DOCKETED	
Docket Number:	11-AFC-04
Project Title:	Rio Mesa Solar Electric
TN #:	233549
Document Title:	Applicant's Supplemental Response to Data Request 16 and 26 Additional Information Regarding Socioeconomics
Description:	N/A
Filer:	Marichka Haws
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	6/19/2020 2:58:10 PM
Docketed Date:	6/19/2020

APPLICANT'S SUPPLEMENTAL RESPONSE TO DATA REQUEST 16 AND 26: ADDITIONAL INFORMATION REGARDING SOCIOECONOMICS

In this section of Applicant's Supplemental Response to CEC Staff Data Requests 16 and 26, Applicant describes the changes to the Socioeconomics section that will result from the changes to the Project Description related to the removal of Unit 3. Per staff's request, Applicant uses a strike-out/underline format to identify changes to the Socioeconomics section of the Application for Certification that will result from the changes to the Project Description.

The Socioeconomics sub-sections that have been modified are listed in the table of contents below. If there has been no change to a Socioeconomics sub-section relating to Applicant's Supplemental Response to Data Request 16 and 26, the section is labeled "no changes" in the table of contents below.

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5.10 SOCIOECONOMICS

5.10.1 Introduction (see Section 2.1.1 for updated project description)

5.10.2 Laws, Ordinances, Regulations, and Standards

5.10.2.1 *Federal*

National Environmental Policy Act of 1969

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

The BLM, as lead Federal agency for the Project, is responsible for preparation of an Environmental Impact Statement (EIS) in compliance with NEPA to evaluate the environmental impacts of the portions of the Rio Mesa SEGF on federal lands. ~~The Rio Mesa Solar III plant and~~ Portions of the Project gen-tie line, upgraded Bradshaw Trail access road, and 33kV construction/emergency backup power supply line are located on public lands administered and managed by the BLM. NEPA compliance is required for these portions of the Project through preparation of a Draft and Final EIS. The Applicant anticipates that BLM may consider RMS 1 and 2 as a connected action under NEPA. BLM is also responsible for Native American consultation, including government to government consultation regarding project facilities located on BLM land.

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

Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241 (no changes)

Executive Order 12898 (no changes)

5.10.2.2 *State (no changes)*

5.10.2.3 *Local*

Riverside County General Plan (no changes)

Palo Verde Valley Area Plan (no changes)

5.10.3 Affected Environment

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

5.10.3.1 *Project Site Description*

The project site is located in eastern Riverside County approximately 13 miles southwest of Blythe, California. The two solar plants on the project site ~~is~~ are located ~~partially~~ on private land leased from the Metropolitan Water District of Southern California (MWD)~~(and partially on public land administered by BLM (~~see Figures in Sections 1.0 and 2.0). Portions of the Project gen-tie line, upgraded Bradshaw Trail access road, and 33kV construction/emergency backup power supply line are located on lands administered and managed by the BLM. The project site and linear features are located in the Palo Verde Valley area, south of the Interstate 10 (I-10) freeway, west of State Route 78, and north of the Imperial County line, on the Palo Verde Mesa. An existing SCE transmission line runs along State Route 78 through agricultural fields. The TransCanada Gas Transmission Company (TCGT) North Baja Transmission Line borders the site on the east. Bradshaw Trail ~~intersects~~ runs north of the project site at an east-west orientation. The Colorado River borders eastern Riverside County and Arizona approximately five miles to the southeast at its closest point to the project site.

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

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

5.10.3.2 *Study Area (no changes)*

5.10.3.3 *Population (no changes)*

5.10.3.4 *Housing (no changes)*

5.10.3.5 *Economy and Jobs (no changes)*

Existing Unemployment Rates (no changes)

Project Related Employment

The employment projections for skilled workers (by craft) required for construction of the Project is provided, as estimated by the Applicant. Table 5.10-11a through 5.10-11h lists the availability of labor by craft union to be used for construction of the Project. Labor will come from labor unions affiliated with the Building and Construction Trades Council in Riverside, California. Availability of craft labor for the Project is analyzed based on seven critical crafts necessary to construct the Project: boilermakers, iron workers, pipefitters, carpenters, laborers, electricians, and operating engineers. These crafts will account for the majority of the construction work hours. The labor unions with jurisdiction over the location of the Project will be the primary source of manpower for the Project. Other labor unions in the surrounding area will be considered the secondary draw area for manpower, should it be required to

attract additional workers from outside the primary home locals. This is distinguished on Table 5.10-11a through 5.10-11g. Sufficient manpower appears to be available through these unions to meet Project manpower requirements. The distance from these unions was measured to Blythe. As previously discussed, Blythe is approximately 13 miles from the project site.

As indicated in Tables 5.10-11a through 5.10-11g, some construction workers may be drawn from areas beyond a two-hour commuting distance. For example, the Iron Workers Local 416 will provide labor for project construction, which is located in Norwalk, California, approximately 224 miles from the Blythe area. Some construction workers will commute daily to the project site, even in excess of the generally assumed two-hour commuting distance. Others are expected to stay in temporary housing, either during the week and commute home over the weekend, for a portion or entirety of the construction phase of approximately 3036 months[1]. The Applicant will make every effort to hire workers from unions with territory closest to the project site. Should construction workers located beyond the two-hour commute temporarily relocate to the project area for the duration of the 3036-month construction period, or a portion thereof, it is anticipated that they will stay in temporary housing (hotels/motels, RV parks, vacant housing units, or campsites) closer to the project site and within an approximate two-hour driving distance.

Boilermakers: (no changes)

Carpenters: (no changes)

Electricians: (no changes)

Iron Workers: (no changes)

Laborers: (no changes)

Operating Engineers: (no changes)

Pipefitters: (no changes)

Additional Laborers: (no changes)

5.10.3.6 *Fiscal Resources (no changes)*

[1] The entire project construction schedule is 36 35 months from Start Construction to Guaranteed Substantial Completion. This document shows a craft labor staffing starting table that begins in month 0 and completes in month 35 34 (36 35 months). There are 34 30 months of staffing of craft resources. The schedule accounts for desert tortoise translocation from months 0 to 3 and as the craft resources are planned to be complete and demobilized completion of construction and demobilization of craft resources prior to the Guaranteed Completion date.

5.10.3.7 *Education (no changes)*

5.10.3.8 *Public Services and Facilities (no changes)*

5.10.3.9 *Utilities*

Electricity and Gas

Rio Mesa 1~~I,~~ and 2~~II, and III~~ will connect to the SCE grid through the new CRS which is interconnected to SCE's Palo Verde-Devers 500 kV line located approximately 10 miles north of the site on an east-west ROW. SCE has developed a service plan for the CRS to interconnect additional projects and allow for future growth. SCE's service plan will include the new CRS and other system upgrades that will be for the benefit of Rio Mesa SEGF and other interconnecting customers in the region, as well as future growth. CRS construction is expected to be completed and the substation in service in 2013, before the Rio Mesa SEGF comes on line. Power from each of ~~the three~~ the two Rio Mesa SEGF plants will be interconnected to the California Independent System Operator (CAISO) grid via a common 220 kV gen-tie line to the new CRS. The design of the CRS and associated upgrades will be performed by SCE and is analyzed conceptually from input provided by SCE based on the requirements of Rio Mesa and other generation projects in the queue, as well as future load growth requirements (see Section 3.0, Transmission System Engineering for more detail).

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

5.10.3.10 *Water and Wastewater*

Raw water will be drawn from wells located within the common area. The Project ~~Each 250 MW plant~~ will require up to ~~85~~ 84.5 acre-feet per year (afy) for each 250 MW plant, and 4.3 afy for the common area, ~~of raw water make-up,~~ for a total of ~~260~~ 173.3 afy of raw water make-up for the entire ~~750~~ 500 MW (nominal) Rio Mesa SEGF. ~~This includes approximately 5 afy for common area uses.~~ The make-up flow rates are based on pumping for 24 hours per day, 365 days per year. The actual system design will include higher pumping rates for operational and emergency needs.

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

The primary wastewater collection system will collect process wastewater from all of the plant equipment, including the boilers and WSAC blowdowns. To the extent practical, process wastewater will be recycled and reused. Each plant will have an on-site wastewater treatment (WWT) system consisting

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

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

5.10.3.11 *Solid Waste (no changes)*

5.10.4 Environmental Analysis

This subsection addresses the potential environmental impacts of the Project.

5.10.4.1 *Significance Criteria (no changes)*

5.10.4.2 *Construction Impacts*

Construction of the entire Project, from site preparation and grading to commercial operation, is expected to take place from the fourth quarter of 2013 to the ~~second~~first quarter of 2016. Major milestones are listed in Table 5.10-16~~; however, the construction order may change~~. Construction of the shared facilities will~~is anticipated to~~ occur ~~with the~~ during construction of ~~Rio Mesa I~~RMS 1.

Table 5.10-16
Construction Milestones

Activity	Date
~~Rio Mesa I~~RMS 1	
Begin Construction	Fourth Quarter 2013
Startup and test	Third Quarter 2015
Commercial operation	Fourth Quarter 2015
~~Rio Mesa II~~RMS 2	
Begin construction	First Quarter 2014
Startup and test	Fourth Quarter 2015
Commercial operation	First Quarter 2016
~~Rio Mesa III~~	
~~Begin construction~~	~~Second Quarter 2014~~
~~Startup and test~~	~~First Quarter 2016~~
~~Commercial operation~~	~~Second Quarter 2016~~

Construction Workforces

Project construction is expected to ~~take place in three phases and~~ employ an average of ~~1,040~~840 workers a month for the approximate three-year construction period. Construction employment is expected to peak at a maximum of approximately ~~2,500~~2,200 workers in month~~s 21~~ 22 and 23 of the proposed schedule. Projected employment by construction trade and month is presented for a ~~36~~30-month construction period in Table 5.10-17. These construction trades include occupations that will be directly related to Project construction. Employment projections were estimated by the Applicant for those skilled workers (by craft) required for construction of the Project. Most of these workers are anticipated to commute to the project site from the primary or secondary unions nearest the project site or seek temporary housing closer to the project site.

Availability of laborers by craft is indicated by union on Table 5.10-11a through 5.10-11g. The unions that have territory incorporating the location of the Project will be the primary source of manpower for the Project. The other unions in the surrounding area will be considered the secondary draw area for manpower, should it be required to attract additional workers from outside the primary local unions. Some construction workers may be drawn from areas beyond a two-hour commuting distance. For example, the Iron Workers Local 416 will provide labor for project construction, which is located in Norwalk (Los Angeles County), California, approximately 224 miles west of the project site. It is anticipated that many construction workers will commute daily to the project site. Others are expected to stay in temporary housing, either during the week and commute home over the weekend, for a portion of construction, or for the entire construction phase of approximately ~~36~~30 months.

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

The Applicant will make every effort to hire workers from unions closest to the project site. Should construction workers located beyond the two-hour commute temporarily relocate to the project area for the duration of the ~~36~~30-month construction period, or a portion thereof, it is anticipated that they will stay in temporary housing (hotels/motels, RV parks, vacant housing units, or campsites) closer to the project site and within an approximate two-hour driving distance.

Table 5.10-17
Construction Trade Projection

Craft by Month	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Boilermakers	~~0~~ -	~~1~~ -	~~2~~ -	~~5~~ 1	~~7~~ 2	~~9~~ 4	~~15~~ 7	~~16~~ 8	~~15~~ 14	~~18~~ 15	~~46~~ 15	~~58~~ 18	~~85~~ 41	~~104~~ 52	~~123~~ 77	~~153~~ 96	~~195~~ 118	~~245~~ 152	~~292~~ 200	~~328~~ 255	~~382~~ 306	~~405~~ 339	~~400~~ 374	~~383~~ 368	~~343~~ 326	~~303~~ 275	~~236~~ 210	~~173~~ 167	~~140~~ 115	~~112~~ 79	~~88~~ 24	~~29~~ 3	3	~~3~~ -	~~3~~ -	
Carpenters	~~0~~ -	~~1~~ -	~~5~~ -	~~16~~ 1	~~31~~ 6	~~52~~ 17	~~80~~ 34	~~101~~ 57	~~120~~ 88	~~136~~ 111	~~156~~ 129	~~164~~ 141	~~169~~ 148	~~167~~ 144	~~157~~ 136	~~139~~ 122	~~128~~ 104	~~116~~ 82	~~99~~ 76	~~93~~ 73	~~93~~ 66	~~87~~ 70	~~86~~ 75	~~84~~ 75	~~80~~ 70	~~70~~ 64	~~59~~ 56	~~50~~ 45	~~43~~ 35	~~36~~ 28	~~31~~ 15	~~14~~ 8	~~7~~ 6	~~6~~ -	~~4~~ -	
Cement Masons	-	~~0~~ -	~~1~~ -	~~2~~ 0	~~4~~ 1	~~7~~ 2	~~11~~ 5	~~14~~ 8	~~17~~ 12	~~19~~ 15	~~22~~ 18	~~24~~ 20	~~25~~ 21	~~25~~ 21	~~23~~ 20	~~20~~ 18	~~18~~ 15	~~16~~ 11	~~13~~ 10	~~11~~ 9	~~12~~ 7	~~11~~ 81	~~10~~ 9	~~10~~ 9	~~10~~ 9	~~9~~ 8	7	~~6~~ 7	5	~~5~~ 4	~~4~~ 1	~~1~~ 0	0	~~0~~ -	-	
Electricians	~~1~~ -	~~2~~ -	~~3~~ -	~~10~~ 2	~~23~~ 4	~~40~~ 10	~~58~~ 25	~~60~~ 43	~~58~~ 63	~~59~~ 65	~~85~~ 62	~~116~~ 60	~~145~~ 73	~~163~~ 95	~~176~~ 121	~~203~~ 143	~~252~~ 165	~~316~~ 202	~~384~~ 261	~~446~~ 332	~~509~~ 399	~~554~~ 449	~~577~~ 487	~~579~~ 498	~~552~~ 482	~~495~~ 445	~~418~~ 389	~~348~~ 319	~~281~~ 241	~~220~~ 179	~~170~~ 105	~~85~~ 42	~~35~~ 20	~~17~~ -	~~7~~ -	
Iron Workers	~~0~~ -	~~1~~ -	~~3~~ -	~~9~~ 1	~~18~~ 3	~~31~~ 10	~~48~~ 20	~~62~~ 33	~~75~~ 52	~~90~~ 67	~~116~~ 82	~~133~~ 95	~~153~~ 115	~~165~~ 125	~~170~~ 136	~~170~~ 140	~~172~~ 139	~~170~~ 133	~~163~~ 133	~~157~~ 132	~~161~~ 127	~~153~~ 122	~~139~~ 125	~~128~~ 118	~~115~~ 100	~~97~~ 87	~~76~~ 74	~~62~~ 59	~~51~~ 44	~~44~~ 36	~~40~~ 13	~~14~~ 3	3	~~3~~ -	~~2~~ -	
Labor	~~1~~ -	~~3~~ -	~~9~~ -	~~22~~ 3	~~42~~ 9	~~67~~ 23	~~103~~ 43	~~119~~ 69	~~131~~ 107	~~145~~ 124	~~172~~ 136	~~176~~ 148	~~174~~ 158	~~175~~ 157	~~171~~ 149	~~163~~ 145	~~160~~ 132	~~150~~ 111	~~131~~ 97	~~117~~ 91	~~114~~ 90	~~112~~ 92	~~111~~ 96	~~108~~ 96	~~103~~ 90	~~91~~ 83	~~80~~ 74	~~71~~ 58	~~63~~ 48	~~56~~ 40	~~50~~ 25	~~23~~ 18	~~17~~ 16	~~15~~ -	~~13~~ -	
Millwrights	~~0~~ -	~~1~~ -	~~2~~ -	~~4~~ 1	~~7~~ 2	~~8~~ 4	~~12~~ 6	~~12~~ 7	~~10~~ 11	~~13~~ 11	~~46~~ 9	~~61~~ 12	~~95~~ 41	~~112~~ 55	~~120~~ 86	~~129~~ 103	~~141~~ 111	~~155~~ 122	~~168~~ 135	~~176~~ 149	~~218~~ 162	~~236~~ 166	~~231~~ 200	~~226~~ 209	~~216~~ 196	~~201~~ 183	~~159~~ 168	~~135~~ 152	~~125~~ 115	~~114~~ 98	~~107~~ 28	~~34~~ 0	0	~~0~~ -	~~0~~ -	
Operators	~~1~~ -	~~2~~ -	~~5~~ -	~~13~~ 2	~~24~~ 5	~~37~~ 13	~~56~~ 24	~~64~~ 37	~~69~~ 57	~~76~~ 64	~~95~~ 69	~~100~~ 76	~~104~~ 87	~~110~~ 90	~~114~~ 92	~~118~~ 97	~~126~~ 97	~~130~~ 94	~~129~~ 95	~~127~~ 101	~~134~~ 109	~~138~~ 114	~~136~~ 120	~~131~~ 118	~~122~~ 108	~~107~~ 97	~~89~~ 83	~~74~~ 66	~~63~~ 51	~~54~~ 40	~~46~~ 21	~~20~~ 11	~~10~~ 9	~~8~~ -	~~7~~ -	
Pipe Fitters	~~0~~ -	~~3~~ -	~~8~~ -	~~17~~ 3	~~29~~ 8	~~41~~ 16	~~61~~ 26	~~74~~ 37	~~83~~ 56	~~94~~ 67	~~136~~ 75	~~156~~ 84	~~199~~ 119	~~234~~ 138	~~273~~ 178	~~328~~ 216	~~400~~ 262	~~479~~ 327	~~564~~ 408	~~631~~ 492	~~719~~ 574	~~766~~ 624	~~768~~ 675	~~749~~ 673	~~695~~ 623	~~613~~ 555	~~494~~ 468	~~398~~ 377	~~317~~ 274	~~250~~ 205	~~201~~ 87	~~84~~ 26	~~22~~ 13	~~11~~ -	~~3~~ -	
Teamster	~~1~~ -	~~1~~ -	~~2~~ -	~~4~~ 1	~~6~~ 2	~~9~~ 4	~~17~~ 7	~~19~~ 10	~~20~~ 18	~~22~~ 20	~~30~~ 21	~~32~~ 23	~~33~~ 26	~~34~~ 28	~~35~~ 29	~~35~~ 30	~~35~~ 30	~~35~~ 29	~~34~~ 28	~~32~~ 28	~~32~~ 27	~~31~~ 26	~~30~~ 26	~~28~~ 25	~~26~~ 23	~~22~~ 20	~~20~~ 18	~~18~~ 14	~~17~~ 12	~~16~~ 10	~~15~~ 7	~~7~~ 6	5	~~5~~ -	~~5~~ -	
Total Manual Labor	~~5~~ -	~~13~~ -	~~42~~ -	~~102~~ 14	~~192~~ 42	~~301~~ 103	~~461~~ 196	~~540~~ 309	~~599~~ 477	~~673~~ 559	~~905~~ 617	~~1,018~~ 678	~~1,182~~ 828	~~1,289~~ 903	~~1,362~~ 1,025	~~1,459~~ 1,109	~~1,627~~ 1,174	~~1,812~~ 1,265	~~1,978~~ 1,442	~~2,118~~ 1,661	~~2,373~~ 1,867	~~2,493~~ 2,011	~~2,488~~ 2,187	~~2,428~~ 2,188	~~2,261~~ 2,027	~~2,009~~ 1,818	~~1,639~~ 1,546	~~1,336~~ 1,264	~~1,104~~ 940	~~907~~ 719	~~753~~ 326	~~311~~ 118	**~~103~~** 76	**~~68~~ -**	**~~44~~ -**	-

Note: The entire project construction schedule is ~~36~~ 35 months from Start Construction to Guaranteed Substantial Completion. This table shows a craft labor staffing starting table that begins in month 3 and completes in month 3 (30 months). There are ~~34~~ 30 months of staffing of craft resources. This table accounts for desert tortoise translocation from months 0 to 3 and~~as the craft resources are planned to be complete and demobilized~~ completion of construction and demobilization of craft resources prior to the Guaranteed Completion date.

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

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

Local/Primary Craft Union	Estimated Peak Employment	Current Out-of-Work as of July 2011	Difference
Boilermakers Local 92	224280	181	-4399
Carpenters Local 944	90112	800	+710688
Electricians Local 440	370462	243	-127219
Iron Workers Local 413/433	115144	1,326	+1,2111,182
Laborers Local 1184	112140	449	+337309
Operating Engineers Local 12	95119	2,500	+2,4052,381
Pipefitters Local 364	504630	135	-369495

Source: Personal communication between Darin Neufeld, URS Corporation, and Victor Frisch, Bechtel Power Corporation, June 25, 2012. Construction Labor Survey, 2011.

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

Construction Impacts on Population

The majority of the projected construction workforce is anticipated to either commute daily to the project site or seek temporary housing closer to the project area within a two-hour driving distance. Should construction workers seek temporary housing closer to the project area during the 3630-month construction period, or portion thereof, the impact will be temporary, and therefore, is not anticipated to induce substantial growth. The impacts of Project construction on regional population levels are, expected to be minimal. In addition, the project site is not located within an existing community or

residences, therefore construction of the Project is not expected to displace existing population or physically divide an existing community.

Construction Impacts on Housing

It is anticipated that many construction workers will commute daily to the project site. Others are expected to stay in temporary housing, either during the week and commute home over the weekend, for a portion of construction, or for the entire construction phase of approximately ~~36~~30 months. Construction workers often commute relatively long distances to their work sites. However, some construction workers may seek temporary housing closer to the project site, or within a two-hour driving distance to the project site.

Even if it is assumed that of the ~~2,500~~approximately 2,200 peak construction workforce demand in months ~~21~~22 and 23 of construction, approximately half seek temporary housing closer to the project area, there are 233 hotel/motels with 21,979 total rooms, as indicated on Table 5.10-6,within a two-hour drive time. Of these, 23 hotel/motels with 1,166 total rooms are located in Blythe, Ehrenberg, and Quartzite, nearest to the project site. Additionally, 20 RV parks and two BLM managed campgrounds are available near the project site.

If construction of the Project requires construction workers to stay in the project area temporarily, it could affect the supply of temporary accommodations and rental housing nearest the project area, especially in months ~~21~~22 and 23 of construction. Should vacant units available for rent and hotels, motels, and other housing options nearest the project site fill to capacity as a result of construction workforce demand (or other demand within the region coupled with project construction demand), workers may be required to commute daily or seek housing options within a two-mile drive of the project site. As indicated in Table 5.10-6, there is a significant amount of temporary housing within a two-mile drive to the project site. As indicated in Table 5.10-5, the vacancy rate is high throughout the Study Area and especially high in those communities closer to the project site.

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

Should construction workers drawn from unions beyond a two-hour commute require temporary housing accommodations closer to the project site during the course of the ~~36~~30-month construction period, or portion thereof, there will be sufficient vacant units, hotels, and other forms of accommodations available. Therefore, increased demand on the local housing supply is expected to be negligible. In addition, the project site is located on undeveloped land with no residences on site, and construction of the Project is not expected to displace existing housing.

Direct, Indirect and Induced Construction Impacts on Economy and Employment

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

The total economic impacts of construction of the Project were estimated using an input-output model that was developed using IMPLAN Version 3 modeling software and data (Minnesota IMPLAN Group, 2011). This analysis estimated the total (direct, indirect, and induced) change in output (sales), employment, and income that will occur as a result of the Project. The *direct* impact component consists of expenditures made specifically for the Project, such as construction labor and materials. These direct impacts generate economic activity elsewhere in the local economy through the multiplier effect, as initial changes in demand "ripple" through the local economy and generate indirect and induced impacts.[2] *Indirect* impacts are generated by the expenditures by suppliers who provide goods and services to the construction Project. *Induced* impacts are generated by the spending of households who benefit from the additional wages and business income they earn through the direct or indirect activity.

The study area for this analysis is Riverside, San Bernardino, and Los Angeles counties in California, and Maricopa County in Arizona, which is different from the Study Area for the Project. This area was selected based on the location of the primary and secondary unions where construction labor force will be drawn within reasonable commuting distance of the project site. Average monthly direct employment for the duration of the construction period will be ~~1,040~~840 jobs. The total construction payroll, including both craft and staff employees, will be approximately ~~$545,839,300~~$382,087,510 plus an additional ~~$114,746,000~~$80,322,200 paid to subcontractors spread over the approximately three-year construction period. Construction payroll and subcontractor costs represent the total labor cost of ~~$660,585,300~~$462,409,710, which will be used to model economic impacts to the study area. Local expenditures for construction materials and supplies are expected to total approximately ~~$102,043,750~~$71,430,625 during the construction phase of the Project, within the four counties of this study area. Construction materials and supplies purchased within this study area will likely include, but are not limited to, concrete, rebar, formwork materials, asphalt, fencing, and local purchases in support of field staff.

Based on the assumptions stated above, the total estimated employment creation during the ~~36~~30-month construction phase within the study area will be as follows:

- Direct (Project) employment: ~~1,040~~840
- Indirect employment: ~~257~~172
- Induced employment: ~~4,631~~3,274
- Total employment creation: ~~5,928~~4,286

The estimated Project indirect and induced employment within this study area is ~~257~~172 and ~~4,631~~3,274 jobs, respectively. These additional jobs result from the ~~$102,043,750~~$71,430,625 in local construction expenditures as well as the approximately ~~$462,409,710~~$323,686,797 in spending by local construction

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

workers. The ~~$462,409,710~~$323,686,797 represents the disposable portion of the construction payroll (assumed to be 70 percent of the total labor costs of ~~$660,585,300~~$462,409,710). Assuming an average direct construction employment of ~~1,040~~840, the employment multiplier associated with construction of the Project is approximately ~~5.7 (i.e., [1,040 + 257 + 4,631]/1,040)~~5.1 (i.e., [840 + 172 + 3,274]/840).

The Project will create estimated income within the study area as follows (rounded values in ~~2011~~2012 dollars):

- Direct (total labor costs) income: ~~$660,585,300~~$462,409,710
- Indirect income: ~~$16,134,726~~$11,049,292
- Induced income: ~~$222,727,057~~$159,067,445
- Total income creation: ~~$899,447,083~~$632,526,447

The indirect and induced income impacts were estimated at ~~$16,134,726~~$11,049,292 and ~~$222,727,057~~$159,067,445, respectively. Assuming a total local construction expenditure (payroll) of ~~$660,585,300~~$462,409,710, the project construction income multiplier is approximately ~~1.4 (i.e., [$660,585,300 + $16,134,726 + $222,727,057]/$660,585,300)~~1.37 (i.e., [$462,409,710 + $11,049,292 + $159,067,445]/ $462,409,710).

The top 10 industries that will benefit the most in terms of economic output impacts from construction of the Project include: construction of other new nonresidential structures; rental activity; real estate establishments; physicians, dentists, and other medical practitioners; food services and drinking places; private hospitals; insurance carriers; wholesale trade businesses; banks and financial institutions; and non-depository credit activities. ~~retail stores—food and beverage; retail stores—general merchandise; and nursing and residential care facilities.~~

Construction Impacts on Local Fiscal Resources

The total capital cost of construction of the Project is approximately $~~3~~2 billion. The estimated value of materials and supplies that will be purchased locally during construction of the Project is ~~$102,043,750~~$71,430,625. The project is expected to generate approximately ~~$120,000,000~~84,000,000 in total sales/use tax over the duration of the construction phase. Of this total tax liability approximately 6-7 percent will be generated through local purchases of materials, supplies, equipment, and services. As stated above, these purchases are expected to total approximately ~~$102,043,750~~$71,430,625 during construction phase of the Project. Assuming that purchases are made within Riverside County, which has a tax rate of 7.75 percent as of July 1, ~~2011~~2012, the Project will generate approximately ~~$7,908,390~~$5,535,873 in sales tax from local sales over the life of the construction phase of the Project.[3] As a result, the construction phase of the Project is expected to have positive financial impacts through increased sales tax revenue.

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

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

Table 5.10-19
Summary of Total Economic Impacts from Construction

Capital Cost (in millions)	~~$3,000~~$2,000
Four-County study area (Riverside, San Bernardino, and Los Angeles, CA and Maricopa, AZ)	
Local Materials and Supply Purchases (in millions)	~~$102.04~~$71.4
Total Construction Payroll (in millions)	~~$660.6~~$462.4
Construction Payroll (Disposable) (in millions)	~~$462.4~~$323.7
Annual Local Construction Expenditures (in millions)	~~$34.0~~$23.8
Annual Average Local Construction Payroll (in millions)	~~$220.2~~$154.1
Annual Average Local Construction Payroll (Disposable) (in millions)	~~$154.1~~$107.9
Average Monthly Direct Construction Employment	~~1,040~~840
Indirect Employment	~~257~~172
Induced Employment	~~4,631~~3,274
Construction Employment Multiplier	~~5.75~~5.1
Indirect Income	~~$16.1~~$11
Induced Income	~~$222.7~~$159.1
Construction Income Multiplier	~~1.4~~1.37
Total Sales Taxes	~~$7,908,390~~$5,535,873

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

Construction Impacts on Education

The majority of the projected construction workforce will either commute daily to the project site or seek temporary housing during the ~~36~~30-month construction phase. However, it is unlikely that construction workers will relocate permanently closer to the project site with their families due to the temporary nature of construction. The Palo Verde Unified School District is currently not considered at enrollment capacity. In fact, according to the school district, enrollment is decreasing. Enrollment for 2011 is down 35 students from last year, and is projected to continue declining (Bilek, 2011). If there were additional students as a result of construction workers relocating into the project area, Palo Verde Unified will enroll them as required by law. However, the construction phase of the Project is not expected to have a substantial effect on student enrollment in Palo Verde Unified, because there is plenty of capacity.

Construction Impacts on Public Services and Facilities (no changes)

Construction Impacts on Utilities (no changes)

5.10.4.3 *Operational Impacts*

Operation and maintenance staff will be on-site following the Notice to Proceed issued by the regulatory agencies. The number of operations and maintenance staff will increase over time as Project construction is completed. Management, engineering, administrative staff, skilled workers, and operators will serve ~~multiple~~each of the plants, as indicated in Table 5.10-20. The Project is expected to employ up to ~~150~~100 full-time employees; ~~30~~30 employees dedicated to ~~Rio Mesa I, Rio Mesa II and Rio Mesa II~~ RMS 1 and 2 each, and ~~60~~ 40 employees at the common area. The facility will be operated seven days a week, from eight to 16 hours per day. These personnel are anticipated to be drawn primarily from Riverside County within the Study Area. It is likely that a small number of Project operations workers may be drawn from larger labor markets and permanently relocate to the project area.

Table 5.10-20
Operations and Maintenance Staff

Staff	~~Rio Mesa I~~RMS 1	~~Rio Mesa II~~RMS 2	~~Rio Mesa III~~	Common Area	Total
Solar Field and Power Block Workers	~~16~~12	~~16~~12	~~16~~	-	~~48~~24
Technicians	~~12~~8	~~12~~8	~~12~~	-	~~36~~16
Operators (Administration Building: shower and sewage calculation)	-	-	-	15	15
Warehouse and Maintenance Personnel	-	-	-	13	13
Administration Personnel (day shift only)	-	-	-	~~31~~12	~~31~~12
Total (actual)	~~28~~20	~~28~~20	~~28~~	~~59~~40	~~143~~80
Spare Laborers	~~2~~10	~~2~~10	~~2~~	~~1~~	~~7~~20
TOTAL	30	30	~~30~~	~~60~~40	~~150~~100

Operational Workforce

Total annual operations payroll is estimated to be approximately ~~$16.4~~$12.3 million, with approximately ~~$14~~$10.5 million of that paid to permanent employees, and the remaining ~~$2.4~~$1.8 paid to short-term contract operations employees.

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

markets (approximately 10 percent). Specialized personnel recruited from outside the region will likely relocate with their families to the project area.

Operation Impacts on Population

Operation of the Project may require some personnel to relocate with their families to the Project area. Assuming all ~~150~~100 operations workers relocate with their families, vacancy rates are high throughout the Study Area. Given the modest size of the operational workforce and the likelihood that some of these workers may already be residents within the Study Area close to the project site, the Project will have negligible effects on the local population and operation of the Project is not expected to displace existing population or physically divide an existing community.

Operation Impacts on Housing (no changes)

Direct, Indirect and Induced Operation Impacts on Economy and Employment

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

When completed, the Project is expected to employ approximately ~~150~~100 full-time operations employees. It is anticipated that the majority of operations employees will be hired from within Riverside County, California. Additional employees requiring specific skills may be drawn from larger labor markets. However, since this number is not known, Riverside County was used for modeling operations impacts. The Project is expected to have an annual payroll of approximately ~~$16.4~~$12.3 million, which will include all salaries, overtime, benefits, and incentives. Operations employees will include management, engineering, administrative staff, skilled workers, and operators. The annual operations and maintenance budget is approximately ~~$880,000~~$589,600, which is anticipated to be spent locally (within Riverside County) on goods and supplies. These figures were used as inputs into the model to predict economic and employment impacts as a result of Project operations.

The total economic impacts of operation of the Project were estimated using an input-output model that was developed using IMPLAN Version 3 modeling software and data (Minnesota IMPLAN Group, 2011).[4] In addition to the jobs directly related to operation of the Project, operation of the Project will also provide additional indirect and induced jobs.

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

- Direct (Project) employment: ~~150~~100
- Indirect employment: ~~1~~0.8
- Induced employment: ~~89~~69

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

- Total employment creation: ~~240~~170

The estimated Project indirect and induced employment within Riverside County is ~~one~~ 0.8 and ~~89~~69 jobs, respectively. These additional jobs result from the ~~$880,000~~$589,600 in local operations and maintenance expenditures and ~~$16.4~~$12.3 million in payroll. The operational phase employment multiplier is estimated at ~~1.6 (i.e., [150 + 1 + 89]/150)~~1.7 (i.e., [100 + 0.8 + 69]/100).

The Project will create estimated income within Riverside County as follows (rounded values in ~~2011~~2012 dollars):

- Direct (total labor costs) income: ~~$16,400,000~~$12,300,000
- Indirect income: ~~$53,746~~$36,605
- Induced income: ~~$3,533,907~~$2,778,257
- Total income creation: ~~$19,987,653~~$15,114,862

The indirect and induced income impacts are estimated at ~~$53,746~~$36,605 and ~~$3,533,907~~$2,778,257, respectively. The income multiplier associated with the operational phase of the Project is approximately 1.2 ~~(i.e., [$16,400,000 + $53,746 + $3,533,907]/$16,400,000)~~ (i.e., [$12,300,000 + $36,605 + $2,778,257]/ $12,300,000) and is based on a Type SAM model.

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

Operation Impacts on Fiscal Resources

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

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

Local purchases of materials, supplies, equipment, and services are expected to total approximately ~~$880,000~~ $589,600 annually once the Project is fully operational, and are anticipated to be spent within Riverside County. Using the current Riverside County sales tax rate of 7.75 percent, locally purchased materials for operation of the Project will result in approximately ~~$68,200~~$45,694 of revenue annually for the life of the Project.

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

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

Riverside County	
Annual Local Operations and Maintenance (O&M) Purchases	~~$880,000~~$589,600
Total Annual O&M Payroll (in millions)	~~$16.4~~$12.3
Annual O&M Employment	~~150~~100
Indirect Employment	~~1~~0.8
Induced Employment	~~89~~69
O&M Employment Multiplier	~~1.6~~1.7
Indirect Income	~~53,746~~$36,605
Induced Income	~~3,533,907~~$2,778,257
O&M Income Multiplier	1.2
Total Annual Sales Taxes	~~$68,200~~$45,694
Total Annual Property Taxes (in millions)	$7
Palo Verde Unified School District	
One-time School Impact Fee	$10,993

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

Operation Impacts on Education (no changes)

Operation Impacts on Public Services (no changes)

Operation Impacts on Utilities (no changes)

5.10.5 Cumulative Effects

5.10.5.1 *Summary of Cumulative Effects*

Temporary cumulative socioeconomic impacts could occur when overlapping construction schedules of multiple projects create a demand for workers that cannot be met by the local labor force, thereby inducing in-migration of non-local labor and their households. Operational cumulative socioeconomic

impacts could occur when multiple projects cause a substantial increase in population in an area that leads to demand for housing, schools, public services, or utilities that exceeds available capacity.

The Project will have substantial beneficial socioeconomic impacts during construction and operations in terms of job creation, expenditures, and tax revenues. In fact, the positive incremental impacts of the Project, including job creation, expenditures, and tax revenues, will combine with the similar positive socioeconomic impacts from other present and reasonably foreseeable future projects in the project vicinity, including the Blythe Solar Power Project (BSPP), the Rice Solar Energy Project (RSEP), the Palen Solar Power Project (PSPP), the Desert Sunlight Solar Farm (DSSF), and the Genesis Solar Energy Project (GSEP), to create even greater positive cumulative impacts to the local economy.

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

The CEC Decision for BSPP analyzed average and peak construction labor needs by construction craft for the BSPP, PSPP, GSEP, RSEP, and DSSF and compared them to the available labor force for these projects. This analysis determined that these projects will have total peak month labor needs of 4,189 workers and total peak month local housing need of 562 housing units. The Project will have peak month labor needs of ~~2,500~~approximately 2,200 workers during months ~~21~~22 and 23. Assuming 15 percent of workers seek temporary local housing during construction consistent with the assumption for other reasonably foreseeable future projects, the Project will have a ~~local housing~~ temporary need ~~of~~ for approximately ~~628~~300 housing units during peak construction in months ~~21~~22 and 23.

Under the conservative assumption that peak construction periods overlap for all reasonably foreseeable projects including the Project, there would be demand for ~~1,190~~862 temporary housing units in the cumulative area. There are over 22,000 total motel or hotel rooms within a two-hour commute from the project site. In addition, the communities closest to the project site had very high vacancy rates in 2010, ranging from 17.5 to 60.2 percent with a combined total of 2,936 vacant units. The communities throughout the entire Study Area had vacancy rates ranging from 5 to 60.2 percent, with a total of 72,831 vacant units. RV parks and campsites also are available as temporary housing. Available housing supply in the study area far exceeds conservative estimates of cumulative. There is ample supply of housing units to accommodate workers drawn from outside the two-hour commute area, such as boom crane operators, boilermakers, electricians, pipefitters, welders, and other specialized crafts for which workers are in short supply. In addition, the RSEP includes plans for on-site accommodations for construction workers. Therefore, the incremental effects of the Project, when considered together with other past, present, and reasonably foreseeable future projects, will not result in cumulatively significant, adverse impacts to housing supply during construction. Moreover, the temporary placement of construction workers within existing housing units, motel and hotel rooms, RV parks, and campsites will not result in adverse impacts to schools, public services, or utilities since these facilities have already been accounted for in existing plans for public services and utilities.

Operational labor needs of the reasonably foreseeable future projects and the Project are substantially smaller than construction labor needs and will not contribute to a cumulatively significant increase in demand for housing that exceeds available supply. In addition, cumulative increases in demand for

schools caused by permanent relocation of full-time employees within the cumulative area will be addressed by the payment of development impact fees as well as through the payment of property taxes by the projects. The Palo Verde Unified School District is currently below enrollment capacity, enrollment capacity has been declining, and these trends are expected to continue. Therefore, increased demand within this district would have some beneficial effects.

Cumulative operational impacts to public services including police, fire, hazardous materials handling, and medical resources and facilities will not be cumulatively considerable due to compliance with existing LORS, including preparation of worker safety and fire prevention programs. All reasonably foreseeable future projects and the Project will comply with LORS addressing operational impacts to public services. For additional details on these LORS refer to Sections 5.1 Air Quality, 5.5 Hazardous Materials, 5.9 Public Health, 5.12 Traffic and Transportation, 5.14 Waste Management, 5.15 Water Resources, and 5.16 Worker Safety.

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

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

5.10.6 Environmental Justice (no changes)

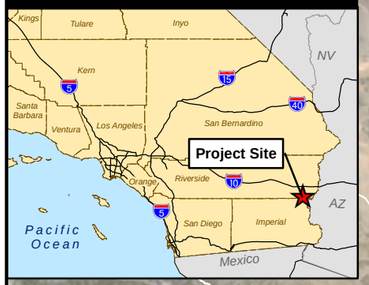
5.10.7 Mitigation Measures (no changes)

5.10.8 Involved Agencies and Agency Contacts (no changes)

5.10.9 Permits Required and Permit Schedule (no changes)

5.10.10 References (no changes)

REGIONAL MAP



San Bernardino County

Mohave County

Lake Havasu City

California

Riverside County

La Paz County

Cathedral City

Palm Springs

Palm Desert

Rancho Mirage

Indio

Indian Wells

La Quinta

Coachella

Blythe

Ripley

Ehrenberg

Quartzite

Project Site

Palo Verde

Arizona

Cibola

San Diego County

Imperial County

Yuma County

El Centro

Calexico

Yuma

USA

Mexico

LEGEND

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

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

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

URS

8 0 8 16 Miles

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

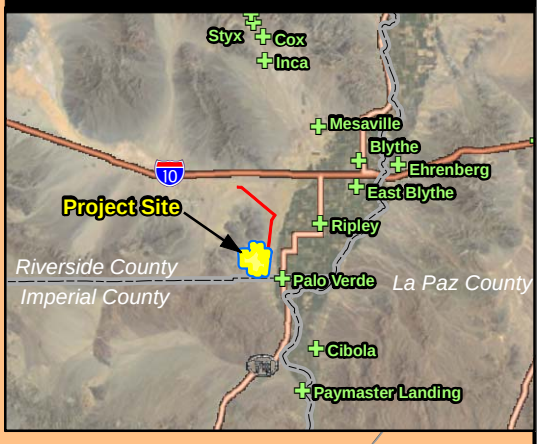
CREATED BY: CM	DATE: 6/18/2012	FIG. NO: 5.10-1 (REV)
PM:AL	PROJ. NO: 27651006. 50518	

Path: G:\gis\projects\1577\27651002\map_docs\mxd\AFC\Socioeconomic\Supplemental\Study_Area_Cities.mxd, colin_mattison, 6/18/2012

Percent Minority by Block Group

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

OVERVIEW MAP



Riverside County
Block Group 458.00.6
Minority Population 42.9%

Riverside County
Block Group 459.00.1
Minority Population 35.8%

Riverside County
Block Group 458.00.3
Minority Population 77.8%

Riverside County
Block Group 459.00.2
Minority Population 63.6%

Imperial County
Block Group 124.00.2
Minority Population 29.5%

La Paz County
Block Group 206.00.2
Minority Population 23.7 %

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

- Fenceline Boundary of Solar Field (3,805 acres) *Includes Common Areas, Switchyard and Gas Metering Yard
- Common Areas Boundary (19.5 acres) *Included in Fenceline acres
- Switchyard (2.47 acres) *Included in Fenceline acres
- Gas Metering Yard (0.52 acres) *Included in Fenceline acres
- Temporary Construction Logistics Area (103 acres)
- ROW Corridor approx. 1,641 ac. (1,300 ft. corridor, approx 650ft. from c/l; approx acres: 1196 BLM, 445 Private)
- Colorado River Substation Gen-tie Area (approx. 114 ac.)
- CRS Substation (77 ac.)
- City/Town
- County Boundary
- State Boundary

SOURCES:
Draft Solar Field Layout & Fenceline, MWD Land (Bechtel, 6-13-2012).
CRS Substation, Potential Gen-tie Area (Power Engineers, 5-7-2012).
Transmission Line Corridor, 6 Mile Buffer (URS, 6-14-2012).
County, State Boundaries, Roads (ESRI, 2007).
Minority Population (Census, 2000).

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

URS

1 0 1 2 Miles

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

CREATED BY: CM	DATE: 6/18/2012	FIG. NO: 5.10-2 (REV)
PM: AL	PROJ. NO: 27651006.50513	

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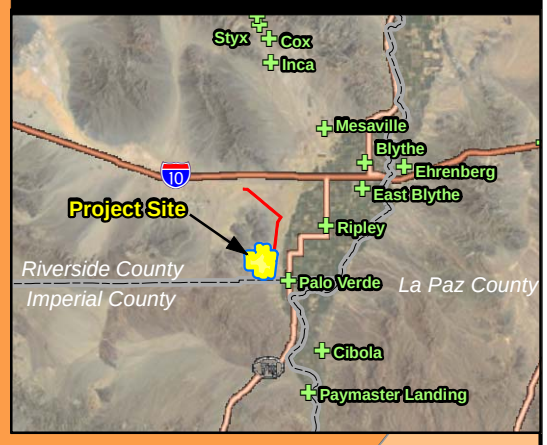
Percent Low-Income
- 0 %
- 1 - 20 %
- 21 - 34%
- 35 - 50%
- 6 Mile Buffer

OVERVIEW MAP



Riverside County
Block Group 458.00.6
Precent Low-Income 28.03%

Riverside County
Block Group 459.00.1
Percent Low-Income 15.3%

Riverside County
Block Group 458.00.3
Percent Low-Income 0%

Riverside County
Block Group 459.00.2
Percent Low-Income 35.73%

Imperial County
Block Group 124.00.2
Percent Low-Income 29.21%

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

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

- Private Land Owned by MWD (approx. 6,741 ac.)
- Fenceline Boundary of Solar Field (3,805 acres) *Includes Common Areas, Switchyard and Gas Metering Yard
- Common Areas Boundary (19.5 acres) *Included in Fenceline acres
- Switchyard (2.47 acres) *Included in Fenceline acres
- Gas Metering Yard (0.52 acres) *Included in Fenceline acres
- Temporary Construction Logistics Area (103 acres)
- ROW Corridor approx. 1,641 ac. (1,300 ft. corridor, approx 650ft. from c/l; approx acres: 1196 BLM, 445 Private)
- CRS Substation (77 ac.)
- Colorado River Substation Gen-tie Area (approx. 114 ac.)
- City/Town
- County Boundary
- State Boundary

SOURCES:
Draft Solar Field Layout & Fenceline, MWD Land (Bechtel, 6-13-2012).
CRS Substation, Potential Gen-tie Area (Power Engineers, 5-7-2012).
Transmission Line Corridor, 6 Mile Buffer (URS, 6-14-2012).
County, State Boundaries, Roads (ESRI, 2007).
Poverty (Census Bureau, 2000).

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

URS

1 0 1 2 Miles

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

CREATED BY: CM	DATE: 06-18-12	FIG. NO: 5.10-3 (REV)
PM: AL	PROJ. NO: 27651006.50513	

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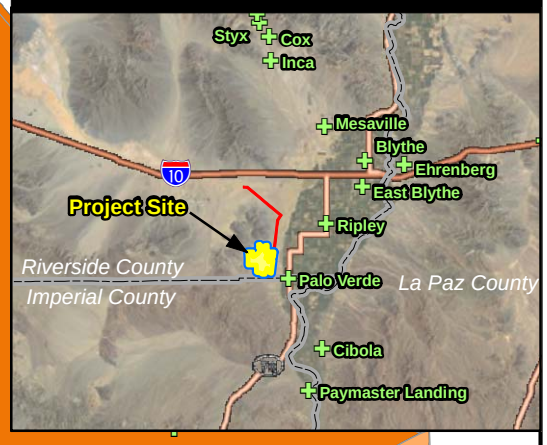
Percent Minority
Latino / Hispanic Population
- 0 - 27.8 %
- 27.9 - 49.9 %
- 50.0 - 70.6 %
- 6 Mile Buffer

OVERVIEW MAP



Riverside County
Block Group 458.00.6
Hispanic/Latino Population 51.8%

Riverside County
Block Group 459.00.1
Hispanic/Latino Population 38.4%

Riverside County
Block Group 458.00.3
Hispanic/Latino Population 49.1%

Ripley

Riverside County
Block Group 459.00.2
Hispanic/Latino Population 70.6%

78

Palo Verde

Riverside County
Imperial County

Imperial County
Block Group 124.00.2
Hispanic/Latino Population 27.8%

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

CALIFORNIA
ARIZONA

La Paz County

Cibola

- Fenceline Boundary of Solar Field (3,805 acres) *Includes Common Areas, Switchyard and Gas Metering Yard
- Common Areas Boundary (19.5 acres) *Included in Fenceline acres
- Switchyard (2.47 acres) *Included in Fenceline acres
- Gas Metering Yard (0.52 acres) *Included in Fenceline acres
- Temporary Construction Logistics Area (103 acres)
- ROW Corridor approx. 1,641 ac.
  (1,300 ft. corridor, approx 650ft. from c/l; approx acres: 1196 BLM, 445 Private)
- Colorado River Substation Gen-tie Area (approx. 114 ac.)
- CRS Substation (77 ac.)
- City/Town
- County Boundary
- State Boundary

SOURCES:
Draft Solar Field Layout & Fenceline, MWD Land (Bechtel, 6-13-2012).
CRS Substation, Potential Gen-tie Area (Power Engineers, 5-7-2012).
Transmission Line Corridor, 6 Mile Buffer (URS, 6-14-2012).
County, State Boundaries, Roads (ESRI, 2007).
Minority Population (Census, 2000).

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

URS

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

CREATED BY: CM	DATE: 6/18/2012	FIG. NO: 5.10-4 (REV)
PM: AL	PROJ. NO: 27651006.50513	

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