is projecting no growth over the next few years and expects enrollment to remain at the levels identified for 2007-08 in Table 5.10-9 (Haughton 2008). The Silver Valley Unified School District is not currently at capacity and could accommodate approximately 300 new students without additional resources (Haughton 2008).

**Table 5.10-9**
**School Enrollment in the Project Area by Grade**

| Grade | Barstow Unified School District | | | Silver Valley Unified School District | | |
|---|---|---|---|---|---|---|
| | Enrollment (2005-06) | Enrollment (2006-07) | Enrollment (2007-08) | Enrollment (2005-06) | Enrollment (2006-07) | Enrollment (2007-08) |
| Kindergarten | 560 | 597 | 568 | 263 | 308 | 321 |
| Grade 1 | 575 | 524 | 567 | 296 | 258 | 282 |
| Grade 2 | 571 | 529 | 511 | 200 | 264 | 222 |
| Grade 3 | 555 | 546 | 523 | 262 | 184 | 248 |
| Grade 4 | 603 | 519 | 518 | 253 | 258 | 197 |
| Grade 5 | 581 | 561 | 491 | 204 | 245 | 211 |
| Grade 6 | 564 | 571 | 544 | 213 | 209 | 209 |
| Grade 7 | 572 | 566 | 564 | 195 | 181 | 176 |
| Grade 8 | 606 | 535 | 538 | 178 | 182 | 173 |
| Grade 9 | 587 | 656 | 556 | 161 | 167 | 199 |
| Grade 10 | 561 | 575 | 615 | 146 | 163 | 155 |
| Grade 11 | 528 | 492 | 542 | 134 | 148 | 151 |
| Grade 12 | 450 | 414 | 412 | 73 | 124 | 113 |
| Ungraded | 0 | 0 | 0 | 15 | 0 | 0 |
| **Total** | **7,313** | **7,085** | **6,949** | **2,593** | **2,691** | **2,657** |

Note:
1/ The Barstow Unified School District has recently experienced declining enrollment and has not developed future enrollment projections at this time (Wardell 2008). The Silver Valley Unified School District is projecting no growth over the next few years and expects enrollment to remain at the levels identified for 2007/08 above (Haughton 2008).
Source: Educational Data Partnership 2008.

The Silver Valley Unified School District is entitled to collect school impact fees for new construction within their district under the California Education Code Section 17620. The current Silver Valley Unified School District impact fee is $0.28 per square foot for commercial and industrial development. However, according to the Silver Valley Unified School District, the Project would be exempt from these fees because it would be developed on federal lands (Haughton 2008).

### *5.10.1.6 Public Services and Facilities*

#### *Law Enforcement*

The Project Site falls under the jurisdiction of the San Bernardino County Sheriff's Department. The closest sheriff's office is located in Barstow. This office employs approximately 60 individuals, including 35 deputies, two detectives, one "active detective" (detective in training), five sergeants, one school resource officer, a lieutenant, a captain, and various administrative staff. The response time to the Project Site would depend on the priority of the call, but response times to the Project Site would take, on average, 20 minutes (Lotspeich 2008).

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*

Response to fires at the Project Site would originate from the County Fire Department station, located north of the Project Site in the town of Harvard. This station is staffed on a daily basis by a full time Captain and two paid-call firefighters. The station has a type 1 and a type 3 engine, and a brush patrol. Response times to the Project Site would take, on average, 40 minutes (Horton 2008).

### *Emergency Response*

Both the City of Barstow and the County of San Bernardino hazardous materials units would respond to any hazardous material calls emanating from the Project Site as part of the county-wide San Bernardino County Intra-agency Hazardous Materials Response Team. This team consists of approximately 150 members and is a Level A response team, which is capable of handling all types of chemical, biological, radiological, and nuclear responses. Due to restrictions from the Department of Homeland Security, this team is not able to divulge their exact resources to the public. Response times from the City of Barstow Hazardous Materials unit would be approximately 35 minutes. The closest County Hazardous Materials unit is located at Station 322 in Adelanto and response time to the Project Site would be approximately 90 minutes (Horton 2008).

### *Hospitals*

The Barstow Community Hospital is the closest hospital to the Project Site. This hospital has 52 beds, 4 of which are intensive care beds. The hospital has approximately 260 employees and 98 physicians with staffing privileges. Services provided at Barstow Community Hospital include surgery, labor and delivery, radiology, and CT scans. There is an emergency room on-site; however, it is not a trauma level emergency room. An ambulance would take approximately 20 to 30-minutes to drive from the Project Site to this facility (Spurlin 2008).

Barstow Community Hospital would treat any minor injuries that might occur at the Project Site. Individuals suffering from major life threatening injuries or ailments would be flown by helicopter to Loma Linda University Medical Center. A helicopter flight from the Project Site to Loma Linda University Medical Center would take approximately 20 to 30 minutes. Loma Linda University Medical Center is licensed for 822 beds and has approximately 7,300 employees. Between 600 and 1,000 physicians have staffing privileges at Loma Linda University Medical Center. This medical center is a full service hospital with a level 1 trauma center, and separate medical, children's, and psychiatric hospitals, and is capable of treating almost any injury (Kabyzn 2008).

## *5.10.1.7 Utilities*

### *Electrical and Gas*

In order to interconnect the Project to the SCE and CAISO controlled electrical grid, the construction of the Solar One Substation, a one mile long 230kV single-circuit transmission line, and additional transformers and bus work at the existing SCE Pisgah Substation would be required. The 230kV transmission line would be a direct inter-tie between the Solar One facility and the 230kV-500kV SCE Pisgah Substation. The SCE Pisgah Substation would be the point of

interconnection for the Project to the SCE and CAISO controlled electrical grid. Additional upgrades to the transmission line system and potential environmental effects are discussed in Appendix EE, Lugo-Pisgah No. 2 500kV Transmission Line and Substation Siting Study. No natural gas services would be required for this Project.

#### *Water and Wastewater*

Water would be provided via a groundwater well located on a portion of the BLM ROW north of the Main Services Complex and transported through an underground pipeline. The expected average well water consumption for the Project during construction is approximately 50 acre-feet per year during the 40 to 48-month construction period. Under normal operation (inclusive of mirror cleaning, dust control, and potable water usage), water required would be approximately 36.2 acre-feet per year. Emergency water may be trucked in from local municipalities.

A small wastewater treatment plant, located at the Main Service Complex, would be used to process sanitary wastewater. This system would be designed to meet operational and maintenance guidelines required by the Department of Health Services. Two wastewater sedimentation basins, designed for water treatment and wastewater containment, would be located just north of the water treatment plant. Wastewater generated during the demineralization treatment would be discharged to these sedimentation basins. Each basin would be large enough to accommodate one full year of discharge, which is estimated to be approximately three million gallons. A minimum of one year is required for the waste to undergo the evaporation process. The second basin would be placed into operation while the first is undergoing evaporation; therefore, the two basins would alternate their functions on an annual basis.

#### *Waste*

Solid waste generated at the Project Site would be disposed of at the Barstow Sanitary Landfill, which is located approximately 38 miles west of the Project Site. This landfill is currently permitted to accept a maximum of 750 tons of waste per day and, on average, collects from 200 to 300 tons per day. The landfill is permitted for the next three years and the City of Barstow is presently in the process of filing for a permit extension that would allow the landfill to continue operating for an additional 30 years (Rodabaugh 2008).

The Victorville Sanitary Landfill, located approximately 60 miles southwest of the Project Site, would serve as an alternative source of solid waste disposal (California Integrated Waste Management Board 2008). This facility is permitted for a maximum disposal of 3,000 tons of waste a day and, on average, collects a third of their maximum daily allowed tonnage (California Integrated Waste Management Board 2008, Sansonetti 2008).

### 5.10.2 Environmental Consequences

#### *5.10.2.1 Significance Criteria*

The criteria used to determine the significance of Project-related socioeconomic impacts are based on the criteria identified in the Guidelines for Implementation of the California Environmental Quality Act (CEQA), Appendix G (CEQA 2007). Project-related impacts would be considered significant if they would:

- induce substantial population growth,
- displace substantial numbers of people or existing housing,
- induce a substantial increase in demand for public services and utilities,
- result in substantial adverse environmental impacts associated with the increased provision of public services and utilities, and
- physically divide an existing community.

#### *5.10.2.2 Construction Impacts*

Project construction is expected to take place in two phases and employ an average of 400 workers a month for the approximately four-year construction period (see Section 3.0, Project Description and Location for a detailed description of Project phasing). Monthly construction employment would peak at a maximum of 700 workers in month seven of the proposed schedule. Projected employment by construction trade and month is presented for a 41 month construction period in Table 5.10-10. These construction trades include occupations that would be directly related to assembly of the proposed SunCatcher units (identified in Table 5.10-10 by the preface SunCatcher) and workers engaged in these occupations would in most cases require some form of on-site training. Workers recruited to fill these positions would be drawn from the same general labor pool as other members of the construction workforce.

Every effort would be made to employ qualified subcontractors and construction personnel from the local area and the majority of the labor force is expected to be hired locally (within daily commuting distance) and commute daily to the Project Site. A study prepared for the Electric Power Research Institute (EPRI) found that power plant construction workers will commute as much as two hours to construction sites from their homes, rather than relocate (Gilmore et al. 1982). San Bernardino County has a large labor force with approximately 900,000 workers identified in the county in September 2008, including approximately 77,000 workers currently unemployed and looking for work (Table 5.10-11**)**. Data compiled for the towns and cities (including Census Defined Places) in San Bernardino County by the California EDD indicate that at least 88 percent of the labor force in San Bernardino County (790,000 workers) resides within a two hour commute of the Project Site, with approximately 67,000 workers (8.5 percent) currently unemployed and looking for work (Table 5.10-11). Communities located in relatively close proximity to the Project Site include the cities of Barstow, Victorville, Adelanta, Hesperia, and Apple Valley (Table 5.10-6). The larger cities of San Bernardino, Fontana, and Ontario are also within a two hour drive of the Project Site.

**Table 5.10-10**
**Construction Trade Projection (850 MW)**

| Discipline | Hrs | Month After Construction Start | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Average Monthly Employment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | |
| Carpenters | 110,664 | 10 | 25 | 25 | 25 | 25 | 19 | 41 | 40 | 40 | 28 | 28 | 38 | 29 | 29 | 29 | 29 | 38 | 32 | 32 | 32 | 28 | 34 | 30 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Concrete Crews | 108,656 | 7 | 26 | 26 | 26 | 26 | 23 | 49 | 42 | 42 | 24 | 24 | 40 | 33 | 33 | 33 | 33 | 40 | 30 | 30 | 30 | 24 | 25 | 19 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Electricians | 208,826 | 17 | 35 | 41 | 31 | 30 | 57 | 67 | 60 | 54 | 54 | 54 | 54 | 106 | 96 | 102 | 101 | 94 | 104 | 104 | 104 | 98 | 98 | 98 | 88 | 88 | 88 | 88 | 88 | 4 | | | | | | | | | | | | | 73 |
| Ironworkers | 120,104 | 16 | 34 | 34 | 34 | 34 | 23 | 37 | 36 | 36 | 24 | 24 | 34 | 33 | 33 | 33 | 33 | 38 | 32 | 32 | 32 | 28 | 31 | 27 | 7 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | | | | | | 24 |
| Laborers | 217,860 | 20 | 50 | 67 | 60 | 54 | 64 | 136 | 83 | 39 | 35 | 30 | 35 | 72 | 69 | 89 | 81 | 79 | 88 | 66 | 63 | 39 | 39 | 49 | 38 | 28 | 28 | 28 | 28 | 8 | 8 | 8 | 8 | 4 | 4 | 4 | 4 | | | | | | 45 |
| Miscellaneous Crews | 20,000 | | | | | | | 10 | 10 | 10 | 10 | 10 | 10 | | | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | | | | | | | | | | | | | | | | | 10 |
| Operators | 257,754 | 35 | 94 | 85 | 67 | 55 | 62 | 89 | 77 | 77 | 65 | 51 | 92 | 104 | 112 | 98 | 83 | 81 | 60 | 63 | 54 | 50 | 49 | 45 | 14 | 14 | 14 | 14 | 14 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 1 | 1 | 1 | 0 | 0 | 0 | 43 |
| Plumbers | 39,840 | | 5 | 9 | 4 | 4 | 4 | 26 | 26 | 26 | 14 | 14 | 14 | 5 | | 4 | 4 | 14 | 18 | 18 | 18 | 14 | 14 | 10 | | | | | | | | | | | | | | | | | | | | 13 |
| SES Technicians | 136,320 | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 22 |
| SunCatcher Assemblers | 394,240 | | | | | | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| SunCatcher Electricians | 98,560 | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| SunCatcher Ironworkers | 197,120 | | | | | | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| SunCatcher.Laborers | 60,800 | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | | | | | | | | | | | | | | 16 |
| SunCatcher Material Handlers | 98,560 | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| SunCatcher Operators | 30,400 | | | | | | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | | | | | | | | | | | | | | 8 |
| SunCatcher Teamsters | 45,600 | | | | | | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | | | | | | | | | | | | | | 12 |
| SunCatcher Technicians | 197,120 | | | | | | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| Teamsters | 114,402 | 26 | 58 | 47 | 36 | 24 | 29 | 31 | 22 | 22 | 22 | 5 | 9 | 33 | 53 | 40 | 28 | 28 | 28 | 28 | 17 | 17 | 16 | 16 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 1 | 1 | 1 | 0 | 0 | 0 | 19 |
| Technicians | 4,094 | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 5 | 5 | | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | 4 |
| **Total** | **2,460,921** | **131** | **327** | **334** | **283** | **252** | **498** | **703** | **613** | **563** | **493** | **457** | **543** | **633** | **643** | **646** | **609** | **639** | **614** | **596** | **573** | **521** | **529** | **517** | **378** | **358** | **358** | **358** | **374** | **233** | **228** | **228** | **228** | **220** | **220** | **220** | **220** | **194** | **194** | **194** | **192** | **192** | **192** | **393** |

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**Table 5.10-11**
**Estimated Labor Force within Two Hours Commute of the Project Site, September 2008**

| Geographic Area | Labor Force | Employment | Unemployed Labor Force | Unemployment Rate[1/] |
|---|---|---|---|---|
| Total by County | | | | |
| San Bernardino County | 898,900 | 822,100 | 76,800 | 8.5% |
| Riverside County | 929,000 | 840,400 | 88,700 | 9.5% |
| Total | 1,827,900 | 1,662,500 | 165,500 | 9.1% |
| Estimated Within 2 Hours Commute[2/] | | | | |
| San Bernardino County | 789,000 | 722,300 | 66,900 | 8.5% |
| Riverside County | 448,100 | 404,700 | 43,200 | 9.6% |
| Total Within 2 Hours Commute | 1,237,100 | 1,127,000 | 110,100 | 8.9% |

Notes:
1/ Not seasonally adjusted.
2/ Based on communities and Census Defined Places located within 2 hours of the Project Site. Travel times from Google maps.
3/ Labor force data is provided for communities in the vicinity of the Project Site in Table 5.10-6.
Source: California EDD 2008c, 2008d

San Bernardino County is part of the Riverside-San Bernardino-Ontario MSA, which also includes Riverside County, which borders San Bernardino County to the south. Riverside County had a total labor force of 929,000 in September 2008, with 88,700 (9.5 percent) currently unemployed and looking for work (Table 5.10-11). Data compiled for 53 towns and cities (including Census Defined Places) in Riverside County by the California EDD indicate that at least 48 percent of the labor force in Riverside County (448,000 workers) resides within a one to two hour commute of the Project Site, with approximately 43,000 workers (9.6 percent) currently unemployed and looking for work (Table 5.10-11**)**. Communities located in Riverside County within two hours of the Project Site include Riverside, Corona, and Moreno Valley.

In addition, San Bernardino County is bordered by major labor markets to the west (Los Angeles-Long Beach-Santa Ana MSA) and east (Las Vegas-Paradise MSA). The Los Angeles-Long Beach-Santa Ana MSA, which consists of Los Angeles and Orange counties, California, had a total labor force of approximately 6.6 million workers in September 2008, with approximately 481,000 (7.3 percent) unemployed and looking for work (Table 5.10-12). A number of communities in Los Angeles County are within a two hour commute of the Project Site, including Pomona, West Corina, and Glendora in the southeast part of the county and Lancaster and Palmdale in the north central part of the county. Most of Los Angeles County is within a three-hour commute of the Project Site, including the city of Los Angeles, which is approximately 150 miles from the Project Site.

The Las Vegas-Paradise MSA consists of Clark County, Nevada, which had a total labor force of 1.4 million in September 2008, including approximately 102,000 (7.3 percent) unemployed and looking for work (Table 5.10-12). The city of Las Vegas is approximately 180 miles and three hours from the Project Site.

**Table 5.10-12**
**Regional Employment Overview, September 2008**

| Metropolitan Statistical Area[1/] | Labor Force | Employment | Unemployed Labor Force | Unemployment Rate[2/] |
|---|---|---|---|---|
| Riverside-San Bernardino-Ontario | 1,827,900 | 1,662,500 | 165,500 | 9.1% |
| Los Angeles-Long Beach-Santa Ana | 6,582,000 | 6,101,500 | 480,500 | 7.3% |
| Las Vegas-Paradise | 1,411,775 | 1,309,599 | 102,176 | 7.2% |
| **Total Regional Labor Market** | **9,821,675** | **9,073,599** | **748,176** | **7.6%** |

Notes:
1/ Metropolitan Statistical Areas (MSAs) contain a core area with a population of 50,000 or more and consist of one or more counties. Riverside-San Bernardino-Ontario MSA consists of Riverside and San Bernardino counties, California. Los Angeles-Long Beach-Santa Ana MSA consists of Los Angeles and Orange counties, California. Las Vegas-Paradise MSA consists of Clark County, Nevada.
2/ Not seasonally adjusted.
Source: California EDD 2008d, Nevada Department of Employment, Training, and Rehabilitation 2008

Occupation data compiled by the U.S. Bureau of Labor Statistics for May 2007 (the most recent data available) identified approximately 101,000 workers employed in construction and extraction occupations in the Riverside-San Bernardino-Ontario MSA in May 2007, with the vast majority (more than 99 percent) of these workers engaged in construction work (U.S. Bureau of Labor Statistics 2008). Based on the estimated share of the total labor force in the Riverside-San Bernardino-Ontario MSA that resides within two hours of the site (68 percent), these data suggest that approximately 68,000 workers employed in construction and extraction occupations lived within a two hour commute of the Project Site in May 2007.

The number of workers in the Riverside-San Bernardino-Ontario MSA currently employed (May 2007) in the construction trades that would be required to build the Project are identified in Table 5.10-13. This table also identifies the mean annual wages for 2008 and provides employment projections for 2016 for each construction trade.

Peak employment in most construction trades required for construction of the Project would occur in month 7 (Table 5.10-10). Under the current construction schedule, month 7 would fall in 2011. Table 5.10-14 compares the peak projected labor demand for the Project with the projected employment in 2011 in the Riverside-San Bernardino-Ontario MSA. This table presents total projected employment for the Riverside-San Bernardino-Ontario MSA by construction trade and also includes an estimate of projected employment within a two hour commute of the Project Site based on the distribution of the labor force summarized in Table 5.10-11.

**Table 5.10-13**
**Employment and Wages in the Riverside-San Bernardino-Ontario MSA by Construction Trade**

| Occupation[1/] | Estimated Employment May 2007 | Projected Employment 2016 | 2008 Mean Annual Wage |
|---|---|---|---|
| Carpenters | 17,720 | 32,390 | $47,499 |
| Paving, Surfacing, and Tamping Equipment Operators | 610 | 720 | $49,450 |
| Electricians | 5,890 | 7,600 | $48,283 |
| Welders, Cutters, Solderers, and Brazers | 3,500 | 4,640 | $33,352 |
| Construction Laborers | 22,440 | 32,080 | $33,875 |
| Maintenance and Repair Workers, General | 11,750 | 13,690 | $37,390 |
| Operating Engineers and Other Construction Equipment Operators | 4,480 | 5,460 | $58,883 |
| Plumbers, Pipefitters, and Steamfitters | 3,980 | 5,330 | $42,999 |
| Truck Drivers, Heavy and Tractor-Trailer | 22,210 | 27,580 | $43,889 |
| Civil Engineering Technicians | 820 | 930 | $58,842 |

Notes:
1/ These are the Federal Standard Occupational Classification (SOC) system categories that correspond with the construction trades required for the Project.
2/ The Riverside-San Bernardino-Ontario MSA consists of San Bernardino and Riverside counties.
Sources: U.S. Bureau of Labor Statistics 2008, California EDD 2008f

Three categories of projected employment, SunCatcher Technicians, SunCatcher Assemblers, and SunCatcher Material Handlers (see Table 5.10-10), do not directly correspond with a Federal Standard Occupational Classification (SOC) occupational category and are not included in Table 5.10-14. Total employment in these occupations would peak at 92 workers and workers recruited to fill these positions would be primarily drawn from the existing labor pool within a two hour commute of the Project Site. Approximately 68,000 construction workers were identified within a two-hour commute of the Project Site in 2007 based on data from the U.S. Bureau of Labor Statistics and California EDD. There were about 33,000 construction workers elsewhere in the Riverside-San Bernardino-Ontario MSA in 2007, as well as 228,980 construction workers in the Los Angeles-Long Beach-Santa Ana MSA and 86,540 construction workers in the Las Vegas-Paradise MSA (U.S. Bureau of Labor Statistics 2008).

The preceding discussion and summary by construction trades presented in Table 5.10-14 indicates that there would be more than sufficient construction labor in the regional labor market to meet the Project's projected peak labor demand in 2011 and the majority of this labor force is expected to be hired locally (within a two hour drive of the Project Site) and commute daily to the Project Site.

**Table 5.10-14**
**Comparison of Projected Employment with Projected Peak Project Demand by Construction Trade**

| Occupational Title[1/] | Projected Employment for the RSBO MSA 2011[2/] | | Projected Peak Project Labor Demand[3/4/] |
|---|---|---|---|
| | Total | Within 2 Hours of the Project Site | |
| Carpenters | 29,706 | 20,200 | 41 |
| Paving, Surfacing, and Tamping Equipment Operators | 657 | 447 | 49 |
| Electricians | 6,597 | 4,486 | 122 |
| Welders, Cutters, Solderers, and Brazers | 3,967 | 2,698 | 69 |
| Construction Laborers | 26,303 | 17,886 | 152 |
| Maintenance and Repair Workers, General | 12,576 | 8,552 | 10 |
| Operating Engineers and Other Construction Equipment Operators | 4,892 | 3,326 | 120 |
| Plumbers, Pipefitters, and Steamfitters | 4,532 | 3,082 | 26 |
| Truck Drivers, Heavy and Tractor-Trailer | 24,454 | 16,629 | 70 |
| Civil Engineering Technicians | 867 | 590 | 37 |

Notes:
1/ These federal standard occupational categories correspond with the construction trades required for the Project.
2/ Employment was projected for 2011 based on estimates for 2007 (U.S. Bureau of Labor Statistics 2008) and projections for 2016 (California EDD 2008e) assuming a constant annual growth rate.
3/ Peak labor demand for most occupations would occur in month 7 (see Table 5.10-10).
4/ These categories include occupations directly related to the assembly of SunCatcher units where applicable (e.g., SunCatcher Electricians, SunCatcher Ironworkers, SunCatcher Laborers, etc.). Approximately 92 SunCatcher-related jobs do not directly correspond with SOC categories and are not included in the peak labor demand totals.
Sources: U.S. Bureau of Labor Statistics 2008, California EDD 2008e

Contact with the Executive Director of the San Bernardino, Riverside Building Trades Council also indicated that sufficient skilled labor was available in the local area to meet the average and peak labor demands of the Project, with workers most likely commuting daily from Barstow, Victorville, Apple Valley, Riverside, and the San Bernardino area (Perez 2008). The Executive Director of the Building Trades Council indicated that construction workers are used to commuting long distances to job sites in the San Bernardino and Riverside counties and stated that given the large pool of skilled labor within daily commuting distance of the Project Site, construction is unlikely to involve large numbers of workers temporarily relocating to the Project area (Perez 2008).

The availability of construction labor in the regional labor market and the Riverside-San Bernardino-Ontario MSA alone (Table 5.10-14) indicates that Project construction labor demand is unlikely to significantly affect the availability of construction labor in the region. This would be the case under normal market conditions, but is especially the case now given the current economic difficulties and slowdown in construction in the region (Perez 2008).

As noted above, every effort would be made to employ qualified subcontractors and construction personnel from the local area. However, some of the higher skill level positions required for essential trades, such as high voltage line electricians, controls and Information Technology (IT) specialists, and electrical engineers, may need to be hired from outside the local area, most likely

from the Los Angeles or Las Vegas areas. These workers would likely commute weekly to the Project area for the duration of their work on the Project, returning home at weekends. Given the size of the labor markets in these areas and the relatively small peak Project demand for these types of skilled workers, the Project is unlikely to affect the regional availability of these skills.

Total construction payroll for the four year construction period is estimated to be $159 million.

### *Construction Impacts on Population*

As noted above, the majority of the projected construction workforce is expected to commute daily to the Project Site rather than relocate to the Project Area. Some of the higher skill level workers may be hired from outside the local area and would be expected to commute to the Project Site on a weekly basis from the Los Angeles or Las Vegas areas, staying in temporary housing or motels in the Barstow area during the week for the duration of their employment. The impacts of Project construction on regional population levels are, therefore, expected to be minimal. In addition, the Project Site is located on BLM-administered land in a relatively remote and largely uninhabited area, and construction and operation of the Project is not expected to displace existing population or physically divide an existing community.

### *Construction Impacts on Housing*

The majority of the projected construction workforce is expected to commute daily to the Project Site. However, as discussed above, some of the higher skill level workers may be hired from outside the local area and would be expected to commute to the Project Site on a weekly basis from the Los Angeles or Las Vegas areas, staying in temporary housing or motels in the Barstow area during the week for the duration of their employment.

Review of available motel and hotel information identified at least 49 motels with a total of approximately 4,000 rooms within a one-hour drive of the Project Site, with approximately half of these rooms located in Barstow (Table 5.10-4). A total of 321 hotels and approximately 21,500 hotel rooms were identified within a two-hour drive of the Project Site. Based on the average annual motel and hotel occupancy rate in San Bernardino and Riverside counties in 2008 (PK Consulting 2008), on average, approximately 500 unoccupied motel and hotel rooms are available for rent in Barstow, with an additional 400 unoccupied motel and hotel rooms available elsewhere within a one-hour drive of the site (mainly in Victorville) (Table 5.10-4).

There is also a substantial number of housing units available for rent in the vicinity of the Project area, with slightly more than 1,000 housing units (including houses, apartments, and mobile homes) estimated to be available for rent in Barstow in 2008 (Table 5.10-3). Housing is also available for rent in other communities located within a one-hour drive of the site, with, for example, approximately 1,050 housing units estimated to be available for rent in Victorville in 2008 (Table 5.10-3).

The temporary relocation of construction workers is, therefore, unlikely to affect the supply of temporary accommodations and rental housing in the Project area. In addition, the Project Site is located on BLM-administered land in a relatively remote and largely uninhabited area and construction and operation of the Project is not expected to displace existing housing.

Contact with the San Bernardino, Riverside Building Trades Council indicated that given the large supply of construction labor within commuting distance of the Project Site, it is unlikely that a large number of workers would temporarily relocate to the area and camp in the vicinity of

the Project Site (Perez 2008). RV parks are, however, available within a one-hour drive of the site, including two RV parks in Newberry Springs and five RV parks in Barstow. Short-term camping (14 days or less) is also allowed on most BLM-administered land in the vicinity of the Project Site at designated camping areas.

### *Construction Impacts on Economy and Employment*

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

The total economic impacts of construction of the Project were estimated using an input-output model that was developed using IMPLAN modeling software and data (Minnesota IMPLAN Group 2008). This analysis estimated the total (direct, indirect, and induced) change in output (sales), employment, and income that would 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. *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 affected region for this analysis is San Bernardino County. This area was selected based on the available construction labor force within reasonable commuting distance of the Project and locations where supplies and materials are expected to be purchased. Average direct employment for the duration of the construction period would be 393 jobs. The total construction payroll, including both craft and staff employees, would be approximately $159 million spread over the approximately four-year construction period. Local expenditures for construction materials and supplies are expected to total $8.4 million during the construction phase of the Project. Construction materials and supplies purchased locally would likely include concrete, rebar, formwork materials, asphalt, fencing, and local purchases in support of field staff.

Annual total economic impacts (direct, indirect, and induced impacts) were estimated for San Bernardino County based on average monthly employment and annual construction payroll and local expenditures. In addition to the jobs directly related to construction of the Project (Table 5.10-10), construction of the Project would also support an estimated 244 (99 indirect and 145 induced) jobs each year for the duration of the construction period. Annual construction-related indirect and induced income impacts would be approximately $9.1 million and $9.4 million, respectively. Construction of the Project would also generate approximately $30.7 million in indirect ($12.5 million) and induced ($14.3 million) output (sales) (Table 5.10-15).

Most of the construction workforce is expected to be hired locally and many of the jobs would last for several years (Table 5.10-10). In addition, as discussed above, construction of the Project would also support employment and wages in other industries in the county, with impacts related to spending by workers likely to occur in the communities surrounding the Project Site. These direct, indirect, and induced jobs and wages would make a positive contribution to the

local economy and communities in the vicinity of the Project Site, where current (September 2008) unemployment rates range from 9.4 percent to 13 percent (Table 5.10-6).

**Table 5.10-15**
**Summary of Annual Total Economic Impacts from Construction**

| Impact | Employment | Income ($ million) | Output ($ million) |
|---|---|---|---|
| Direct | 393 | 45.4 | 47.8 |
| Indirect | 99 | 10.3 | 14.3 |
| Induced | 145 | 10.8 | 16.4 |
| **Total** | **637** | **66.5** | **78.5** |

### *Construction Impacts on Fiscal Resources*

Local purchases of materials, supplies, equipment, and services are expected to total approximately $9.1 million during the construction phase of the Project, which would extend for approximately four years. Assuming a San Bernardino County tax rate of 7.75 percent, the Project would generate approximately $700,000 in sales tax each year over the life of the construction phase of the Project. Approximately 68 percent of these sales tax revenues would be distributed to the State General Fund, 10 percent to city/counties unincorporated general funds, 6 percent to public safety (Proposition 172), 6 percent to health and welfare realignment, 6 percent to local transportation (San Bernardino County Measure 1), and 3 percent to local transportation/road maintenance (County of San Bernardino 2008b).

### *Construction Impacts on Schools*

The majority of the projected construction workforce is expected to commute daily to the Project Site. Some higher level skilled positions may involve workers temporarily relocating to the area for the duration of their work on the Project. However, the majority of these workers is expected to commute to the Project area on a weekly basis, returning home each weekend, and are not expected to relocate to the Project area with their families. As a result, the construction phase of the Project is not expected to have a substantial effect on student enrollment in the Silver Valley Unified School District or the Barstow Unified School District.

### *Construction Impacts on Public Services*

Construction of the Project is not expected to result in a substantial increase in demand for public services. Representatives of the County Sheriff's Department and medical facilities that would serve the Project Site have stated that construction of the Project would be unlikely to impact their resources (Kabyzn 2008, Lotspeich 2008, Spurlin 2008). The police department is well staffed (Lotspeich 2008), and local and regional medical facilities are capable of handling any injuries that might occur at the Project Site. Any minor injuries would be treated at the Barstow Community Hospital, while life threatening injures would be treated at the Loma Linda University Medical Center.

The San Bernardino County Fire Department has indicated that additional resources may be required to enable the Fire Department to provide adequate fire protection and emergency response services during construction of the Project (Horton 2008). As discussed in Section 5.10.5, the Applicant will work with local fire protection and emergency response service providers to address the need for any additional resources during the construction and operation

phases of the Project. This potential increase in the provision of services is not expected to have adverse environmental impacts.

#### *Construction Impacts on Utilities*

Construction of the Project is not expected to result in a substantial increase in demand for utilities. The Project would use a limited amount of water during construction (50 acre-feet per year from its own well) and would not utilize natural gas.

The Project is expected to produce 40-cubic yards of solid waste per week during the approximately four-year construction period. This waste would be disposed of at the Barstow Sanitary Landfill, which has adequate capacity to accommodate this waste, with a current permitted daily capacity of 750 tons a day and average daily waste flows ranging from 200 to 300 tons per day (Rodabaugh 2008). Additional capacity is available at the Victorville Sanitary Landfill. Current daily waste flows at the Victorville Sanitary landfill are, on average, equivalent to approximately one-third of the landfill's permitted capacity of 3,000 tons of waste a day (Sansonetti 2008).

### *5.10.2.3 Operation Impacts*

Operation and maintenance staff would be on-site following the notice to proceed. The number of operations and maintenance staff would increase over time as Project construction is completed (Table 5.10-16). Once both phases of the Project are completed, the Project would employ approximately 180 full-time workers (Table 5.10-16). Project operations and maintenance activities would occur seven days a week, 24 hours a day, but the majority of the staff would be on-site during daytime operating hours. Almost three-quarters of the total projected operations jobs (approximately 70 percent) would be non-exempt positions. Non-exempt positions would include mechanical technicians (68 workers) and SunCatcher mirror washers (45 workers) (Table 5.10-16). The operations workforce would also include the Summer Mechanical Wash staff, which would consist of approximately 44 workers hired on a temporary contract basis. These temporary contract workers would be hired for six weeks in the second quarter of each year (Table 5.10-16).

Total annual operations payroll is estimated to be approximately $10.5 million, with approximately 90 percent or $9.5 million of that paid to permanent employees, and the remaining 10 percent (about $1 million) paid to short-term contract operations employees, including the Summer Mechanical Wash staff. Contract staff would also include security, housekeeping, and high voltage maintenance staff (Table 5.10-16).

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 (Gilmore et al. 1982). The majority of the projected operations employees is expected be drawn from areas within a one-hour commute of the Project Site, including the cities of Barstow and Victorville, as well as smaller communities located in the Project vicinity. Some of the positions, primarily engineering occupations, would require individuals with specialized skills who may need to be recruited from larger statewide or national labor markets. Specialized personnel recruited from outside the region would likely relocate with their families to the area (within one hour commuting distance of the Project Site). Based on the projected labor requirements for the

Project at full build out (850 MW), up to 20 jobs could require specialized personnel that might need to be recruited from outside the immediate Project area (Table 5.10-16).

## Table 5.10-16
## Projected Operation and Maintenance Employment

| ID | RESOURCE DESCRIPTION | PROJECTED O&M STAFFING | | | 3-MONTH PERIODS AFTER NOTICE TO PROCEED | | | | | | | | | | | | | | | | | | | | | | | | | | | | Man Months |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | YEAR 1 | | | | YEAR 2 | | | | YEAR 3 | | | | YEAR 4 | | | | YEAR 5 | | | | YEAR 6 | | | | YEAR 7 | | | | YEAR 8 | | | | |
| | | 300MW | 600MW | 850MW | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| A | **GENERAL & ADMINISTRATION (G&A)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Operations Manager | 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 | 1 | 1 | 1 | 1 | 1 | 20 |
| 2 | HR & Admin | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 37 |
| 3 | OH&S Supervisor | 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 | 1 | 1 | 1 | 18 |
| 4 | General Accounting | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 38 |
| | **TOTAL G&A** | **4** | **6** | **7** | **3** | **3** | **4** | **5** | **5** | **5** | **6** | **6** | **6** | **6** | **6** | **6** | **6** | **6** | **6** | **6** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **113** |
| B | **ENGINEERING** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Operations Supervisor | 2 | 3 | 4 | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 49 |
| 2 | Controls Engineer | 1 | 2 | 2 | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 25 |
| 3 | Electrical Engineer | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 28 |
| 4 | Mechanical Engineer | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 28 |
| 5 | Maintenance Supervisor | 2 | 4 | 4 | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 50 |
| | **TOTAL ENGINEERING** | **7** | **11** | **14** | **2** | **2** | **2** | **7** | **7** | **7** | **7** | **7** | **7** | **7** | **8** | **8** | **13** | **13** | **13** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **14** | **180** |
| C | **NON-EXEMPT STAFF** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Operating Technicians | 4 | 6 | 8 | | | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 84 |
| 2 | SunCatcher Mirror Washing | 16 | 32 | 45 | | | | 2 | 2 | 4 | 6 | 8 | 10 | 12 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 294 |
| 3 | Instrumentation & Control Technician | 2 | 4 | 4 | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 50 |
| 4 | Electrician | 2 | 4 | 4 | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 50 |
| 5 | Mechanical Technician | 24 | 48 | 68 | | | | 8 | 8 | 8 | 16 | 16 | 16 | 24 | 24 | 24 | 32 | 38 | 38 | 46 | 46 | 46 | 54 | 54 | 54 | 60 | 60 | 60 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 498 |
| 6 | Commissioning Technicians | | | | | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | | | | | | | | | | | | | | | | | 192 |
| | **NON-EXEMPT SUBTOTAL** | **48** | **94** | **129** | | | | **34** | **34** | **36** | **46** | **48** | **50** | **60** | **64** | **66** | **82** | **90** | **92** | **86** | **88** | **90** | **100** | **102** | **106** | **114** | **116** | **121** | **129** | **129** | **129** | **129** | **129** | **129** | **129** | **129** | **1168** |
| D | **CONTRACT STAFF** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Security | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 160 |
| 2 | House-Keeping | 4 | 4 | 4 | | | | | | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 56 |
| 3 | High-Voltage Maintenance | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 80 |
| | **ON-SITE CONTRACT SUBTOTAL** | **16** | **16** | **16** | **12** | **12** | **12** | **12** | **12** | **12** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **296** |
| E | **Summer Mechanical Wash** | | | | | | | | | **4** | | | | **12** | | | | **20** | | | | **28** | | | | **36** | | | | **44** | | | | **44** | | | **64** |
| F | **CONTINGENCY @ 10%** | | **10** | **16** | **2** | **2** | **2** | **6** | **6** | **6** | **8** | **8** | **8** | **9** | **9** | **10** | **12** | **13** | **13** | **12** | **13** | **13** | **14** | **14** | **14** | **15** | **15** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **16** | **176** |
| G | **GRAND TOTAL** | **75** | **137** | **182** | **19** | **19** | **20** | **64** | **64** | **70** | **90** | **85** | **87** | **110** | **103** | **106** | **129** | **158** | **140** | **134** | **138** | **168** | **151** | **153** | **157** | **202** | **168** | **174** | **182** | **226** | **182** | **182** | **182** | **226** | **182** | **182** | **2004** |

### *Operation Impacts on Population*

Operation of the Project would result in up to 20 operations workers permanently relocating with their families to the Project area (within a one-hour commuting distance of the Project Site). A potential increase of this size would 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 a one-hour commute of the Project Site include an estimated 1,706 vacant housing units in Barstow and 2,690 vacant housing units in Victorville. The vacant housing units in Barstow include an estimated 1,000 units available for rent and 270 units for sale. In Victorville, an estimated 1,050 units are available for rent and 670 are for sale (Table 5.10-3). Additional housing units are also available for rent and sale in other communities within the Project vicinity (Table 5.10-3). As a result, the potential addition of 20 households to the Project area is not expected to affect the availability of existing housing resources.

### *Operation Impacts on Economy and Employment*

Operation of the proposed Project would have positive impacts on the local economy through the creation of local employment opportunities and through local expenditures for supplies and services. The Project would also help position California to meet the goal of obtaining 20 percent of its energy portfolio from renewable sources.

When completed, the Project is expected to employ approximately 180 full-time operations employees in San Bernardino County, with an annual payroll of approximately $10.1 million, which would include all salaries, overtime, benefits, and incentives. Operations employees would include solar field Project and maintenance staff, clerical and technical staff, and administrative and management staff. Most of these employees would be hired locally. In addition, an annual operations and maintenance budget of $8.4 million would be spent locally (within San Bernardino County) on goods and supplies.

The total economic impacts of operation of the Project were estimated using an input-output model that was developed using IMPLAN modeling software and data (Minnesota IMPLAN Group 2008). In addition to the jobs directly related to operation of the Project (Table 5.10-17), operation of the Project would also support an estimated 243 (97 indirect and 146 induced) jobs each year for the duration of the construction period. Annual construction-related indirect and induced income impacts would be approximately $2.0 million and $2.3 million, respectively. Operation of the Project would also generate approximately $4.8 million in indirect ($2.2 million) and induced ($2.6 million) output (sales) (Table 5.10-17). These impacts would occur in San Bernardino County and would occur on an annual basis for the duration of Project operation.

**Table 5.10-17**
**Summary of Annual Total Economic Impacts from Operation**

| | Employment | Income ($ million) | Output ($ million) |
|---|---|---|---|
| Direct | 182 | 10.1 | 18.5 |
| Indirect | 97 | 2.0 | 2.2 |
| Induced | 146 | 2.3 | 2.6 |
| **Total** | **425** | **14.4** | **23.4** |

### *Operation Impacts on Fiscal Resources*

Solar projects in California are presently covered by a taxation exemption (Section 73 of the California Taxation and Revenue Code) that was recently extended until the 2015-2016 fiscal year (Endler 2008). Solar Project components covered by this exemption include storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of these items. The total capital cost (plant and equipment) of the Project is estimated to be over one billion dollars. The taxable value of the non-solar Project components, which would include the proposed administrative offices, operations control room, and maintenance facilities, is estimated to be approximately $20 million. Assuming a San Bernardino County property tax rate of 1.1 percent, the first operational year at full build out (2014) would generate approximately $220,000 in property taxes on Project components.

Taxation on the land itself would be calculated based on the value of the lease with the BLM (i.e., the flow of income to the BLM that is generated by the lease) (Endler 2008, Sanders 2008). The BLM would determine the value of the lease following approval of the Project. BLM typically calculates the value of this type of lease as 10 percent of the value of the property based on the values of surrounding private property. For the purposes of this analysis, private property in the vicinity of the Project Site is assumed to have an average value of $500 per acre. Using this value, the approximate value of the BLM lease would be approximately $383,000. Assuming a property tax rate of 1.1 percent (per San Bernardino County), the Project would generate approximately $4,300 in property taxes based on the value of the BLM lease.

These are approximate estimates developed to provide an indication of the property tax revenues that would be generated by the Project. These estimates indicate that property tax revenues generated by operation of the Project would be equivalent to approximately 0.04 percent of total county property tax revenue budgeted for 2008/09 (Table 5.10-8). The exact values would be calculated by BLM (for the lease) and the San Bernardino County Assessor's office, and payments would be reduced over time to account for depreciation.

Based on the distribution of a typical San Bernardino County property tax dollar, approximately 41 percent of the annual total would go to schools, 30 percent to the San Bernardino County Redevelopment Agency, 10 percent to the county, 10 percent to Special Districts, 8 percent to cities, and 1 percent to the county library (County of San Bernardino 2008b).

The Project is expected to be completed in 2014. Local purchases of materials, supplies, equipment, and services are expected to total approximately $8.4 million a year once the Project is fully operational. Assuming a San Bernardino County tax rate of 7.75 percent, the Project would generate approximately $650,000 a year in sales tax. This would be equivalent to approximately 0.4 percent of revenues from "other taxes" budgeted for San Bernardino County

for 2008/09 (Table 5.10-8). Approximately 68 percent of these sales tax revenues would be distributed to the State General Fund, 10 percent to city/counties unincorporated general funds, 6 percent to public safety (Proposition 172), 6 percent to health and welfare realignment, 6 percent to local transportation (San Bernardino County Measure 1), and 3 percent to local transportation/road maintenance (County of San Bernardino 2008b).

### *Operation Impacts on Schools*

Based on the average number of children under 18 years of age per family household in California of 1.1, the potential addition of 20 new family households to the Project area would result in the addition of 22 children (a smaller share of which would be school-aged). These potential new students would likely be enrolled in the Barstow or Silver Valley school districts. Representatives from the Barstow and Silver Valley school districts have stated that their districts would be able to accommodate approximately 150 new students and 300 new students, respectively, without requiring additional resources (Wardell 2008, Haughton 2008). Therefore, the potential addition of new workers to the region is not expected to affect existing school resources in the Project area.

The Project Site is located within the jurisdiction of the Silver Valley Unified School District. The current Silver Valley Unified School District development impact fee is $0.28 per square foot for commercial and industrial development. However, the school district has indicated that they believe the Project would be exempt from these fees because it would be developed on federal lands (Haughton 2008). If this were to prove not to be the case, the total square footage of permanent, inhabited structures on the Project Site (75,000 square feet) would result in school impact fees of approximately $21,000.

### *Operation Impacts on Public Services*

Operation of the Project is not expected to result in a substantial increase in demand for public services. Representatives of the County Sheriff's Department and medical facilities that would serve the Project Site have stated that operation of the Project would be unlikely to impact their resources (Kabyzn 2008, Lotspeich 2008, Spurlin 2008). The police department is well staffed (Lotspeich 2008), and local and regional medical facilities are capable of handling any injuries that might occur at the Project Site. Any minor injuries would be treated at the Barstow Community Hospital, while life threatening injures would be treated at the Loma Linda University Medical Center.

The Project would have its own on-site fire protection systems consisting of portable and fixed fire-suppression equipment and systems. The fixed fire protection system would include a wet, water-based sprinkler fire-suppression system and the portable systems would consist of strategically placed portable fire extinguishers located throughout the Project Site. Along with the on-site fire protection systems, employees would be given safety training courses in fire prevention and the proper use of the portable extinguishers and hose stations. The Applicant would work with engineers from the San Bernardino County Fire Department to incorporate any necessary fire prevention measures into final design.

The San Bernardino County Fire Department has indicated that additional resources may be required to enable the Fire Department to provide adequate fire protection and emergency response services during operation of the Project (Horton 2008). As discussed in Section 5.10.5, the Applicant will work with local fire protection and emergency response service providers to

address the need for any additional resources during the construction and operation phases of the Project. This potential increase in the provision of services is not expected to have adverse environmental impacts.

### *Operation Impacts on Utilities*

Operation of the Project is not expected to result in a substantial increase in demand for utilities. During operation, the Project would use a limited amount of water (36.2 acre-feet per year) and would not utilize natural gas.

The Project is expected to produce 40-cubic yards of solid waste per month during operation. This waste would be disposed of at the Barstow Sanitary Landfill, which has adequate capacity to accommodate this waste, with a current permitted daily capacity of 750 tons a day and average daily waste flows ranging from 200 to 300 tons per day (Rodabaugh 2008). Additional capacity is available at the Victorville Sanitary Landfill. Current daily waste flows at the Victorville Sanitary landfill are, on average, equivalent to approximately one third of the landfill's permitted capacity of 3,000 tons of waste a day (Sansonetti 2008).

## 5.10.3 Cumulative Effects

Solar One and other projects in the vicinity are not expected to result in significant cumulative effects to environmental resource areas, including, but not limited to, air quality, land use, cultural resources, water resources, or traffic during construction or operation and maintenance of the Project (see Section 5.18, Cumulative Effects). A number of renewable energy projects currently have applications pending with the BLM, including, in some cases, multiple applications filed for the same site. Most of these projects have not advanced to the point where sufficient information is available to evaluate their impact on socioeconomic resources in the Project area. In addition, very limited information is available with respect to potential construction schedules and, as a result, it is unknown whether construction of these projects would coincide in time with construction of the proposed Project. Further, the existence of multiple applications for the same site indicates that not all of these projects will be built. It should be noted that Plans of Development for Solar Three and Solar Six were submitted to the BLM in October 2008.

While it is not possible to quantify the impact that these potential projects would have on the local workforce, current unemployment data and the availability of skilled construction labor in the local and regional vicinity of the Project Site suggest that there is a large labor force available to staff the construction and operation of future projects (Tables 5.10-11 and 5.10-12). For example, approximately 1.24 million workers lived within a two hour commute of the Project Site in 2008, with 110,000 of these workers currently unemployed and looking for work (Table 5.10-11). In addition, the employed portion of this labor force included approximately 68,000 jobs in construction occupations. These data suggest that there would be sufficient construction labor to meet substantial demand in the vicinity of the Project Site.

Contact with the Executive Director of the San Bernardino, Riverside Building Trades Council also indicated that sufficient skilled labor was available in the local area to meet demand for construction labor above and beyond that projected for the proposed Project. This would be the case under normal market conditions, but is especially the case now given the current economic difficulties and slowdown in construction in the region (Perez 2008). The impact of multiple

large projects occurring at the same time, if this were to occur, would likely be to draw workers from a larger daily commuting range (up to two hours each way).

Data on temporary and permanent housing (Tables 5.10-3 and 5.10-4) indicate that there is a large supply of vacant housing and unoccupied motel rooms (based on average occupation rates) available to accommodate workers that may be required to temporarily or permanently relocate to work on other projects that would coincide in time with the proposed Project. An estimated 1,020 housing units were available for rent in Barstow in 2008, with a further 1,050 units available for rent in Victorville (Table 5.10-3). In addition, approximately 900 motel/hotel rooms were identified as, on average, unoccupied and available for rent within a one hour drive of the Project Site in 2008 (Table 5.10-4). If multiple large scale construction projects were to occur at the same time, increased demand for temporary lodging may result in workers staying in motels/hotels or rental housing further from their respective construction sites. As indicated in Table 5.10-4, approximately 4,800 motel/hotel rooms were, on average, unoccupied and available for rent within one to two hours drive from the Project Site in 2008.

Potential impacts associated with the provision of fire protection and emergency response services in the vicinity of the Project Site would need to be evaluated on a case-by-case basis by other Project proponents. As discussed in Section 5.10.5, the Applicant for the Project would work with local fire protection and emergency response service providers to address the need for any additional resources during the construction and operation phases of the Project.

Operation of the Project is expected to have a beneficial effect on the local economy by providing permanent direct employment and also by supporting (indirect and induced) employment in other sectors of the economy through the multiplier effect. Direct, indirect, and induced employment and income, as well as local Project-related expenditures, would provide direct benefits for the local economy, as would sales and property tax revenues. Other new projects in the area may also have similar impacts on the local economy that are likely to be beneficial. This is especially likely to be the case given the current economic slowdown and relatively high unemployment rates in the communities located in the vicinity of the Project Area (Table 5.10-6). Data on available housing in the vicinity of the Project Area indicate that there is sufficient available housing for rent or for sale to accommodate the relocation of additional permanent workers, if that were to occur as a result of other projects planned in the area.

### 5.10.4 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires each federal agency to make the achievement of environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The Order further stipulates that the agencies conduct their programs and activities in a manner that does not have the effect of excluding persons from participation in, denying persons the benefits of, or subjecting persons to discrimination because of their race, color, or national origin.

#### 5.10.4.1 Public Participation

The CEC and BLM will consider all input from persons or groups regardless of race, income status, or other social and economic characteristics. As part of the AFC process, the CEC will provide information to residents in the area and provide opportunities for their involvement.

The CEC typically:

- Mails written notice to all property owners within 1,000 feet of the site and within 500 feet of the centerline of all linear corridors.
- Publishes notice in the local newspaper announcing public workshops and hearings.
- Provides access to information by submitting copies of key documents to local libraries and providing materials via a web page.
- Holds hearings and workshops in the local community.
- Assigns a public advisor to assist the public in participating in the process.

#### 5.10.4.2 Environmental Justice Screening Analysis

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 potential high and adverse environmental or human health impacts, 2) identifying any minority or low income communities within the potential high and adverse impact areas, and 3) 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 Council on Environmental Quality (CEQ) (1997) and U.S. Environmental Protection Agency (US EPA) (1998) 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 dispersed 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 US 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 ethnicity for the populations that reside in the three census block groups that are within a 6-mile radius of the Project Site are summarized in Table 5.10-2. These data indicate that these census block groups do not include minority populations that exceed 50 percent of the total population or comprise a meaningfully greater share in this population then they do in the general population of San Bernardino County and California.

The US EPA environmental justice guidelines suggest that in addition to evaluating census tract data, environmental justice analyses should attempt to identify whether high concentration "pockets" of minority populations exist in specific geographic areas. The preceding analysis and data (Table 5.10-2) evaluates data at the census block group level. Census block groups are a smaller geographic subdivision of a census tract and analysis at this level allows a review of the characteristics of surrounding populations at a finer geographic resolution than analysis at the census tract level. However, in this case, the sparsely population nature of the area surrounding the Project Site is reflected in the size of the census block groups, especially Block Group 4 (Census Tract 103), which includes more than 2,700 square miles of land. The other two potentially affected block groups are smaller, but still encompass large areas (708 and 932 square miles, respectively).

As a result, the potential existence of "high concentration pockets" of minority communities in the vicinity of the Project Site was evaluated by reviewing 2000 Census data at the block level. A block is the smallest geographic entity for which the Census Bureau collects and tabulates 100-percent decennial census data. Data on race and ethnicity are 100-percent data and available at the block level. Many census blocks correspond to individual city blocks bounded by streets, but some blocks, especially those in rural areas, include many square miles. The area within a 6-mile radius of the Project Site includes all or part of 130 census blocks. A large share of the land within six miles of the Project Site, including much of the Project Site itself, is public land administered by the BLM. This is reflected in the census block data for the area, which indicates that only 12 of the 130 census blocks included population in 2000. The populated census blocks within six miles of the Project Site are highlighted in Figure 5.10-1.

The majority (82 percent) of the 231 people identified in these census blocks identified as White in 2000 (U.S. Census Bureau 2000a). The minority population exceeded 50 percent in one of the census blocks partially located within six miles of the Project Site (Figure 5.10-1). Persons of Hispanic or Latino origin comprised 16 (or 62 percent) of the 26 residents identified in this census block. The 2000 Census identified eight households in this block. Four of these households were families with a Hispanic or Latino householder (U.S. Census Bureau 2000). Although the minority population in this block is higher than the average for the census block group (Block Group 5, Census Tract 103) it is part of (62 percent versus 23 percent), it is comparable to the county average (56 percent), and given the limited population and number of households involved does not appear to represent a high concentration "pocket" of the type identified in the US EPA environmental justice guidelines (US EPA 1998).

Data on income and poverty are presented for the three census block groups within six miles of the Project Site in Table 5.10-7 and shown in Figure 5.10-2. Decennial census data on income and poverty are sample data and the census block group is the smallest geographic area for which these data are available. Median household income in the three census block groups within six miles of the Project Site ranged from 72 percent to 90 percent of the state median in 1999, and from 82 percent to 102 percent of the median in San Bernardino County. The percent of the population below the poverty level in the three census block groups ranged from 15 percent to 18 percent (Table 5.10-7). These data do not indicate the presence of a low income population in the vicinity of the Project area.

The preceding analysis did not identify any minority or low income communities within six miles of the Project Site. Further, construction and operation of the Project is not expected to

result in significant adverse environmental and human health impacts to the population residing in the vicinity of the Project Site or communities of interest, such as construction employees who would be employed on the Project Site.

### 5.10.5 Mitigation Measures

No significant adverse effects to the socioeconomic environment are expected due to construction and operation of the Project. The San Bernardino County Fire Department has indicated that additional resources may be required to enable the Fire Department to provide adequate fire protection and emergency response services during construction and operation of the Project (Horton 2008). The Applicant will work with local fire protection and emergency response service providers to address the need for any additional resources during the construction and operation phases of the Project.

The Silver Valley Unified School District has indicated that the Project would not be subject to school impact fees because it is located on federal land. If this were to prove not to be the case, the Applicant would pay the one-time statutory development fee for school impacts.

### 5.10.6 Compliance with LORS

The LORS applicable to the socioeconomic analysis are identified in Table 5.10-18. This table also briefly summarizes the requirements of the applicable LORS and identifies where they are addressed in this section.

#### *Federal LORS*

The National Environmental Policy Act of 1969 (NEPA) establishes a public and open framework to be used when considering federal actions which could have an impact on environmental resources. NEPA does not mandate protection of these resources. Instead, it requires that any potential impacts, and the process used to make the final decision, are disclosed to the public.

Executive Order 12898 requires that federal 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.

The Civil Rights Act of 1964, Title VI prohibits discrimination on the basis of race, color, or national origin in connection with programs and activities receiving federal financial assistance.

#### *State LORS*

Solar projects in California are presently covered by a taxation exemption (Section 73 of the California Taxation and Revenue Code) that was recently extended until the 2015-2016 fiscal year (Endler 2008). Solar Project components covered by this exemption include storage devices, power conditioning equipment, transfer equipment, and parts related to the functioning of these items. This exemption does not exclude taxation on the value of the land or the non-solar components of a property.

State Government Code Sections 65996 and 65997 establish the methods used to consider and mitigate "impacts on school facilities that occur or might occur as a result of any legislative or adjudicative act, or both, by any state or local agency involving, but not limited to, the planning,

use, or development of real property or any change of governmental organization or reorganization."

Education Code Section 17620 establishes that "the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities."

**Table 5.10-18**
**Laws, Ordinances, Regulations, and Standards Applicable to Solar One Socioeconomics**

| LORS | Requirements | Administering Agency | Refer to Section |
|---|---|---|---|
| Federal | | | |
| National Environmental Policy Act of 1969/ Bureau of Land Management | Comply with the combined Environmental Impact Report/ Environmental Impact Statement process. | Bureau of Land Management | Section 5.10 |
| Executive Order 12898 | Avoid disproportionate impacts to minority and low-income members of the community. | Bureau of Land Management | Section 5.10.4 |
| Civil Rights Act of 1964 | Prohibits discrimination on the basis of race, color, or national origin. | Bureau of Land Management | Section 5.10.4 |
| State | | | |
| California Revenue and Taxation Code, Section 73 | Solar energy systems installed on or before the 2015-16 fiscal year are exempt from property taxes. | California State Board of Equalization | Section 5.10.2.3, Operation Impacts on Fiscal Resources |
| Government Code Sections 65996-65997 | Establishes that the levy of a fee for construction of an industrial facility be considered mitigating impacts on school facilities. | Silver Valley Unified School District | Section 5.10.2.3, Operation Impacts on Schools; Section 5.10.5 |
| Education Code Section 17620 | Allows a school district to levy a fee against any construction within the boundaries of the district for the purpose of funding construction of school facilities. | Silver Valley Unified School District | Section 5.10.2.3, Operation Impacts on Schools; Section 5.10.5 |
| Local | | | |
| San Bernardino County General Plan, Economic Development Element ED 1.1 and ED 10.1 | Increase job creation through business expansion, by encouraging industries to locate within the County. | San Bernardino County Planning Department | Sections 5.10.2.2 and 5.10.2.3 |

### *Local LORS*

The County of San Bernardino General Plan's Economic Development Element includes the goal of achieving a vibrant and thriving local economy that spans a variety of industries, services, and other sectors (County of San Bernardino 2007). The Plan acknowledges that the

three planning regions that comprise the county (the Valley, Mountain, and Desert planning regions) are currently in different stages of economic development, with the Desert Planning Region currently entering the second stage of a three stage economic development process. The identified stages in this process are (1) affordable residential with net out-commuting to jobs; (2) emergence of an industrial base; and (3) maturing economy with professional and office jobs orientation (County of San Bernardino 2007).

The San Bernardino County Economic Development Agency administers programs designed to combine public and private resources to stimulate job creation and capital investment in the County (County of San Bernardino 2008a).

### 5.10.7 Agency Contacts

A list of agencies with jurisdiction and the name of the official contacted at each agency are provided in Table 5.10-19.

**Table 5.10-19**
**Agency Contacts Regarding Socioeconomics**

| Issue | Agency | Contact Info |
|---|---|---|
| Capacity and facilities at the Barstow Community Hospital | Barstow Community Hospital | Lisa Spurlin, Administrative Assistant<br>555 S 7th Ave<br>Barstow, CA 92311<br>(760) 256-1761 |
| Projected student enrollment and developer fees for the Barstow Unified School District | Barstow Unified School District | Tony Wardell<br>Assistant Superintendent - Business Services<br>551 South AVE. H<br>Barstow, CA 92311<br>(760) 255-6000 |
| Camping availability on BLM Land | Bureau of Land Management | Joan Patrovsky, Realty Specialist<br>2601 Barstow Road<br>Barstow, CA 92311<br>(760) 252-6000 |
| Property tax assessment | California Board of Equalization | Michael Sanders, Property Appraiser<br>Assessment Services Unit<br>(916) 322-1840 |
| Capacity and facilities at the Loma Linda University Medical Center | Loma Linda University Medical Center | Jerome Kabyzn, Human Resources Specialist<br>P.O. Box 2000<br>Loma Linda, CA 92354<br>(909) 558-4000 |
| Property tax assessment | San Bernardino County Assessor's Office | Eric Endler, Property Appraiser III<br>172 West 3rd Street<br>San Bernardino, CA 92415<br>(909) 387-6703 |
| Property tax assessment | San Bernardino County Assessor's Office | Paul Lane, Senior Property Appraiser<br>Assessment Services Unit<br>(916) 324-5828 |
| Jurisdiction and Capacity of local | San Bernardino County | Mike Horton, Deputy Fire Marshal<br>157 W 5th Street, 2nd Floor |

**Table 5.10-19**
**Agency Contacts Regarding Socioeconomics**

| Issue | Agency | Contact Info |
|---|---|---|
| Fire Department | Fire Department | San Bernardino, CA 92415<br>(909) 386-8405 |
| Jurisdiction and capacity of the San Bernardino County Sheriff's Department | San Bernardino County Sheriff's Department | Sergeant Lotspeich<br>225 East Mt. View<br>Barstow, California 92311<br>(760) 256-4838 |
| Labor Availability within the Project Area | San Bernardino, Riverside Building Trade Council | William Perez, Executive Director<br>1074 East La Cadena Dr, #8<br>Riverside, CA 92501<br>(951) 684-1040 |
| Projected Student Enrollment and Developer Fees for the Silver Valley Unified School District | Silver Valley Unified School District | Aaron Haughton, Assistant Superintendant<br>35320 Daggett Yermo Rd.<br>Yermo, CA 92398<br>(760) 254-2916 |
| Capacities of the Solid Waste Facilities near the Project Area | County of San Bernardino, Solid Waste Management Division | Margaret Sansonetti, Principle Planner<br>222 W. Hospitality Lane<br>San Bernardino, CA. 92415<br>(909) 386 8778 |
| Capacities of the Solid Waste Facilities near the Project Area | County of San Bernardino, Solid Waste Management Division | Mark Rodabaugh, Public Works Engineer II<br>222 W. Hospitality Lane<br>San Bernardino, CA. 92415<br>(909) 386-8701 |

## 5.10.8 Permits Required and Permitting Schedule

There are no required permits that specifically address the socioeconomic aspects of the Project.

## 5.10.9 References

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| Adequacy Issue: | Adequate | | Inadequate | | **DATA ADEQUACY WORKSHEET** | | Revision No. | 0 | Date | |
|---|---|---|---|---|---|---|---|---|---|---|
| Technical Area: | **Socioeconomics** | | | | Project: | SES Solar One | | Technical Staff: | | |
| Project Manager: | | | | | Docket: | | | Technical Senior: | | |

| SITING REGULATIONS | INFORMATION | AFC 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 5.10.1, Affected Environment, pages 5.10-2 to 5.10-15. Section 5.10.2, Environmental Consequences, pages 5.10-15 to 5.10-31. Section 5.10.3, Cumulative Effects, pages 5.10-31 to 5.10-32. Section 5.10.4, Environmental Justice, pages 5.10-32 to 5.10-34. Section 5.10.5, Mitigation Measures, pages 5.10-34 to 5.10-35. | | |
| 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: | | | |
| 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 5.10.1.3, Economy and Employment, pages 5.10-8 to 5.10-10. Section 5.10.1.4, Fiscal Resources, page 5.10-11. | | |
| Appendix B (g) (7) (A) (ii) | The social characteristics, including population and demographic and community trends; | Section 5.10.1.1, Population, pages 5.10-3 to and 5.10-5. | | |

| Adequacy Issue: | Adequate | | Inadequate | | **DATA ADEQUACY WORKSHEET** | | Revision No. | 0 | Date | |
|---|---|---|---|---|---|---|---|---|---|---|
| Technical Area: | **Socioeconomics** | | | Project: | SES Solar One | | Technical Staff: | | | |
| Project Manager: | | | | Docket: | | | Technical Senior: | | | |
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| **SITING REGULATIONS** | **INFORMATION** | | | | **AFC SECTION NUMBER** | **ADEQUATE YES OR NO** | **INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS** | | | |
| Appendix B (g) (7) (A) (iii) | Existing and projected unemployment rates; | | | | Section 5.10.1.3, Economy and Employment, pages 5.10-8 to 5.10-10. Table 5.10-6, page 5.10-10. (Note: projected unemployment rates are not available). | | | | | |
| Appendix B (g) (7) (A) (iv) | Availability of skilled workers by craft required for construction and operation of the project; | | | | Section 5.10.1.3, Economy and Employment, pages 5.10-8 to 5.10-11. Section 5.10.2.2, Construction Impacts, pages 5.10-16 to 5.10-23. | | | | | |
| Appendix B (g) (7) (A) (v) | Availability of temporary and permanent housing and current vacancy rate; and | | | | Section 5.10.1.2, Housing, pages 5.10-5 to 5.10-8. | | | | | |
| 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 5.10.1.7, Utilities, pages 5.10-14 and 5.10-15. Section 5.10.1.6, Public Services and Facilities, pages 5.10-13 and 5.10-14. Section 5.10.1.5, Education, pages 5.10-12 to 5.10-13. (Note: projected enrollment rates are not available for the two potentially affected school districts) | | | | | |
| 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: | | | | | | | | | |

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| SITING REGULATIONS | INFORMATION | AFC SECTION NUMBER | ADEQUATE YES OR NO | INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS |
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| 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 5.10.2.2, Construction Impacts, pages 5.10-17 to 5.10-23; Table 5.10-10, page 5.10-18. Section 5.10.2.3, Operation Impacts, pages 5.10-26 to 5.10-27; Table 5.10-16, page 5.10-27. | | |
| 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 5.10.2.2, Construction Impacts, pages 5.10-16 to 5.10-23 | | |
| Appendix B (g) (7) (B) (iii) | An estimate of the potential population increase caused directly and indirectly by the project; | Section 5.10.2.2, Construction Impacts on Population, page 5.10-23. Section 5.10.2.3, Operation Impacts on Population, page 5.10-28. | | |
| Appendix B (g) (7) (B) (iv) | The potential impact of population increase on housing during the construction and operations phases; | Section 5.10.2.2, Construction Impacts on Housing, pages 5.10-23 to 5.10-24. Section 5.10.2.3, Operation Impacts on Housing, page 5.10-28. | | |

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| **SITING REGULATIONS** | **INFORMATION** | | | | **AFC 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 5.10.1.7, Utilities, pages 5.10-14 and 5.10-15. Section 5.10.1.6, Public Services and Facilities, pages 5.10-13 and 5.10-14. Section 5.10.2.2, Construction Impacts, pages 5.10-25 to 5.10-26. Section 5.10.2.3, Operation Impacts, pages 5.10-30 and 5.10-31. (Note: projected enrollment rates are not available for the two potentially affected school districts) | | | | | |
| Appendix B (g) (7) (B) (vi) | An estimate of applicable school impact fees; | | | | Section 5.10.2.3, Operation Impacts on Schools, page 5.10-30. (Note: the affected school district has indicated that the Project would be exempt) | | | | | |
| 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 5.10.2.2, Construction Impacts, page 5.10-23. Section 5.10.2.3, Operation Impacts, page 5.10-26. | | | | | |
| 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 5.10.2.2, Construction Impacts, page 5.10-24. Section 5.10.2.3, Operation Impacts, page 5.10-28. | | | | | |

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| **SITING REGULATIONS** | **INFORMATION** | | | | **AFC SECTION NUMBER** | **ADEQUATE YES OR NO** | **INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS** | | | |
| Appendix B (g) (7) (B) (ix) | An estimate of the capital cost (plant and equipment) of the project; | | | | Section 5.10.2.3, Operation Impacts, Fiscal Resources, page 5.10-29. | | | | | |
| Appendix B (g) (7) (B) (x) | An estimate of sales taxes generated during construction and separately during an operational year of the project; | | | | Section 5.10.2.2, Construction Impacts, Fiscal Resources, page 5.10-25. Section 5.10.2.3, Operation Impacts, Fiscal Resources, pages 5.10-29 to 5.10-30. | | | | | |
| Appendix B (g) (7) (B) (xi) | An estimate of property taxes generated during an operational year of the project; and | | | | Section 5.10.2.3, Operation Impacts, Fiscal Resources, pages 5.10-29 to 5.10-30. | | | | | |
| 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. | | | | Section 5.10.2.2, Construction Impacts, Economy and Employment, pages 5.10-24 to 5.10-25. Section 5.10.2.3, Operation Impacts, Economy and Employment, pages 5.10-28 to 5.10-29 | | | | | |
| 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 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 | | | | Section 5.10.6, Compliance with LORS, pages 5.10-35 to 5.10-37; Table 5.10-18, page 5.10-36. | | | | | |

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| SITING REGULATIONS | INFORMATION | AFC SECTION NUMBER | ADEQUATE YES OR NO | INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS |
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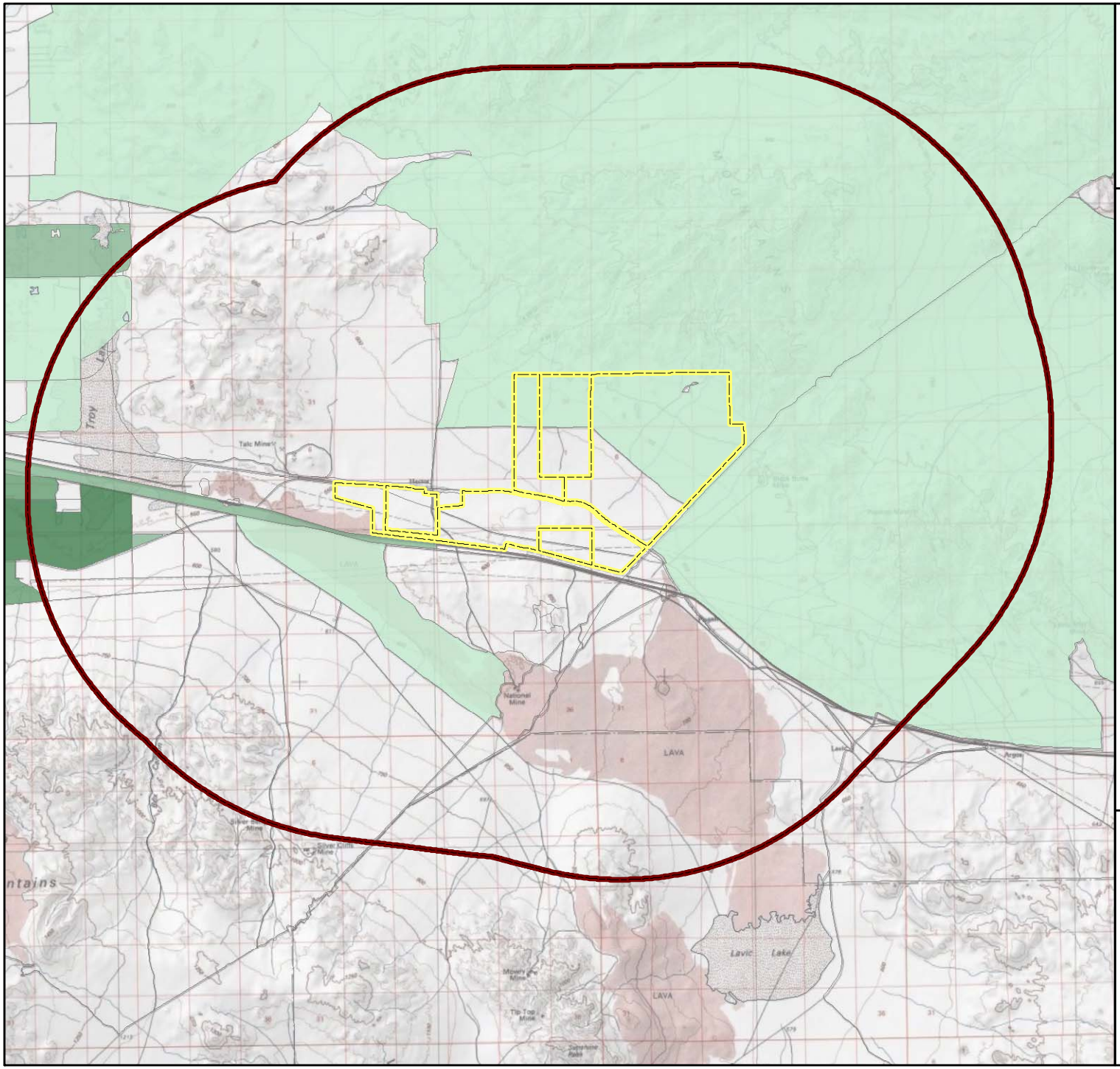
| Appendix B<br>(i) (1) (B) | Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities. | Same as above | | |
| Appendix B<br>(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 5.10.7, Agency Contacts, pages 5.10-37 to 5.10-38; Table 5.10-19, pages 5.10-37 to 5.10-38. | | |
| Appendix B<br>(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. | Not applicable. | | |




Solar One Project

Figure 5.10.1

Minority Population Distribution by Census Block

***LEGEND***

Project Area Boundary

6 mile Buffer

NGS USA Topographic Maps

Percent Minority Population

No Population

0%

1% - 25%

26% - 50%

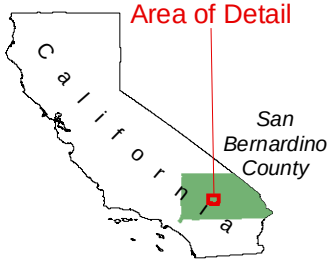
51% - 75%

76% - 100%

N

0 0.5 1 2 3 4

Miles

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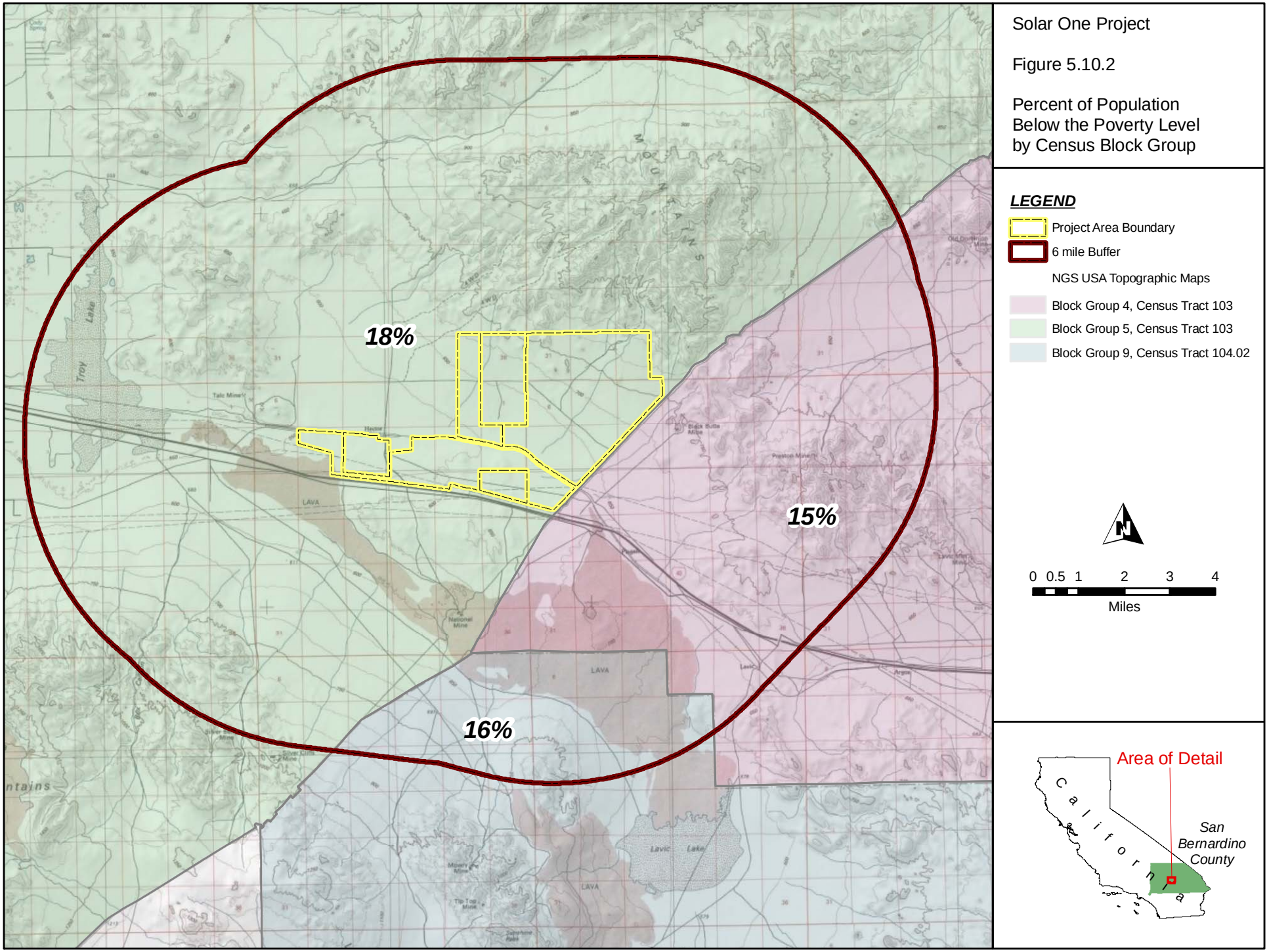


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