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| **Docket Number:** | 09-AFC-05C |
| **Project Title:** | Abengoa Mojave Compliance |
| **TN #:** | 202355-1 |
| **Document Title:** | Part 1 - April 2014 Monthly Compliance Report |
| **Description:** | N/A |
| **Filer:** | Tiffani Winter |
| **Organization:** | Abengoa Mojave Solar, LLC. |
| **Submitter Role:** | Applicant |
| **Submission Date:** | 5/20/2014 11:49:10 AM |
| **Docketed Date:** | 5/20/2014 |

ABENGOA SOLAR
Mojave Solar LLC
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**SUBMITTED ELECTRONICALLY**

| | |
|---|---|
| **Subject:** | **09-AFC-5C** |
| **Description:** | **Monthly Compliance Report** |
| **Date:** | **May 14, 2014** |
| **Distribution:** | **Dale Rundquist, CEC; Carol Hammel-Smith, US DOE; Wendy Campbell, DFW; Ray Bransfield, FWS** |

Dale Rundquist, CPM
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

Dear Mr. Rundquist,

The attached Monthly Compliance Report for April 2014 is submitted for your review as part of ongoing reporting required by the California Energy Commission's Conditions of Certification for the Mojave Solar Project. This monthly report has been added to the archival site on Box.com.

Please direct any question to me.

Sincerely,
William "Bill" Grisolia
Compliance Management
41234 Harper Lake Road
Hinkley, California 92347
(303) 885-2036 Cell

Attachment: Monthly Compliance Report

# Mojave Solar Project
# Monthly Compliance Report

## April 2014 Reporting Period

Prepared for:

Mojave Solar LLC
13911 Park Avenue, Suite 206
Victorville, California  92392

# Introduction

During construction of the Mojave Solar Project, monthly compliance reports are provided to the California Energy Commission (CEC) as required by Condition of Certification COMPLIANCE-6 of the License Decision, docket number 09-AFC-5C. This is the Monthly Compliance Report (MCR) for April 2014.

Construction assembly activities in April included steam turbine generators (STG) and condensers, STG piping, balance of plant (BOP) pipe, Water Treatment Plant building (WTP), cooling tower piping and Power Block (PB) cable and heat tracing foundation construction.

Construction installation included cable tray and cable tray insulation, heat tracing, air compressor system, CO2 tank, PB auxiliary structure and construction, turbine and turbine auxiliary piping, instrumentation and controls, heat transfer fluid pipe, pipe welding for ullage/overflow systems and expansion vessels, piping in the racks, structures including administration, control and electrical buildings, solar field instrumentation, WTP and WTP filters, motor control room in WTP, WTP rack, filter equipment, pipe utilities installation and welding, electrical equipment panels, fire protection systems, solar field and PB grounding, and steam generator insulation.

The following table provides a summary of all areas covered in this report.

| Mojave Solar Project Monthly Compliance Reporting | |
|---|---|
| Condition of Certification (COC) Topics | Appendix |
| Air Quality | See Appendix A |
| Biological Resources | See Appendix B |
| Cultural Resources | See Appendix C |
| Paleontological Resources | See Appendix D |
| Waste Management | See Appendix F |
| Worker Safety | See Appendix E |
| Soil and Water | See Appendix F |
| General Conditions | See Appendix F |
| Civil | See Appendix F |
| Structural | See Appendix F |
| Mechanical | See Appendix F |
| Electrical | See Appendix F |
| Transmission System Engineering | See Appendix F |
| Compliance Forecast | See Appendix G |
| Compliance Matrix | See Appendix H |

# Appendix A
# Air Quality Resources

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA
95833-2937
Tel: 916.920.0300
Fax: 916.920.8463

May 5, 2014

Dale Rundquist, CPM
California Energy Commission
Siting, Transmission & Environment Protection (STEP) Division
1516 Ninth Street (MS-2000)
Sacramento, CA 95814
drundqui@energy.state.ca.us

RE: AQ-SC3, AQ-SC4, AQ-SC5, and WORKER SAFETY-8 Monitoring and Mitigation Activities at Mojave Solar Project (09-AFC-5C) for April 1 through April 30, 2014

Dear Mr. Rundquist:

This letter is to update you on the air quality construction monitoring occurring at the Mojave Solar Project (MSP) site during April 2014. Compliance with the WORKER SAFETY-8 condition was also monitored. Construction activities occurred April 1 through 30, 2014. Compliance monitoring was performed by Jose Manuel Bravo Romero of Abengoa; who is the full-time onsite Air Quality Construction Mitigation Manager (AQCMM). I, Christopher Waller of CH2M HILL, am the designated AQCMM delegate and visited the site on April 24, 2014, to ensure compliance with record keeping and conditional requirements.

## Overview

Construction activities in April included installation of heat transfer fluid (HTF) pipe insullation, HTF pipe testing, steam turbine generator (STG) assembly, ullage/overflow pipe installation, fire protection system installation, water treatment plant (WTP) and WTP filter construction, balance of plant (BOP) structure installation, administration and control building septic system installatoin, solar field and power block grouting, solar field grounding, and water well and pump installation.

Construction was monitored for compliance with Conditions of Certification (COCs) AQ-SC3, AQ-SC4, AQ-SC5, and WORKER SAFETY-8. No new construction equipment was brought onsite during April. A summary of the compliance with the Air Quality Construction Mitigation Plan (AQCMP) is provided in the following sections. Daily, weekly, and monthly observation logs and other site inspection forms are maintained onsite and available upon request.

## Compliance Assessment

### AQ-SC3 – Fugitive Dust Control

All of the AQ-SC3 COCs were in effect during April 2014. The following section summarizes each COC and describes the level of compliance.

- AQ-SC3a: Soil stabilizers on main access roads and delivery areas

  Soil stabilizers have been applied to finished access roads and delivery areas. Main roads in Beta have been paved.

- AQ-SC3b: Watering of disturbed areas

  Watering of actively disturbed areas was performed for all construction activities with the potential to create airborne dust plumes. When necessary, watering was intensified as directed by the onsite AQCMM and construction managers.

- AQ-SC3c: Speed limits

  The required speed limits have been enforced onsite.

- AQ-SC3d: Speed limit signage

  Speed limit signage has been posted and is clearly visible at all site entrances.

- AQ-SC3e: Tire inspection and washing prior to exiting to paved roadway

  Although tire washing stations have not been installed, all construction vehicles are inspected for dirt and other debris prior to exiting to paved public roadways.

- AQ-SC3f: Tire washing station

  As stated above, no tire washing stations have been installed. However, tires of construction vehicles are inspected for dirt and other debris prior to exiting to paved public roadways.

- AQ-SC3g: Unpaved exit treatment

  Rumble plates are installed at all site exits.

- AQ-SC3h: Construction vehicles use approved entrances only

  When traveling between sites, construction vehicles use approved entrances only.

- AQ-SC3i: Run-off onto public roadways

  Earthmoving activities have resulted in run-off being directed away from paved public roadways. In addition, fiber rolls have been placed where the potential for run-off onto public roadways exist. Watering has not resulted in run-off onto public roadways.

- AQ-SC3j: Sweeping of paved roads within construction site

  Sweeping of paved roads within the site is performed as necessary.

- AQ-SC3k: Sweeping of public paved roadways with access to the MSP site

  Sweeping of Harper Lake Road and Lockhart Road is performed as necessary.

- AQ-SC3l: Stabilization of storage piles

  Significant earthmoving activities performed during April 2014 included excavation for the administration and control building septic system. Areas disturbed during excavation were sufficiently watered during all construction activities. Additional storage piles exist to the east of the Alpha evaporation pond. These storage piles are watered frequently, and will be re-distributed at a later date. All other soil piles are temporary excavation spoils or grading excesses that are re-distributed prior to exceeding the 10-day limit for cover or treatment.

- AQ-SC3m: Stabilization of transported solid bulk material

  Transported solid bulk materials are sufficiently watered, and at least one foot of freeboard is provided during transportation.

- AQ-SC3n: Wind control techniques

  Wind fencing has been installed in Alpha East, Alpha West, and Beta along the eastern and western borders of each area.

**AQ-SC4 – Dust Plumes & WORKER SAFETY-8 – Site Worker Fugitive Dust Protection**

The following construction activities were performed during the April 1 to April 30, 2014 reporting period:

- HTF pipe header and pipe insulation installation
- HTF pipe testing
- STG auxiliary structure detailing
- STG insulation installation
- Turbine and turbine auxiliary piping installation
- Instrument and controls installation
- Power block auxiliary structure construction and installation
- Solar field grounding
- Power block and solar field grouting
- Cooling tower pipe installation and welding
- BOP piping assembly
- WTP rack, filter equipment, and pipe utilities installation and welding
- WTP building assembly
- Motor control room in WTP installation
- Beta raw water line installation
- Rack equipment and insulation installation
- Electrical, administration, and control building installation
- Administration building septic system excavation and installation
- Ullage system pipe installation and welding
- Cable tray and cable tray insullation installation
- Heat trace foundation construction
- Heat trace installation
- Fire protection system installation
- Production well development

Certain construction activities were suspended on multiple occasions in April 2014 due to inclement weather. During the stoppages, work within buildings and small miscellaneous outdoor construction activities continued. The following table summarizes the stoppage events and the construction activities stopped during each event.

**Table 1**
**April 2014 Construction Activity Stoppages due to High Wind Conditions**

| Date | Time | Description of Construction Activity Stoppage | Maximum Recorded Wind Speed (mph) |
|---|---|---|---|
| 4/22/2014 | 11:00 | All cranes stopped | 27 |
| 4/25/2014 | 12:00 | Large cranes stopped | 26 |
| 4/29/2014 | 12:00 | Large cranes stopped | 26 |
| 4/30/2014 | 12:00 | Large cranes stopped | 26 |

Soil stabilization has been implemented on finished haul roads and delivery areas. In addition, main roads in Beta and Harper Lake Road south of Lockhart Road have been paved. Unfinished areas and haul roads without soil stabilizers are watered daily to mitigate against the formation of fugitive dust. A truck washing station has not been installed. However, rumble plates are installed at all site entrances/exits, and the tires of construction vehicles are inspected for dirt and other debris and swept clean as needed prior to exiting the site onto paved roadways.

## AQ-SC5 – Diesel-Fueled Engine Control

Attachment 1 to this letter contains a list of equipment operated onsite during April 2014. The list contains equipment information including manufacturer, model, California Air Resources Board (CARB) Equipment Identification Number (EIN), engine model year, engine horsepower, and U.S. Environmental Protection Agency (USEPA) certified tier level.

The following list summarizes each COC for AQ-SC5 and describes the level of compliance.

- AQ-SC5a: Equipment Tags

  A visible air quality tag with a unique number (AQ #) was adhered to all equipment onsite between April 1 and April 30, 2014.

- AQ-SC5b: USEPA Engine Tier Requirement

  All construction equipment onsite between April 1 and April 30, 2014, had Tier 3 engines. No new construction equipment arrived onsite during April 2014.

- AQ-SC5c: Retrofit Control Termination

  No equipment with retrofit control technology was brought onsite.

- AQ-SC5d: Maintenance Records

  Maintenance records for all vehicles are available upon request.

- AQ-SC5e: "All diesel heavy construction equipment shall not idle for more than five minutes."

  Idle time was monitored by the activity managers and AQCMM. This condition was met during this reporting period.

- AQ-SC5f: Electric motors

  The use of construction equipment with electric motors was not feasible for current construction activities.

Please feel free to call (714) 435-6268 for questions, clarifications, or additional information.

Sincerely,

CH2M HILL

Christopher Waller
Staff Environmental Engineer
AQCMM Delegate
christopher.waller@ch2m.com

c: Jose Manuel Bravo Romero / Abengoa, AQCMM
Christopher Waller / CH2M HILL, AQCMM Delegate

# Attachment
# Construction Equipment Mojave Solar Project

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| CATERPILLAR | 950G | GH6Y78 | 2005 | 183 | 2 | Rubber-Tired Loader | 2011 | | GFE Received |
| DEERE | 200D | KF4B33 | 2011 | 159 | 3 | Excavator | 2011 | | |
| CATERPILLAR | CS683E | TX8P94 | 2005 | 173 | 2 | Roller | 2011 | | GFE Received |
| CATERPILLAR | 834B | VF5F83 | 2010 | 440 | 3 | Rubber-Tired Dozer | 2011 | | |
| CATERPILLAR | 325DL | JB4V37 | 2006 | 168 | 2 | Excavator | 1/3/2012 | | GFE Received |
| DEERE | 410J | BB3T68 | 2011 | 97 | 4 | Tractor/Loader/Backhoe | 1/5/2012 | | |
| SKYTRAK | 8042 | HY9R57 | 2008 | 110 | 3 | Forklift | 1/23/2012 | | |
| CATERPILLAR | 651B | JA9X63 | 2006 | 540 | 3 | Scraper | 3/9/2012 | | |
| CATERPILLAR | 651B | TR7R75 | 2006 | 540 | 3 | Scraper | 3/9/2012 | | |
| CASE | 580_SM | BJ8N36 | 2007 | 95 | 2 | Tractor/Loader/Backhoe | 4/23/2012 | | GFE Received |
| DEERE | 310J | DA4B63 | 2007 | 75.1 | 2 | Tractor/Loader/Backhoe | 4/23/2012 | | GFE Received |
| CATERPILLAR | 631C | JW5C94 | 2010 | 452 | 3 | Scraper | 4/23/2012 | | |
| CATERPILLAR | 140H | HM5E53 | 2005 | 165 | 2 | Grader | 6/19/2012 | | GFE Received |
| DEERE | 328 | AA9M73 | 2007 | 82 | 2 | Skid Steer Loader | 8/10/2012 | | GFE Received |
| SKYTRAK | 8042 | KP9P46 | 2007 | 110 | 3 | Forklift | 8/17/2012 | | |
| P&H | 453-130 | BY3X34 | 2008 | 139 | 3 | Crane | 9/5/2012 | | |
| CATERPILLAR | 414E | WJ4X56 | 2006 | 92 | 2 | Tractor/Loader/Backhoe | 9/5/2012 | | GFE Received |
| A&L | 210LJ | HK4M87 | 2011 | 84 | 4 | Tractor/Loader/Backhoe | 10/5/2012 | | |
| DEERE | 310J | SS4K74 | 2011 | 84 | 4 | Tractor/Loader/Backhoe | 10/5/2012 | | |
| TEREX | RT230-1 | TB3E79 | 2006 | 130 | 2 | Crane | 10/5/2012 | | GFE Received |
| GROVE | RT518 | XE8V88 | 2008 | 142 | 3 | Crane | 10/5/2012 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| TEREX | RT 780 | KT4X64 | 2005 | 275 | 2 | Crane | 10/05/12 | | GFE Received |
| TEREX | RT665 | NB5R93 | 2007 | 215 | 3 | Crane | 10/25/2012 | | |
| DEERE | 310SJ | SP4F87 | 2011 | 100 | 4 | Tractor/Loader/Backhoe | 10/25/2012 | | |
| CATERPILLAR | 450E | UB3H55 | 2008 | 136 | 3 | Tractor/Loader/Backhoe | 10/25/2012 | | |
| DIECI | 45.17 Icarus | EP4W64 | 2013 | 195 | 4 | Rough Terrain Forklift | 11/1/2012 | | |
| DEERE | 210LJ | JW3M53 | 2011 | 74 | 4 | Tractor/Loader/Backhoe | 11/14/2012 | | |
| JLG | G10-55A | WR3G83 | 2011 | 130 | 3 | Forklift | 11/14/2012 | | |
| SKY TRACK | 10054 | HB6Y56 | 2012 | 100 | 4 | Rough Terrain Forklift | 11/19/2012 | | |
| TEREX | RT780 | HR3X86 | 2006 | 275 | 3 | Crane | 11/19/2012 | | |
| GROVE | RT650E | YH5P85 | 2007 | 165 | 3 | Crane | 11/19/2012 | | |
| GENIE | GTH-1056 | BJ6A33 | 2012 | 139 | 4 | Forklift | 11/30/2012 | | |
| DEERE | 410J | LX6M39 | 2011 | 99 | 4 | Tractor/Loader/Backhoe | 11/30/2012 | | |
| HYSTER | H120FT | NM9Y89 | 2011 | 74 | 4 | Forklift | 11/30/2012 | | |
| JLG | G9-43A | PW7E85 | 2011 | 99 | 4 | Forklift | 11/30/2012 | | |
| GENIE | 1056 | WG4N88 | 2010 | 139 | 3 | Forklift | 11/30/2012 | | |
| GRADALL | 534D9 | LG6P89 | 2011 | 99 | 3 | Forklift | 12/10/2012 | | |
| SKY TRAK | 10054 | YW7Y65 | 2008 | 110 | 3 | Forklift | 12/10/2012 | | |
| CATERPILLAR | 315D | BX7C54 | 2011 | 115 | 3 | Excavator | 12/19/2012 | | |
| CATERPILLAR | 430E | CT9E46 | 2011 | 110 | 3 | Backhoe | 12/19/2012 | | |
| CATERPILLAR | 966H | CU4A75 | 2008 | 261 | 3 | Loader | 12/19/2012 | | |
| JLG | 10054 | AW6L59 | 2011 | 110 | 3 | Forklift | 12/27/2012 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| NEW HOLLAND | B95 | DS7V79 | 2007 | 95 | 3 | Backhoe | 12/27/2012 | | |
| TEREX | GTH1056 | PP3H77 | 2011 | 116 | 3 | Forklift | 12/27/2012 | | |
| SKYJACK | 8042 | CE4F84 | 2008 | 110 | 3 | Forklift | 1/3/2013 | | |
| CATERPILLAR | 321D | CK7S75 | 2011 | 147 | 3 | Excavator | 1/3/2013 | | |
| TEREX | RT 780 | VA3N64 | 2005 | 275 | 3 | Crane | 1/3/2013 | | |
| CATERPILLAR | 140M2 | XA6E55 | 2012 | 264 | 3 | Graders | 1/3/2013 | | |
| SKYTRAK | 8042 | HE9X93 | 2008 | 110 | 3 | Forklift | 1/7/2013 | | |
| CATERPILLAR | 420F | AE5W73 | 2012 | 99.9 | 3 | Backhoe | 1/9/2013 | | |
| HAMM | 3307 | GC6S79 | 2012 | 74 | 3 | Roller | 1/11/2013 | | |
| BOMAG | BW177DH | TJ4G76 | 2010 | 110 | 3 | Roller | 1/11/2013 | | |
| CATERPILLAR | 420F | AX9E77 | 2012 | 99.9 | 3 | Backhoe | 1/15/2013 | | |
| BOBCAT | S160 | KY3G93 | 2003 | 56 | 3 | Skid steer | 1/15/2013 | | |
| KOBELCO | SK70SR | TK3Y36 | 2005 | 55 | 3 | Excavator | 1/15/2013 | | |
| SKYTRAK | 10054 | WS4M75 | 2012 | 100 | 3 | Forklift | 1/16/2013 | | |
| INGERSOLL - RAND | SD40 | WM7E75 | 2000 | 80 | 3 | Roller | 1/18/2013 | | |
| VOLVO | SD100D | AH4W67 | 2008 | 130 | 3 | Roller | 1/23/2013 | | |
| DEERE | 210LJ | UC9P95 | 2011 | 99.9 | 3 | Backhoe | 1/23/2013 | | |
| KOMATSU | WA380-6 | US8T79 | 2006 | 191 | 3 | Loader | 1/23/2013 | | |
| DEERE | 710J | XF3R63 | 2008 | 123 | 3 | Backhoe | 1/23/2013 | | |
| KOMATSU | Fd100t-8 | KP8W75 | 2009 | 173 | 3 | Forklift | 1/23/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| HYUNDAI | 160D-7E | NG7L33 | 2011 | 160 | 3 | Forklift | 2/2/2013 | | |
| DEERE | 410J | TF9M89 | 2007 | 98 | 3 | Backhoe | 2/2/2013 | | |
| SKY_TRAK | 6036 | WK4S78 | 2006 | 75 | 3 | Forklift | 2/2/2013 | | |
| CASE | 850L_LGP | MB4W34 | 2011 | 99 | 3 | Dozer | 2/2/2013 | | |
| JLG | G10-55A | LK4C88 | 2010 | 101 | 3 | Forklift | 2/2/2013 | | |
| CATERPILLAR | 430F | TP8K57 | 2012 | 115.2 | 3 | Backhoe | 2/2/2013 | | |
| DEERE | 210LE | YW3W53 | 2006 | 78 | 3 | Backhoe | 2/5/2013 | | |
| DEERE | 135D | YF8D78 | 2008 | 97 | 3 | Excavator | 2/5/2013 | | |
| SKYJACK | VR-843D | UK9H48 | 2008 | 110 | 3 | Forklift | 2/5/2013 | | |
| TEREX | PT100 | TT7L43 | 2010 | 99.9 | 3 | Loader | 2/8/2013 | | |
| DEERE | 310J | MU8F49 | 2011 | 93 | 3 | Backhoe | 2/8/2013 | | |
| CATERPILLAR | 420F | PJ4S33 | 2012 | 99.9 | 3 | Backhoe | 2/8/2013 | | |
| CATERPILLAR | 420F | SH5P56 | 2012 | 99.9 | 3 | Backhoe | 2/11/2013 | | |
| OTHER | TJ-5000 | MR6P63 | 2011 | 220 | 3 | Trucks | 2/11/2013 | | |
| JLG | G10-55A | KS9K64 | 2012 | 250 | 3 | Forklift | 2/11/2013 | | |
| JLG | G10-55A | Ty9H64 | 2012 | 150 | 3 | Aerial Lift | 2/11/2013 | | |
| HYSTER | H120FT | NM9Y89 | 2011 | 74 | 3 | Forklift | 2/11/2013 | | |
| JLG | 660SJ | PC5J79 | 2012 | 49 | 3 | Aerial Lift | 2/11/2013 | | |
| CATERPILLAR | TL943 | VT9L56 | 2011 | 99 | 3 | Forklift | 2/11/2013 | | |
| GENIE | Z45/25J | DK3J49 | 2012 | 49 | 3 | Aerial Lift | 2/19/2013 | | |
| TEREX | RT780 | VT7C39 | 2008 | 275 | 3 | Cranes | 2/19/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| JLG | 400S | UV6D76 | 2006 | 49 | 3 | Aerial Lift | 2/19/2013 | | |
| CATERPILLAR | 226B3 | NS7R98 | 2011 | 61 | 3 | Skid-steer-loaders | 2/19/2013 | | |
| DEERE | 135D | YF8D78 | 2008 | 97 | 3 | Excavator | 2/19/2013 | | |
| JLG | G6-42A | TJ4R94 | 2011 | 99 | 3 | Forklift | 2/19/2013 | | |
| GENIE | GTH-5519 | JD8F98 | 2011 | 67 | 3 | Forklift | 3/16/2013 | | |
| JLG | 10054 | CW3C83 | 2012 | 85 | 3 | Forklift | 3/16/2013 | | |
| SKY-TRAK | 10054 | VA9U73 | 2008 | 110 | 3 | Forklift | 3/16/2013 | | |
| OTHER | XRM1254 | EP7D46 | 2006 | 122 | 2 | Aerial Lift | 3/16/2013 | | GFE Received |
| TEREX | RT780 | LP9U53 | 2007 | 275 | 3 | Cranes | 3/16/2013 | | |
| HITACHI | ZX300LC | PF9G47 | 2005 | 200 | 2 | Excavator | 3/16/2013 | | GFE Received |
| VOLVO | BL60 | BK6U58 | 2012 | 83 | 3 | Backhoes | 3/18/2013 | | |
| JLG | G10-55A | NJ3A43 | 2013 | 130 | 3 | Forklift | 3/18/2013 | | |
| HYSTER | H360HD2 | BF6N74 | 2012 | 155 | 3 | Forklift | 3/18/2013 | | |
| GRADALL | 544D | MN3Y45 | 2005 | 200 | 2 | Forklift | 3/19/2013 | | GFE Received |
| CASE | 580SM/2 | SH8S69 | 2007 | 95 | 2 | Backhoes | 3/22/2013 | | Onsite but not In use |
| CARELIFT | ZB20044-44 | KV9A38 | 2011 | 160 | 3 | Forklift | 3/25/2013 | | |
| VOLVO | ECR88 | RL9G83 | 2012 | 57 | 3 | Excavator | 3/28/2013 | | |
| JLG | G10-55A-CAB | WU9J47 | 2011 | 130 | 3 | Forklift | 3/28/2013 | | |
| CASE | 580-SN | RT9H99 | 2011 | 97 | 3 | Backhoes | 3/29/2013 | | |
| JLG | G10-55A | WW6W44 | 2011 | 130 | 3 | Forklift | 3/29/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| CATERPILLAR | TL1255 | SU4H58 | 2011 | 138 | 3 | Forklift | 3/29/2013 | | |
| HYSTER | H210 | KH9A63 | 2004 | 195 | 2 | Forklift | 3/29/2013 | | GFE Received |
| JLG | G6-42A | JT4R94 | 2011 | 99 | 3 | Forklift | 3/16/2013 | | |
| JLG | G10-55A | UB3R85 | 2007 | 140 | 3 | Forklift | 3/26/2013 | | |
| GENIE | TH1056C | HX5Y45 | 2005 | 125 | 2 | Forklift | 3/29/2013 | | GFE Received |
| VOLVO | ERC145DL | RB7E53 | 2012 | 114 | 3 | Excavator | 4/2/2013 | | |
| INGERSOLL-RAND | SD45D/F | ES5C78 | 2006 | 80 | 2 | Roller | 4/2/2013 | | GFE Received |
| VOLVO | SD43D/F | TY8A44 | 2007 | 80 | 2 | Paver | 4/2/2013 | | GFE Received |
| CATERPILLAR | D8T | WJ8T88 | 2006 | 310 | 3 | Tractors/Loaders/Backhoes | 4/2/2013 | | |
| SKY-TRAK | 10054 | KB9Y73 | 2012 | 110 | 3 | Forklift | 4/2/2013 | | |
| DEERE | 200D | AB7M73 | 2011 | 159 | 3 | Excavator | 4/2/2013 | | |
| LIEBHERR | LTM_1220-5.1 | AD6Y38 | 2008 | 496 | 3 | Crane | 4/3/2013 | | |
| CATERPILLAR | 345DL | EC8J65 | 2008 | 410 | 3 | Excavator | 4/3/2013 | | |
| VOLVO | L90G | UM9N34 | 2012 | 161 | 3 | Tractors/Loaders/Backhoes | 4/3/2013 | | |
| VOLVO | L90G | KR7W43 | 2012 | 161 | 3 | Tractors/Loaders/Backhoes | 4/3/2013 | | |
| VOLVO | SD-100D | VU9S58 | 2008 | 130 | 3 | Roller | 4/4/2013 | | |
| DEERE | JD450JLT | KM3W94 | 2010 | 77 | 3 | Other | 4/4/2013 | | |
| GRADALL | G6-42P | VH3R63 | 2005 | 99 | 2 | Other | 4/4/2013 | | GFE Received |
| GRADALL | G6-42A | AR6S85 | 2006 | 99.9 | 2 | Forklift | 4/4/2013 | | GFE Received |
| KOMATSU | PC400LC-7EO | TA7R86 | 2006 | 353 | 3 | Backhoe | 4/4/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| INGERSOLL-RAND | SD116DX | HT4J67 | 2007 | 160 | 3 | Roller | 4/4/2013 | | |
| OTHER | TJ-5000 | VG9N57 | 2012 | 220 | 3 | Truck | 4/5/2013 | | |
| TEREX | RT-780 | TH9R77 | 2005 | 275 | 2 | Other | 4/9/2013 | | GFE Received |
| MANITOWOC | 16000 | WC8X98 | 2010 | 500 | 3 | Crane | 4/11/2013 | | |
| TEREX | RT-230 | SP8M78 | 2012 | 130 | 3 | Crane | 4/11/2013 | | |
| CATERPILLAR | 328D | ME3U69 | 2010 | 204 | 3 | Excavator | 4/12/2013 | | |
| SANY-HEAVY-IND | SRC840_RT | VE4C37 | 2012 | 408 | 3 | Crane | 4/12/2013 | | |
| GENIE | Z45/25J-DSL-4WD | NK9E56 | 2006 | 48 | 2 | Aerial Lift | 4/17/2013 | | GFE Received |
| GENIE | GTH-1056 | BG9E85 | 2012 | 139 | 3 | Forklift | 4/17/2013 | | |
| JLG | 10054 | JR6U95 | 2008 | 110 | 3 | Forklift | 4/17/2013 | | |
| DEERE | 318D | LW3B46 | 2011 | 76.1 | 3 | Tractors/Loaders/Backhoes | 4/17/2013 | | |
| SKY-TRAK | SJ46AJ | MY4T53 | 2012 | 49 | 3 | Aerial Lift | 4/17/2013 | | |
| SKY_TRAK | 10K_RCHLFT | KV5C43 | 2007 | 110 | 3 | Forklifts | 5/1/2013 | | |
| VOLVO | ECR305CL | VT9L86 | 2010 | 205 | 3 | Excavator | 5/2/2013 | | |
| DEERE | 210LJ | UC3K76 | 2008 | 99 | 3 | Backhoes | 5/2/2013 | | |
| TEREX | RT345 | JS3S84 | 2011 | 160 | 3 | Cranes | 5/6/2013 | | |
| MASSEY-FERGUSON | 6255 | GA8S84 | 2003 | 93 | 1 | Tractor | 5/8/2013 | 5/16/2013 | Offsite |
| GRADALL | 544D | EU9X67 | 2000 | 130 | 1 | Forklifts | 5/9/2013 | 5/10/2013 | Offsite |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| BOBCAT | T190 | WS8X94 | 2010 | 66 | 3 | Loaders | 5/13/2013 | | |
| CATERPILLAR | 966H | WM3B35 | 2007 | 261 | 3 | Loaders | 5/17/2013 | | |
| SKY_TRAK | 10K_RCHLFT | RA7A36 | 2007 | 110 | 3 | Forklifts | 5/20/2013 | | |
| CATERPILLAR | 297C | BT6X94 | 2007 | 94 | 2 | Loaders | 5/30/2013 | 6/5/2013 | Offsite |
| CATERPILLAR | TH460B | EH3K78 | 2005 | 100 | 1 | Lifts | 6/4/2013 | 6/6/2013 | Offsite |
| SKY_TRAK | 10054 | CS5E84 | 2012 | 100 | 3 | Forklifts | 6/5/2013 | | |
| JCB | 527-55 | TJ8X64 | 2012 | 75 | 3 | Forklifts | 6/5/2013 | | |
| LJG | G10-55A | BJ5B48 | 2012 | 130 | 3 | Forklifts | 6/6/2013 | | |
| GEHL | DL11L-55 | US9P64 | 2008 | 115 | 3 | Forklifts | 6/6/2013 | | |
| JLG | 800S | CY3K64 | 2007 | 65 | 2 | Lifts | 6/7/2013 | 6/17/2013 | Offsite |
| DEERE | 326D | CX5A73 | 2011 | 75 | 3 | Loaders | 6/7/2013 | | |
| LINK-BELT | RTC 8075 | FN9D69 | 2009 | 225 | 3 | Cranes | 6/7/2013 | | |
| JLG | 120AJP_125A RT | JE6P64 | 2011 | 74 | 3 | Lifts | 6/7/2013 | | |
| SNORKEL | T65RTCU | EG4G76 | 2008 | 65 | 3 | Lifts | 6/7/2013 | | |
| GENIE | Z-80/60J-W/GEN | AX5A64 | 2010 | 73 | 3 | Lifts | 6/10/2013 | | |
| JLG | 800AJ | CY4A37 | 2011 | 50 | 3 | Lifts | 6/10/2013 | | |
| DEERE | 310SJ | MC7U99 | 2010 | 93 | 3 | Backhoes | 6/14/2013 | | |
| DEERE | 544K | SR5B39 | 2010 | 167 | 3 | Backhoes | 6/14/2013 | | |
| DEERE | 310SJ | CE6E43 | 2007 | 93 | 2 | Backhoes | 6/14/2013 | 6/18/2013 | Offsite |
| CASE | 821F | PB4E64 | 2011 | 169 | 3 | Backhoes | 6/14/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| GROVE | RT765E-2 | LV6V74 | 2013 | 240 | 3 | Cranes | 6/17/2013 | | |
| DEERE | 310SG | NA3P73 | 2006 | 93 | 2 | Backhoes | 6/18/2013 | 6/19/2013 | Offsite |
| TEREX | RT_780 | UA6T98 | 2006 | 275 | 3 | Cranes | 6/19/2013 | | |
| CATERPILLAR | D8T | JB5X88 | 2004 | 310 | 2 | Tractors | 7/1/2013 | 7/8/2013 | Offsite |
| KOMATSU | PC308USL_3 | WG8P59 | 2005 | 189 | 2 | Excavators | 7/1/2013 | 7/9/2013 | Offsite |
| CATERPILLAR | D8T | XF9M63 | 2006 | 310 | 3 | Tractors | 7/2/2013 | | |
| GENIE | Z-13570 | YK7C77 | 2010 | 74 | 3 | Lifts | 7/8/2013 | | |
| TEREX | RT555 | WS6S45 | 2005 | 185 | 2 | Cranes | 7/8/2013 | 7/18/2013 | Offsite |
| SKY JACK | SJ66T | BP6P88 | 2012 | 64 | 3 | Lifts | 7/11/2013 | | |
| JLG | 800AJ | CS9L37 | 2008 | 62 | 3 | Lifts | 7/16/2013 | | |
| DEERE | 210KEP | BY5Y84 | 2012 | 70 | 3 | Backhoes | 8/5/2013 | | |
| HITACHI | 225 | AF8C99 | 2011 | 159 | 3 | Excavators | 8/5/2013 | | |
| CATERPILLAR | 325DL | AN8W58 | 2008 | 204 | 3 | Excavators | 8/5/2013 | | |
| SKY-TRAK | 10054 | MM7D49 | 2007 | 110 | 3 | Forklifts | 9/4/2013 | | |
| TEREX | RT780 | LD9M99 | 2007 | 275 | 3 | Cranes | 9/4/2013 | | |
| CATERPILLAR | 450E | XH8D54 | 2007 | 157 | 3 | Backhoes | 9/4/2013 | | |
| DEERE | 210LE | PA4G55 | 2006 | 78 | 2 | Backhoes | 9/10/2013 | 9/17/2013 | |
| DEERE | 624K | XP9L79 | 2008 | 146 | 3 | Loaders | 9/10/213 | | |
| SKY-TRAK | 10054 | XK6T97 | 2004 | 110 | 2 | Lifts | 9/13/2013 | 10/11/2013 | GFE could not be obtained. Equipment was removed from site. |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| SNORKEL | TB-85J | RL5M33 | 2007 | 64 | 2 | Lifts | 9/13/2013 | 9/17/2013 | |
| SANY-HEAVY-IND | SRC865-RT | TS5P46 | 2010 | 250 | 3 | Cranes | 9/13/2013 | | |
| JLG | 800AJ-80ART-BO | DV7H57 | 2011 | 56 | 3 | Lifts | 9/17/2013 | | |
| JLG | SKYTRK-10K-RCH | SA4S95 | 2007 | 110 | 3 | Forklifts | 9/17/2013 | | |
| LIEBHERR | LR1200SX | AH8E76 | 2007 | 362 | 3 | Cranes | 9/17/2013 | | |
| GENIE | GTH-5519 | NA4U95 | 2012 | 67 | 3 | Forklifts | 9/17/2013 | | |
| SKY-TRAK | 1054-10,000-RCH | EU8D48 | 2006 | 82 | 2 | Forklifts | 9/19/2013 | 10/11/2013 | GFE could not be obtained. Equipment was removed from site. |
| VOLVO | SD45 | HE8X95 | 2011 | 99 | 3 | Rollers | 9/19/2013 | | |
| LIEBHERR | LR1200SX | SY5B57 | 2006 | 362 | 3 | Cranes | 9/19/2013 | | |
| DEERE | 310SJ | WX9R94 | 2011 | 75 | 3 | Backhoes | 9/20/2013 | | |
| SKY-TRAK | 10054 | GL9X33 | 2010 | 110 | 3 | Forklifts | 9/20/2013 | | |
| GEHL | DL1240 | DV3U39 | 2013 | 115 | 3 | Forklifts | 9/20/2013 | | |
| GRADALL | 534D9 | WM5W94 | 2011 | 110 | 3 | Forklifts | 9/23/2013 | | |
| SKY-TRAK | 8042 | EU5S37 | 2012 | 71 | 3 | Forklifts | 9/23/2013 | | |
| JLG | G12-55A | SW6X98 | 2011 | 130 | 3 | Forklifts | 9/24/2013 | | |
| VOLVO | MCT135C | MS7Y68 | 2011 | 91 | 3 | Loaders | 9/26/2013 | | |
| JLG | SKYTRK-10K-RCH | AJ66D98 | 2007 | 110 | 3 | Forklifts | 9/27/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| GENIE | Z-80/60 | PJ3W77 | 2008 | 74 | 3 | Lifts | 9/27/2013 | | |
| GENIE | GHT-1056 | TR6F45 | 2013 | 121 | 3 | Forklifts | 9/27/2013 | | |
| CASE | 580N | SX5S95 | 2011 | 84 | 3 | Backhoes | 10/2/2013 | | |
| GROVE | RT880E | BN6H96 | 2013 | 275 | 3 | Cranes | 10/2/2013 | | |
| JLG | G6-42A | XR9V66 | 2011 | 69 | 3 | Forklifts | 10/2/2013 | | |
| CATERPILLAR | TL1255C | DX9N76 | 2013 | 141 | 3 | Forklifts | 10/4/2013 | | |
| JLG | 800AJ | MY6J77 | 2012 | 62 | 3 | Lifts | 10/4/2013 | | |
| JLG | G-1055A | LU4S88 | 2008 | 125 | 3 | Forklifts | 10/7/2013 | | |
| JLG | 600S | DA7J87 | 2012 | 49 | 3 | Lifts | 10/7/2013 | | |
| Other | XRM1254 | NV8S66 | 2005 | 122 | 2 | Lifts | 10/7/2013 | 10/17/2013 | Offsite |
| TEREX | RT780 | CJ4V77 | 2012 | 260 | 3 | Cranes | 10/7/2013 | | |
| LIEBHERR | LR1200 | RA6Y75 | 2006 | 362 | 3 | Cranes | 10/9/2013 | | |
| SKY-TRAK | 1054-10,000-RCH | MC9W76 | 2007 | 110 | 3 | Forklifts | 10/10/2013 | | |
| LIEBHERR | LR1200SX | NU9L79 | 2007 | 362 | 3 | Cranes | 10/10/2013 | | |
| CATERPILLAR | 430E | FE4P69 | 2008 | 95 | 3 | Backhoes | 10/16/2013 | | |
| SKY-TRAK | 8042-CAB | SG3T73 | 2011 | 110 | 3 | Forklifts | 10/16/2013 | | |
| DEERE | 310K | WG6W88 | 2013 | 56 | 3 | Backhoes | 10/16/2013 | | |
| JLG | 6042 | FA7K37 | 2013 | 85 | 3 | Forklifts | 10/18/2013 | | |
| JLG | G5-19A | AB8T34 | 2006 | 100 | 3 | Forklifts | 10/18/2013 | | |
| GENIE | GTH-1056 | PL9W36 | 2013 | 121 | 3 | Forklifts | 10/22/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| TOYOTA | 50-4FDK160 | WK4X75 | 2011 | 168 | 3 | Forklifts | 10/22/2013 | | |
| CASE | 580N | TX5K58 | 2011 | 84 | 3 | Backhoes | 10/23/2013 | | |
| LINK-BELT | 225MSR | KG3E74 | 2011 | 163 | 3 | Excavators | 10/25/2013 | | |
| GENIE | S65 | TH8R79 | 2012 | 49 | 3 | Lifts | 11/4/2013 | | |
| JLG | 10054 | KL5S59 | 2012 | 100 | 3 | Forklifts | 11/7/2013 | | |
| BOMAG | BW120AD_4 | VU8F45 | 2006 | 34 | 2 | Rollers | 11/8/2013 | 11/15/2013 | Offsite |
| GROVE | TM9120 | VC3C38 | 1993 | 460 | 0 | Cranes | 11/12/2013 | 11/14/2013 | Offsite |
| CASE | 580N | TX5K58 | 2011 | 84 | 3 | Backhoes | 11/12/2013 | | |
| SKY-TRAK | 10054 | HL8E83 | 2012 | 110 | 3 | Forklifts | 11/25/2013 | | |
| JCB | 3CX14-4EC | TP4C93 | 2011 | 68 | 3 | Backhoes | 11/25/2013 | | |
| HYSTER | H360HD | CU5C99 | 2007 | 155 | 3 | Forklifts | 11/25/2013 | | |
| DEERE | 310J_EP | TP5F67 | 2013 | 70 | 3 | Backhoes | 11/26/2013 | | |
| JLG | G6-42A | DL9T78 | 2011 | 69 | 3 | Forklifts | 11/27/2013 | | |
| TREX | RT345XL | JS3S84 | 2011 | 160 | 3 | Cranes | 11/27/2013 | | |
| JLG | G10-55A | TY9H64 | 2012 | 130 | 3 | Aerial Lifts | 12/12/2013 | | |
| JLG | G10-55A | UC3F55 | 2012 | 174 | 3 | Forklifts | 12/12/2013 | | |
| JCB | 550-170 | PW7E59 | 2012 | 99 | 3 | Forklifts | 12/16/2013 | | |
| JLG | 800AJ | VD8B84 | 2013 | 61.6 | 3 | Aerial Lifts | 12/16/2013 | | |
| GEHL | DL1155 | XB7G76 | 2013 | 115 | 3 | Forklifts | 12/16/2013 | | |
| TEREX | RT450 | MT8A46 | 2011 | 275 | 3 | Cranes | 12/16/2013 | | |
| SKY-TRAK | 10054 | BD7B67 | 2008 | 110 | 3 | Forklifts | 12/20/2013 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| JLG | 600AJ | WV7C48 | 2007 | 65 | 3 | Aerial Lifts | 12/23/2013 | | |
| GENIE | Z-80 | BE5Y85 | 2010 | 74 | 3 | Aerial Lifts | 12/23/2013 | | |
| OTTOWA | TJ-1000 | SH9Y35 | 2010 | 220 | 3 | Trucks | 1/3/2014 | | |
| Other | TJ-5000 | PV5L96 | 2007 | 280 | 3 | Tractors | 1/7/2014 | | |
| Other | TJ-5000 | BY5E66 | 2007 | 280 | 3 | Tractors | 1/8/2014 | | |
| TRAK | 8042 | UN8Y65 | 2012 | 100 | 3 | Forklifts | 1/13/2014 | | |
| TRAK | 10054 | HF8X98 | 2006 | 110 | 2 | Forklifts | 1/18/2014 | 1/28/2014 | Offsite |
| GEHL | DL 1155 | UT5Y35 | 2012 | 115 | 3 | Forklifts | 1/20/2014 | | |
| SKY_TRAK | 10054L | DV4V97 | 2012 | 100 | 3 | Forklifts | 2/3/2014 | | |
| JLG | 800S | CY3K64 | 2007 | 65 | 2 | Lifts | 2/5/2014 | 2/12/2014 | Offsite |
| SKY_TRAK | 10054 | MX6V88 | 2013 | 100 | 3 | Lifts | 2/5/2014 | | |
| CATERPILLAR | TL 1055C | DT8W55 | 2012 | 125 | 3 | Forklifts | 2/10/2014 | | |
| JLG | 10K | PJ9M37 | 2007 | 110 | 3 | Forklifts | 2/12/2014 | | |
| TEREX | RT_780_80TON | MR9U89 | 2005 | 275 | 2 | Cranes | 2/14/2014 | 2/19/2014 | Offsite |
| GENIE | GTH_5519 | BD9T36 | 2012 | 67 | 3 | Forklifts | 2/18/2014 | | |
| TEREX | TX5519 | TU3D58 | 2006 | 62 | 2 | Forklifts | 2/18/2014 | 2/25/2014 | Offsite |
| DEERE | 210K | AE9V73 | 2013 | 56 | 3 | Backhoes | 3/10/2014 | | |
| JLG | 10054 | RC6M93 | 2012 | 75 | 3 | Forklifts | 3/12/2014 | | |
| DEERE | 310K | NL6C48 | 2013 | 130 | 3 | Backhoes | 3/12/2014 | | |
| CASE | 580N | SX5S95 | 2011 | 84 | 3 | Backhoes | 3/18/2014 | | |

| Construction Equipment for Mojave Solar Project – April 2014 Equipment Inventory | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Manufacturer** | **Model** | **EIN** | **Engine Year** | **Horse Power** | **Engine Tier** | **Vehicle Type** | **Date Arrived** | **Date Left Site** | **Comments** |
| OTHER | TJ-5000 | VT5V79 | 2007 | 280 | 3 | Tractors | 3/20/2014 | | |
| JLG | C6-42A | TX8D67 | 2012 | 100 | 3 | Forklifts | 3/20/2014 | | |
| OTHER | XRM1254 | EK9A69 | 2008 | 99 | 3 | Lifts | 3/21/2014 | | |
| SKY-TRAK | 10054 | GM7C76 | 2013 | 100 | 3 | Forklifts | 3/25/2014 | | |
| JLG | 800AJ | JF5J83 | 2002 | 64.5 | 0 | Lifts | 3/25/2014 | 3/28/2014 | Offsite |
| JLG | G6-42A | UH3U65 | 2011 | 99 | 3 | Forklifts | 3/27/2014 | | |
| JCB | 930 | XN9J99 | 2011 | 84 | 3 | Forklifts | 3/27/2014 | | |

# Appendix B
# Biological Resources

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

# Biological Resources Monthly Monitoring Report Conditions of Certification BIO-2, BIO-3, BIO-4, BIO-5, BIO-7, BIO-11, BIO-14, BIO-18

April 2014 Reporting Period

Prepared for:

**Mojave Solar LLC**

13911 Park Avenue, Suite 206
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Prepared by:

CH2MHILL®

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May 2014

## Table of Contents



## List of Figures



## List of Attachments

# 1 Introduction

Per the California Energy Commission's (CEC) Abengoa Mojave Solar Project Commission Decision, CEC-800-2010-008-CMF, Docket Number 09-AFC-5C, this monthly compliance report (MCR) summarizes compliance with biological resource protection requirements during construction activities from April 1 through April 30, 2014, on the Mojave Solar Project (MSP) in San Bernardino County, California (see Figure 1, figures are at the end of this report).

This report does not repeat information provided in previous MCRs and assumes environmental compliance was met unless otherwise noted.

As provided in the CEC Final Decision, the following biological conditions of certification (COC) pertaining to monitoring activity covered by this MCR include, but are not limited to:

- BIO-2 Designated Biologist Duties
- BIO-3 Biological Monitor Selection, Qualifications and Duties
- BIO-4 Designated Biologist and Biological Monitor Authority
- BIO-5 Worker Environmental Awareness Program (WEAP)
- BIO-6 Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance
- BIO-7 Impact Avoidance and Minimization Measures
- BIO-11 Desert Tortoise (*Gopherus agassizii*) Exclusion Fencing, Clearance Surveys, and Translocation Plan
- BIO-14 American Badger (*Taxidea taxus*) and Desert Kit Fox (*Vulpes macrotis*) Impact Avoidance and Minimization Measures
- BIO-18 Common Raven (*Corvus corax)* Monitoring, Management, and Control

This MCR is also being provided to California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS).

## 1.1 Status of Biological Staff

Attachment 1 provides a summary table of the biological staff submitted for approval on this project and the status of their agency approvals. In April, no new biological monitors were submitted to the agencies for approval. Two CEC-approved biological monitors, Mark Bratton and Ed Morgan are pending USFWS approval as desert tortoise Authorized Biologists.

# 2 Ongoing Construction Monitoring

This section summarizes biological monitoring activities conducted by CH2M HILL throughout April 2014.

Please refer to sections "Desert Tortoise," "Invasive Weed Species," "Kit Fox and Other Mammals," "Nesting Birds," "Raven Monitoring, Management, and Control," "Wildlife

Injury and Mortalities," and "Other Species" for specific information about wildlife and plants found by biological monitors in April.

The MSP requires that all onsite staff receive the WEAP training (via DVD) and a brochure prior to start of work. A total of 376 new staff went through WEAP training in April 2014. Attachment 2 provides an ongoing summary table of the project's WEAP attendance and the hard copy sign-in training logs for April 2014.

On a typical construction day, one biological monitor or designated biologist:

- Monitors Harper Dry Lake Road at least every 3 hours during the desert tortoise active period (April through May). Due to desert tortoise observations on Harper Lake Road, biological staff monitored the road more often than every 3 hours during the morning and afternoons and when temperatures are optimal for tortoise movement;
- Monitors active construction areas, parking lots, laydown yards, and any areas of potential threat to vegetation, soils, or wildlife;
- Inspects desert tortoise exclusion fences and tortoise guards as required;
- Inspects potential entrapment areas (e.g., trenches);
- Monitors for formation of potential standing water;
- Inspects kit fox exclusion buffers and downloads motion-sensor cameras at shelter sites;
- Conducts raven observations and point-count surveys;
- Conducts bi-weekly breeding season raven nest search surveys (March through June);
- Receives reports of hazardous waste spills to the designated biologist;
- Inspects pipes greater than 3 inches in diameter that are less than 8 inches above the ground surface; and
- Performs other special biological-resources-related activities, as required.

## 2.1 Construction Activities

In April, construction activities occurred in all project sectors with the highest concentration in the Alpha and Beta power block areas. In Alpha, ground disturbance included various foundations, bore holes, buildings, water connections, trenching for grounding, stair landings, trenching for water connections, pressure testing and insulating heat transfer fluid (HTF) pipes. In Beta, ground disturbance included various foundations, buildings, water connections, stair landings, insulating HTF pipes, trenching for grounding, trenching in solar fields for cables, and block for water connections. Additionally, systematic trash removal by sector continued during the month and maintenance of desert tortoise guards and exclusion fences occurred on an as-needed basis. The construction schedule includes day and night shifts during the regular work week and limited shifts on weekends.

The new Beta well construction and testing continued in April. Due to anticipated discharges, biological staff checked the wetland discharge pipe on a daily basis.

### 2.1.1 Desert Tortoise Exclusion Fence Repairs

In April, biological staff made comprehensive weekly inspections of the perimeter desert tortoise exclusion fence, which is more frequent than the monthly fence inspections required by BIO-11 and the Biological Opinion.

## 2.2 Rain Events

No rain events occurred in April.

The evaporation ponds continued to hold water throughout April from rain events earlier in the season. As of April 30, the water had evaporated. Per the email sent to the CEC on September 12, 2013, evaporation ponds were monitored several times a day by biological staff and any use or activity by bird life was recorded. Abeinsa Engineering, Procurement, Construction (AEPC) contractor is pursuing implementing bird deterrents during the construction phase, which are required during operations by the Evaporation Pond Monitoring and Adaptive Management Plan (COC BIO-19).

## 2.3 Hazardous Material Spills

One hazardous spill was reported at MSP in April. A portable generator was leaking diesel fuel and construction staff cleaned up the spill and put secondary containment in place.

The commissioning team continued using HTF for the final pressure testing on the Alpha and Beta pipes in April. Due to the hazardous nature of HTF and the environmental concern for prompt cleanup, biological staff worked with AEPC for a solution that would meet both BIO-7 requirements that the designated biologist be immediately notified of hazardous materials spills and the other project-specific environmental cleanup requirements. The purpose of notifying biological staff immediately is to ensure that cleanup is timely and sufficient to minimize the risk to wildlife. Because drips of HTF were anticipated during the pressure testing phase and cleanup by trained hazardous materials personnel is immediate, biological staff agreed that nominal drips that result in approximately 2 pints of soil contamination (approximately one shovel full) could be reported at the end of the week. Once AEPC reports, and the area is opened for safe entry by general construction personnel, then biological staff systematically confirm that cleanup was conducted for each reported spill. AEPC staff will immediately notify biological staff of any hazardous material spill of HTF that is greater than pressure testing drips (approximately one shovel full of contaminated soil) or any other hazardous material.

During April, numerous HTF pressure testing drips were reported and assessed by biological staff.

## 2.4 Non-compliance Notifications and Reports

No formal non-compliance notifications or incident reports were issued to MSP in April.

## 2.5 Compliance Concerns

Biological staff managed several other biological compliance issues. They are described below.

### 2.5.1 Trash

Since the beginning of the year, trash disposal and control at MSP is the best that we have seen it; however, trash compliance does not yet meet permit requirements although it is slowly improving.

Despite improvements to trash disposal, some of the smaller AEPC sub-contractors were still out of compliance on trash management in April. Biological staff engaged these contractors in the field regarding ongoing food waste issues such as attracting wildlife by using unapproved containers, overflowing containers, etc. Repeat offenders and refusals to comply with guidance from biological staff were referred to AEPC Health and Safety who resolved the issue. AEPC also prepared notices for buggies stating that loose trash in the bed is against workplace rules and to please remove. Daily removal of trash from site has proven unattainable as no waste management service is available to AEPC to provide daily service. Consequently, AEPC replaced small waste bins with larger bins that are less likely to overflow between service intervals. Biological staff feel like the issue is being slowly resolved.

### 2.5.2 Unauthorized Access

Unauthorized site access is an ongoing concern. In April, biological staff were notified of vehicles using unauthorized roads to bypass traffic on Harper Lake Road, or using site perimeter roads. However, these instances could not be verified, and therefore, the vehicles could not be confirmed to be associated with MSP.

At the end of April, biological staff observed three vehicles using the railroad frontage road to avoid traffic. Designated biologists engaged the CEC and asked that AEPC be allowed a short time to correct the issue. The next day, AEPC dismissed two of the three offenders from the site. Despite AEPC's standing policy of immediate dismissal for offending employees and regularly addressing the policy and concerns in workplace meetings, the violations occurred. AEPC is currently implementing additional measures to curtail the violations.

### 2.5.3 Offsite Parking

Temporary and long-term offsite parking was observed by biological staff in April. MSP staff were observed temporarily parking offsite along Lockhart Road to load and unload shipments, stage construction vehicles, or speak on the phone. Both biological and AEPC staff engaged the operator of the vehicle and instructed them to conduct construction business within the desert tortoise guards or to inspect underneath the vehicle for desert tortoise prior to moving. In cases of long-term storage when the operator was not present, biological staff deferred to AEPC who flagged the vehicle with a notice of the violation.

Due to changing parking requirements onsite, ten vehicles parked offsite along Harper Lake Road north of Alpha West and three vehicles parked on Lockhart Road south of Alpha West. AEPC informed biological staff that legal constraints prevented having vehicles towed that were parked off of MSP property. The individual vehicles were, however, flagged by AEPC with a notice referencing disciplinary action and the issue addressed in safety meetings. No repeat offenses occurred as a result.

### 2.5.4 Wildlife Entrapment

As reported in the March MCR, a dead northern flicker (*Colaptes auratus*) was found in the HTF tunnel under Harper Lake Road. As requested by biological staff, AEPC provided wildlife exclusion netting at two out of the four "gate house" openings. Because the second gate house was still under construction, biological staff has allowed a short time after construction was completed for AEPC to install exclusion netting to prevent wildlife entrapment.

## 2.6 Desert Tortoise

In April, no construction activities required desert tortoise clearance surveys.

Two desert tortoises were observed by biological staff on Harper Lake Road in April (Figure 2); a third desert tortoise observation from Harper Lake Road was observed by construction staff but reported at a later date. No desert tortoises were observed on the project site. MSP staff also reported numerous desert tortoise sightings outside of the project jurisdiction, but within the vicinity of the project access road. According to email guidance from Ray Bransfield/USFWS on April 7, the designated biologist implemented a slight change in protocol that MSP staff are encouraged to, if safe to do so, move a desert tortoise from the road if it is in imminent danger.

On April 8, an adult male desert tortoise was found by MSP staff on Harper Lake Road and the USFWS Authorized Biologist (AB) was notified immediately. The tortoise was found approximately 300 feet north of State Route 58 (Figure 2, Photograph 1). Biological staff monitored the safety of the tortoise until it walked to the east away from Harper Lake Road on its own. The USFWS Authorized Biologist did not handle the individual. The individual had no signs of disease or trauma and appeared healthy. The individual did not void its bladder during the observation. Approximate midline carapace length (MCL) was 200 mm.

On April 28, biological staff observed an adult male desert tortoise adjacent to Harper Lake Road just south of the Burlington Northern Santa Fe (BNSF) railroad tracks (Figure 2; Photograph 2). Presumably, the individual had found a break in the desert tortoise fence and was within the two desert tortoise fences on either side of Harper Lake Road. As it began to walk on the inside of the desert tortoise fence along the road, the USFWS AB picked it up and placed it on the outside of the desert tortoise fence. Biological staff monitored the tortoise as it moved between shrubs approximately 100 feet away from Harper Lake Road. At approximately 7:00 p.m., the USFWS AB relocated the individual approximately one mile east of Harper Lake Road to an inactive burrow (Photograph 3).

Photograph 1. Adult male desert tortoise observed on April 8 near intersection between Harper Lake Road and State Route 58.

The relocation was timed to occur during a cooler temperature (79 degrees F) and at the end of the day to discourage immediate movement back toward Harper Lake Road. The tortoise did not void its bladder during the interaction.

Photographs 2 and 3. Adult male desert tortoise observed on April 28. The individual was relocated by the USFWS AB to an inactive burrow away from Harper Lake Road.

The desert tortoise observed on April 28 (Photographs 2 and 3) was distinctive (i.e., gnaw marks and bone scute replacement on the carapace and gular, approximate MCL 180mm) from the individual observed on April 8 (Photograph 1). No outward signs of disease were observed and the individual appeared healthy.

A third tortoise, observed on April 16, was reported to biological staff by AEPC on April 22. The individual was reportedly observed outside of the desert tortoise fence near the BNSF

railroad intersection with Harper Lake Road. Although not a permit violation, the biological staff sent out a site-wide reminder requesting MSP staff report desert tortoise observations immediately so that the biological staff can monitor the situation.

The designated biologists have observed increasing deterioration of the existing desert tortoise fence along Harper Lake Road. This is a concern because a desert tortoise could become trapped on the road between the fences. There are several other roads that intersect Harper Lake Road that are open to the public and would potentially allow desert tortoise access onto Harper Lake Road including BNSF railroad frontage road, gas or fiber optic line access road, transmission line roads, Roy and Santa Fe roads. Consequently, the biologists are monitoring the road more frequently.

## 2.7 Invasive Weeds

One target invasive weed was observed in April: London rocket (*Sisymbrium irio*). This species is included in the California Invasive Plant Council (Cal-IPC) "high" or "moderate" dispersal or establishment rating and in the project *Tamarisk Eradication, Monitoring and Reporting Program* (Tamarisk Plan). Two other weed species, Russian thistle (*Salsola tragus*) and five-horn smother-weed (*Bassia hyssopifolia*) were also observed onsite. Both of these species have only one of the Cal-IPC dispersal or establishment rating as "high" or "moderate." Although these two species are not required to be removed per the Tamarisk Plan, the site must be devoid of vegetation during operations. Therefore, they will ultimately need to be removed. The designated biologists are waiting for CEC staff response to whether or not the Tamarisk Plan needs to be amended to include these two species.

Because London rocket is establishing throughout the solar fields, roads and fence lines, AEPC is preparing to apply herbicide or burn where appropriate to control this species.

## 2.8 Kit Fox and Other Mammals

As of the end of April there are four active kit fox shelter sites, DKF #3, 5, 6, and 7, in one wide 500-foot by 250-foot exclusion buffer in Alpha West solar field (Figure 2). All sites were continuously active throughout April by two adult kit foxes.

On April 7, the kit fox pups emerged from the den for the first time. There are a total of five pups. The pups' activity level increased throughout the month and as of April 30 they are now making exploratory trips away from the shelter site as observed by biological staff during the day.

Motion sensor cameras recorded consistent activity by two adult kit foxes and their pups at DKF #5 until April 16. On April 16, pups relocated a short distance over to DKF #7. DKF #3 was intermittently used by one adult kit fox and occasionally the pups at any given time.

Biological staff inspected the integrity of the exclusion buffer and downloaded the motion-sensor camera on a daily basis.

On April 1, 8, 9, 10, 11, 18, 24, 25, and 28 biological staff monitored construction crews working within the 250-foot exclusion buffer. Prior to working within the buffer, construction crews signed a protocol verifying their understanding of correct procedure within the exclusion buffer. Additionally, all construction crews were verbally briefed

before entering the buffer. Due to the presence of pups, the biological staff limited construction crews to walking within the buffer and limited driving to less than 5 mph when driving within the exclusion area. Prior to working within the buffer, biological staff checked the motion sensor camera to confirm whether the kit fox was within the shelter site. Depending on the type of construction activity, biological monitors also closed the adjacent solar field perimeter road to ensure that the kit fox would have a clear escape path if they exited the shelter sites.

In April, there were also numerous observations of kit fox by construction personnel throughout the site (Figure 2). The most common sighting was passing through the Alpha West and Alpha East security gates in the early morning. Additionally, signs of kit fox activity (including tracks and scat) were also found in Beta West and East.

## 2.9 Nesting Birds

In April, biological monitors continued to look for potential bird nesting behavior in the Alpha and Beta cooling towers by black-throated sparrows (*Amphispiza bilineata*), or other birds protected by the a Migratory Bird Treaty Act (MBTA). Biological staff also observed mixed use of the area by house sparrows (*Passer domesticus*), which is not a MBTA-protected species.

On April 1, biological staff installed electronic bird deterrent devices and hawk decoys for placement in the Alpha and Beta cooling towers, which was approved via email from Dale Rundquist/CEC and other agencies on March 12. Biological staff monitored the effectiveness of the bird deterrents throughout the month and noted bird nesting behavior decreased. Additionally, biological staff observed fewer birds using the structure as a perch. After the deterrents were installed, most of the bird use is by house sparrow. Due to unsafe conditions at removing nests, biological staff did not dismantle nests in April. Many house sparrow nests have developed in both Alpha and Beta cooling towers. During the CEC site visit on April 24, designated biologists asked for guidance on what to do with the potentially active house sparrow nests when AEPC needs to start using the cooling towers.

The construction of the Alpha cooling tower is further along than the Beta tower; however, the date that water will be pumped through the cooling towers has been indefinitely delayed. When AEPC starts using the towers, water will cascade over the rafters, making it inhospitable for bird occupation and negating the need for any bird deterrents.

In addition to the sparrow nests, a common raven attempted nest construction in the Beta cooling tower but the nest was dismantled by biological staff (see Attachment 3 for more details). A total of 16 offsite common raven nests were observed during bi-weekly breeding season raven nest surveys (Attachment 3).

## 2.10 Raven Monitoring, Management, and Control

Common raven monitoring activities continued on the MSP site per BIO-18 and as outlined in the *Common Raven Monitoring, Management and Control Plan* (Raven Plan). The April Monthly Common Raven Monitoring Results provides information on monitoring activities, survey methods, maps, incidental raven observations, point count survey results, breeding season raven nest search surveys, and datasheets (Attachment 3).

## 2.11 Wildlife Injuries and Mortalities

### 2.11.1 Migratory Bird Treaty Act Protected Species

In April, no injured or dead MBTA-protected species were observed at MSP.

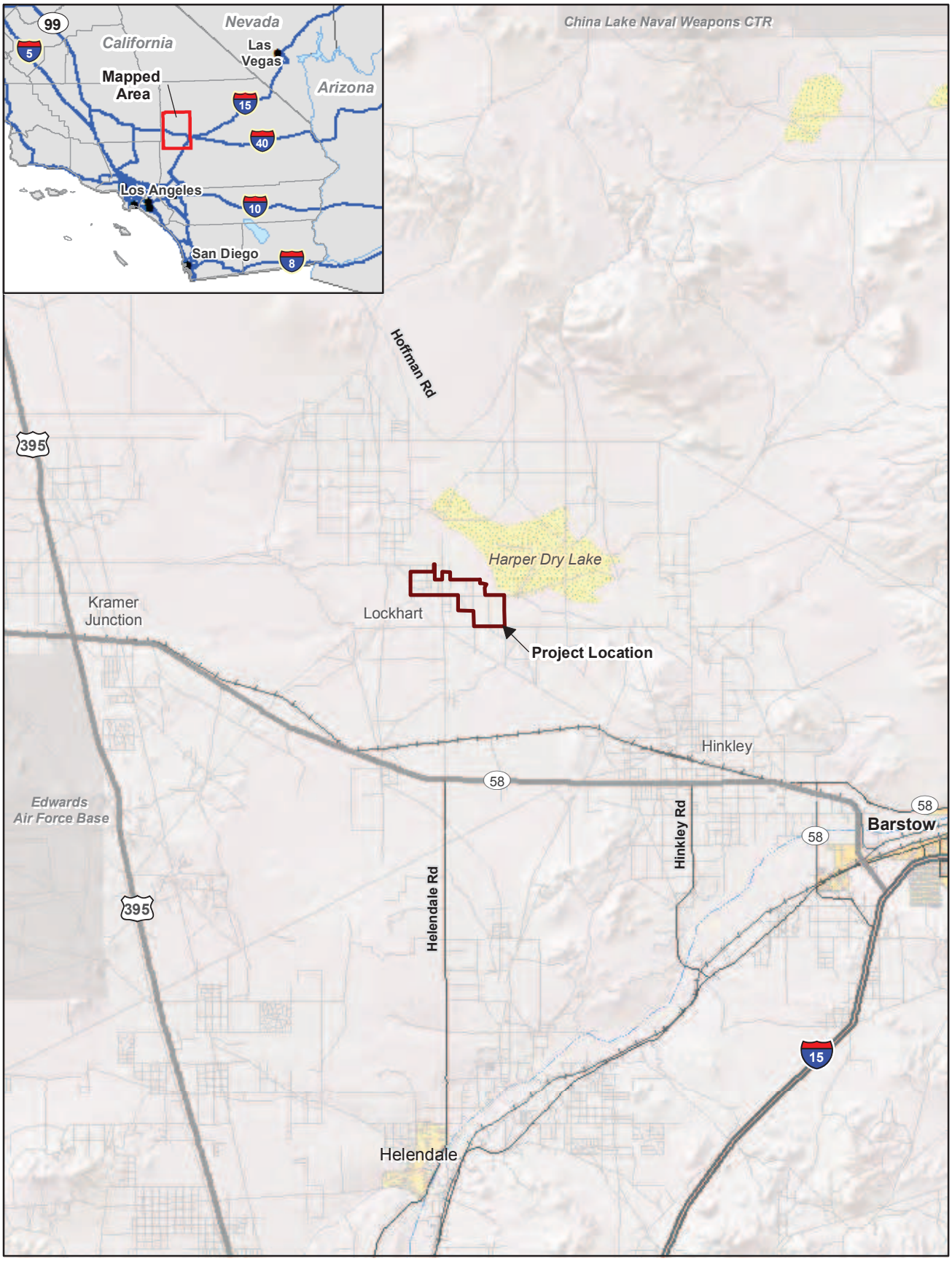
MSP was issued a 6-month USFWS *Migratory Bird Special Purpose Utility Salvage Permit – Solar* (SPUT permit) that authorizes project staff to collect, transport, and possess carcasses of species protected by the MBTA. MBTA-protected species injuries and mortalities are tracked on the SPUT form and submitted monthly to the agencies. Currently, five dead birds are stored in the onsite freezer until they can be collected by the USFWS Office of Law Enforcement. The current MSP SPUT permit expires July 3, 2014.

## 2.12 Other Species

In April, one jack rabbit (*Lepus californicus*) was found dead on Harper Lake Road. The remains were buried offsite by the biological staff.

A list of observed wildlife species is included in Attachment 4. Four sensitive species, loggerhead shrike *(Lanius ludovicianus*), horned lark (*Eremophila alpestris*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and golden eagle (*Aquila chrysaetos*) were observed at MSP. The shrike and blackbird are CDFW Species of Concern, the horned lark is on the CDFW Watch List, and the golden eagle is on the California Department of Forestry sensitive list, a CDFW Fully Protected species, and a USFWS Bird of Conservation Concern. The golden eagle was observed perched on a transmission line next to Harper Lake Road (Figure 2).

The MSP evaporation ponds held water throughout April. Several birds were observed using the evaporation ponds including killdeer (*Charadrius vociferus*), least sandpiper (*Calidris minutilla*), snowy egret (*Egretta thula*), horned lark, and common raven.




LEGEND

Project Boundary

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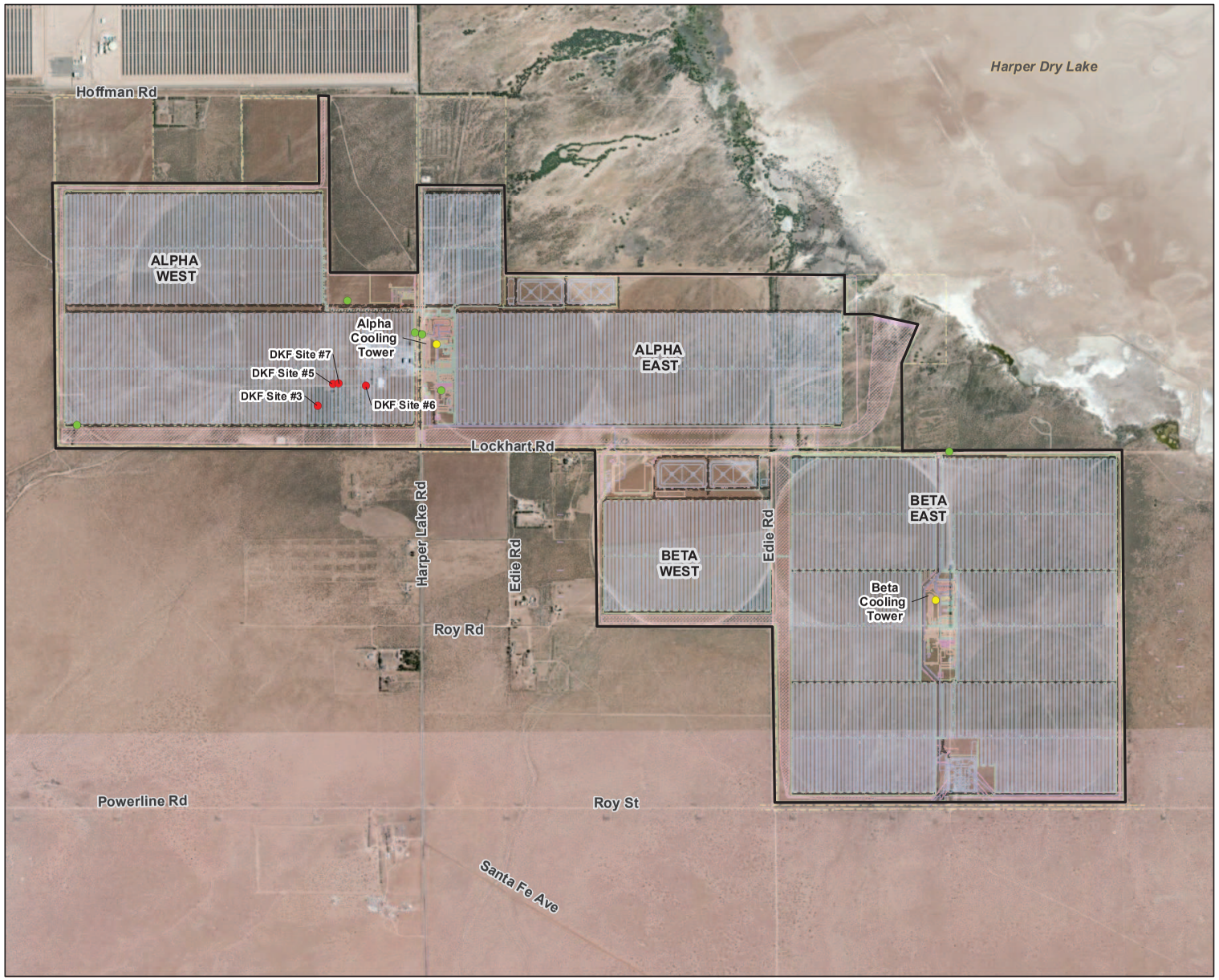
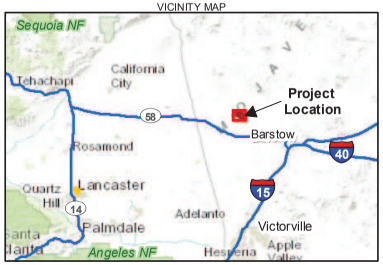
**FIGURE 1**
**Regional Map**
Abengoa Mojave Solar Project
*San Bernardino County, California*




VICINITY MAP




LEGEND

Desert Kit Fox
- Shelter Site (with 250ft Buffer)
- Incidental Observations

MBTA and non-MBTA Protected Species
- Nest Location

Special-status Species
- Desert tortoise
- Golden eagle

Project Boundary

Additional Locations (Harper Lake Rd)

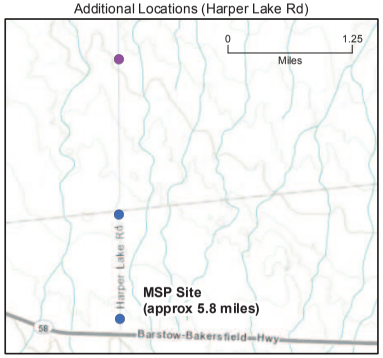



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**FIGURE 2**
**Biological Resources, April 2014**
Abengoa Mojave Solar Project
*San Bernardino County, California*



CH2MHILL

# Attachment 1
# Agency Approval Status of Biological Staff

## Agency Approval Status of Biological Monitor and Designated Biologist
## Abengoa Mojave Solar Project

| Biologist | CEC | | | | CDFW | | | | USFWS | |
|---|---|---|---|---|---|---|---|---|---|---|
| | BM | | DB | | BM | | DB | | AB | |
| | Submitted | Approved | Submitted | Approved | Submitted | Approved | Submitted | Approved | Submitted | Approved |
| Brent Finley | 5/6/2013 | 5/9/13 | — | — | — | — | — | — | 5/14/2013; **Retracted 2/7/14** | NA |
| Tim Hamaker | 5/9/2013 | 5/9/13 | — | — | — | | — | — | — | — |
| Josh Holloway | — | — | 5/10/2013 | 5/13/13 (Alt-DB) | — | — | — | — | 5/14/2013 | 5/20/13 |
| Morgan King | — | — | 5/2/2013 | 5/9/13 (DB) | — | — | — | — | 9/4/2013 | 9/17/13 |
| Linda Sands | 5/9/2013 | 5/9/13 | 5/2/2013 | Denied as Alt-DB 5/9/13 | — | — | — | — | 5/14/2013; **Retracted 2/7/14** | NA |
| Bruce Weise | | | 5/10/2013 | 5/13/13 (Alt-DB) | — | — | — | — | 5/14/2013 | 5/20/13 |
| Amy Trexler | 6/21/2013 | 7/30/13 | — | — | — | — | — | — | 6/26/2013; **Retracted 2/7/14** | NA |
| Catherine Wangen | 6/21/2013 | 7/30/13 | — | — | — | — | — | — | 6/26/2013; **Retracted 2/7/14** | NA |
| Cindy Newman | 6/21/2013 | 7/30/13 | — | — | — | — | — | — | — | — |
| Susan Carlton | 6/21/2013 | 7/30/13 | — | — | — | — | — | — | 6/26/2013; **Retracted 2/7/14** | NA |
| Ursula Rogers (Carliss) | 6/21/2013 | 7/8/13 | — | — | — | — | — | — | 6/26/2013; **Retracted 2/7/14** | NA |

## Agency Approval Status of Biological Monitor and Designated Biologist
## Abengoa Mojave Solar Project

| Biologist | CEC | | | | CDFW | | | | USFWS | |
|---|---|---|---|---|---|---|---|---|---|---|
| | BM | | DB | | BM | | DB | | AB | |
| | Submitted | Approved | Submitted | Approved | Submitted | Approved | Submitted | Approved | Submitted | Approved |
| Eric Somers | 7/30/2013 | 8/6/13 | — | — | — | — | — | — | 8/19/2013; ; Retracted 2/7/14 | NA |
| Joey Verge | 7/30/2013 | 8/6/2013 | — | — | — | — | — | — | 3/11/2011 | 4/4/11 |
| William Clark | 8/29/2013 | 9/4/2013 | — | — | — | — | — | — | 8/29/2013 | 9/17/13 |
| Josh Utter | 8/29/2013 | 9/4/2013 | — | — | — | — | — | — | — | — |
| Michael Garvey | 8/29/2013 | 9/4/2013 | — | — | — | — | — | — | 8/29/2013 | 9/17/13 |
| Erich Green | 3/11/2011 | 3/11/2011 | — | — | — | — | — | — | 3/11/2011 | 4/4/11 |
| Ed Morgan | 2/20/2014 | 3/7/14 | — | — | — | — | — | — | 2/20/2014 | Pending |
| Mark Bratton | 2/20/2014 | 3/7/14 | — | — | — | — | — | — | 2/20/2014 | Pending |

Legend:
CEC= California Energy Commission
CDFW=California Department Fish and Wildlife
USFWS= United States Fish & Wildlife Service
BM= Biological Monitor
AB=Authorized Biologist
Alt-DB = Alternate Designated Biologist
DB=Designated Biologist

# Attachment 2
# WEAP Summary and Training Logs

| WEAP Summary Table through April 30, 2014<br>Mojave Solar Project | |
|---|---|
| **Month Training Conducted** | **Monthly Total of WEAP Attendees*** |
| Mar-11 | 50 |
| Apr-11 | 9 |
| May-11 | 18 |
| Jun-11 | 2 |
| Jul-11 | 27 |
| Aug-11 | 63 |
| Sep-11 | 82 |
| Oct-11 | 75 |
| Nov-11 | 41 |
| Dec-11 | 68 |
| Jan-12 | 52 |
| Feb-12 | 112 |
| Mar-12 | 116 |
| Apr-12 | 158 |
| May-12 | 208 |
| Jun-12 | 167 |
| Jul-12 | 156 |
| Aug-12 | 271 |
| Sep-12 | 276 |
| Oct-12 | 268 |
| Nov-12 | 93 |
| Dec-12 | 137 |
| Jan-13 | 183 |
| Feb-13 | 195 |
| Mar-13 | 255 |
| Apr-13 | 295 |
| May-13 | 408 |
| Jun-13 | 341 |
| Jul-13 | 244 |
| Aug-13 | 187 |
| Sep-13 | 206 |

| WEAP Summary Table through April 30, 2014<br>Mojave Solar Project | |
|---|---|
| **Month Training Conducted** | **Monthly Total of WEAP Attendees*** |
| Oct-13 | 387 |
| Nov-13 | 213 |
| Dec-13 | 454 |
| Jan-14 | 642 |
| Feb-14 | 866 |
| Mar-14 | 560 |
| Apr-14 | 376 |
| Total | 8,261 |
| *Attendance is based on training sign-in sheets | |

# Certification of Completion
# Worker Environmental Awareness Program
# Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | HERBERT A. DINGMAN | MW ABACUS | |
| 2. | ADOLFO SOSA | ABCUS | |
| 3. | William Dal | Sulzer US | |
| 4. | Tom Mai | ABACUS | |
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Biological Trainer: " Signature: " Date: 4/30/14

Cultural Trainer: " Signature " Date: / /

Paleo Trainer: " Signature " Date: / /

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Thomas Daur | Abacus | Thomas Daur |
| 2. | Patrick Lofton | Abacus | Patrick Lofton |
| 3. | EUGENE LANE | ABACUS | Eugene Lane |
| 4. | NATHANIEL LALLA | ABACUS | Nathaniel Lalla |
| 5. | JUAN OLIVAS | LARGO | Juan Olivas |
| 6. | Jomer Jose | LARGO | |
| 7. | Jason Carr | Largo | |
| 8. | Robert Nagy | Abacus | |
| 9. | Mike Sprlock | Abacus | Mike Sprlock |
| 10. | Nathan Dale | Abengoa | |
| 11. | Dwight Protulac | Abengoa Solar | Dwight Protulac |
| 12. | Lee Gilliland | Abacus | Lee R Gilliland |
| 13. | Gary Colletta | Fl.1. | Gary T Colletta |
| 14. | JOSE CAVALLARO | MATRIX | |
| 15. | JOAQUIN JIMENEZ | LARGO | Joaquin Jimenez |
| 16. | Randy Jaynes | ~~ABACUS~~ | Randy Jaynes |
| 17. | DIMAS ARELLANO | LARGO | |
| 18. | GIL MONARREZ | LARGO | |
| 19. | Robert URibe | ABACUS | |
| 20. | STAN GUILLON | ABACUS | |
| 21. | BILL ALEXANDER | JNE Consulting | |
| 22. | Joe Crowley | Electrical Engr JNE | Joseph Crowley |
| 23. | SCOTT JORDAN | JNE Consulting | |
| 24. | Nick Alvarez | QSL | |
| 25. | BRANDON SCOTT | QSL | |
| 26. | | | |
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Biological Trainer: Bruce Ashmun Signature: Bruce Ashmun Date: 4/29/14

Cultural Trainer: " Signature: " Date: / /

Paleo Trainer: " Signature: " Date: / /

4/28/14

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Antonio A. Rojas | Abacus | |
| 2. | John Sisley SR | FHI | |
| 3. | MIKE STURM | FHI | |
| 4. | Brandon Ward | FHI | Brandon Ward |
| 5. | Abdon Rodriguez | Abacus | |
| 6. | Vincent Rodriguez | Abacus | |
| 7. | JOSE MENDOZA | ARB | JOSE MENDOZA |
| 8. | Robert Cerrie | FHI | Robert |
| 9. | Tom Ellis | FHI | |
| 10. | Hugh Hanratty | IMS | |
| 11. | GIOVANI VASQUEZ | ABACUS | |
| 12. | JAMES BURGE | FHI | |
| 13. | DAVID CANTREN | IMS | |
| 14. | Tim Cantrell | IMS | |
| 15. | Evan Villalpando | Abacus | |
| 16. | Joe Aye | FHI | |
| 17. | Anthony Sanchez | ARB | |
| 18. | Raymond Smith | Synflex | |
| 19. | Ben Jancwitz | Synflex | |
| 20. | Martin Castro | PCI | |
| 21. | Diego Toledo | AEPC | |
| 22. ~~Dwight Pretulac~~ | | ~~Abengoa Solar~~ | ~~Dwight~~ |
| 23. | MANUEL A. DAVID SERRANO | ABEINSA EPC | |
| 24. ~~Nathan Date~~ | | ~~Abengoa Solar~~ | ~~Nathan~~ |
| 25. | | | |
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Biological Trainer: _____ Signature: _____ Date: __/__/__

Cultural Trainer: _____ Signature: _____ Date: __/__/__

Paleo Trainer: _____ Signature: _____ Date: __/__/__

4/25/14

# Certification of Completion
# Worker Environmental Awareness Program
# Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | MARIO GONZALEZ | ATCL | |
| 2. | | | |
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Biological Trainer: _____ Signature: _____ Date: ___/___/___

Cultural Trainer: _____ Signature: _____ Date: ___/___/___

Paleo Trainer: _____ Signature: _____ Date: ___/___/___

4/24/14

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | LOREN ESTRADA | CLASSIFIED WORKER/ INTEGRATED MECHANICAL | |
| 2. | Pedro Solorio | Classified Worker/ Integrated Mechanical | Pedro Sol |
| 3. | Dyrone Leake | Global Industrial Services | |
| 4. | Hector Pulido | ABACUS | Hector Pulido |
| 5. | Jorge Huertas | ABACUS | |
| 6. | Larry Garcia | ABACUS | |
| 7. | ALBERT RASCON | ABACUS | |
| 8. | James ACYRAN | United Rentals | |
| 9. | David Eskandar | ABACUS | |
| 10. | Todd Mapps | ABACUS/ELECT | |
| 11. | John Delvecchio | ABACUS/Elect | |
| 12. | ARNALDO ALVARADO | ABACUS/ELECT. | |
| 13. | Michael Lopez | ABACUS/Elect | |
| 14. | Rudy Gonzales | Abacus Elect | Rudy Gonzales |
| 15. | Juan A. Michel | Select Staffing | |
| 16. | | | |
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Biological Trainer: _____ Signature: _____ Date: __/__/__

Cultural Trainer: _____ Signature: _____ Date: __/__/__

Paleo Trainer: _____ Signature: _____ Date: __/__/__

# Certification of Completion
# Worker Environmental Awareness Program
# Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Trevor Goldcamb | ABACUS | |
| 2. | | | |
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Biological Trainer: Bruce Asano Signature: [signature] Date: 4/23/14

Cultural Trainer: " Signature: " Date: / /

Paleo Trainer: " Signature: " Date: / /

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Jeffrey Dotzer | S/O LANTZ | |
| 2. | Guy Vela | S/O LANTZ | Guy A Vela |
| 3. | Chad Witty | S/O Lantz | |
| 4. | Gerard Ciani | EMT SY Safety | |
| 5. | Tim Callaghan | S/O LANTZ | |
| 6. | WILLIE BEASLEY | S/O LANTZ | |
| 7. | LAKEISHA GRUNDY | S/O LANTZ | |
| 8. | TJ Scollard | F.S./Global Ind. Solution | |
| 9. | Candido Velasquez | Projectmanager GIS | |
| 10. | Chuck Davis | GIS | Chuck Davis |
| 11. | Serrano Enrique | GROUP. DIMASA | |
| 12. | Anpal Rafael | GROUP. DIMASA | |
| 13. | Tony Rojas | Iron Worker | |
| 14. | | | |
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Biological Trainer: Bruce Ashton Signature: [signature] Date: 4/22/14

Cultural Trainer: " Signature: " Date: / /

Paleo Trainer: " Signature: " Date: / /

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Sung Ho Shin | P.M. Abacus | |
| 2. | Babak Bakhaei | I&C Abengoa | |
| 3. | Vance Williams | ABACUS | |
| 4. | KEITH SHIRLEY | ABACUS | |
| 5. | Clifford Jackson | ABACUS | |
| 6. | FITZGERALD LEWIS | ABACUS | |
| 7. | RYAN KINNETT | ABACUS | |
| 8. | Edward Campbell | ABACUS | |
| 9. | Gilbert Basulto | EATON | |
| 10. | JASON PAGE | ABACUS | |
| 11. | Frank Parker | ABACUS | |
| 12. | Christopher Bueling | ABACUS | |
| 13. | DAVID FAUX | ABENGOA | |
| 14. | Steve Spears ~~EATON~~ | ABACUS | |
| 15. | Jim Tatar | Abacus | |
| 16. | JOHN SISLEY | ABACUS | |
| 17. | Brian Yeager | Abacus | |
| 18. | Jim DIEMEL | ABACUS | |
| 19. | BRIAN OLMOS | ABACUS | |
| 20. | Ryan Urban | Abacus | |
| 21. | Hugh A Cooper | ABACUS | |
| 22. | Manuel L Olivas | ABACUS | |
| 23. | Dennis Craddock | ABACUS | |
| 24. | Bernard Alcock | Abacus | |
| 25. | Miguel Olivas | Abacus | |
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Biological Trainer: BRUCE ADAMS " Signature: " Date: 4/24/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

4/18/14

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Lizeth Marquez | Payroll Coordinator/Abeinsa | |
| 2. | GONZALO NAVARRETE | Assistant Site Lead/Sinelec | |
| 3. | RAYMOND WINFIELD | Schneider Electric | |
| 4. | RYAN WATKINS | INSULATOR/SYNFLEX | |
| 5. | Maxwell P. Lara | Insulator/Synflex | |
| 6. | DANIEL RICHARDS | Foreman Electrician/Sinelec | |
| 7. | GONZALO CASAS | Mechanical Engineer Abeinsa EPC | |
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Biological Trainer: _____ Signature: _____ Date: ___/___/___

Cultural Trainer: _____ Signature: _____ Date: ___/___/___

Paleo Trainer: _____ Signature: _____ Date: ___/___/___

4/17/14

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| ✓ 1. | John Wallace | SYNFlex | |
| ✓ 2. | KEVIN FLETCHER | SYNFLEX | |
| ✓ 3. | ROBERT TUCKER | SYNFLEX | |
| ✓ 4. | Mario Martinez | SYNFlex | |
| ✓ 5. | FRANK Valdez | SYNFlex | |
| ✓ 6. | Carlos Vasquez | Synflex | |
| ✓ 7. | MARTIN AGUILAR | SYNFLEX | |
| ✓ 8. | ERIC VEGA | SYNFLEX | |
| ✓ 9. | STEVEN KIDDER | SYNFLEX | |
| ✓10. | SCOTT BARKER | SYNFLEX | |
| ✓11. | ADRIAN AMADOR | SYNFLEX | |
| ✓12. | LAWRENCE ROGERS | SYNFLEX | |
| ✓13. | MIKE SNIFFEN | FHT | |
| ✓14. | Marco A Miranda | EW CORP. | |
| ✓15. | BRIAN MARSH | FSR/EATON | |
| ✓16. | Ryan Zagale | Eaton | |
| ✓17. | Steve KONOPACKI | INSULATOR | |
| ✓18. | MARK KILDARE | INSULATOR | |
| ✓19. | TONY ROSSMAN | EQUIP OPERATOR | |
| ✓20. | Jacob Trost | FHI | |
| ✓21. | MARCEL FORTIN | FHI | |
| 22. | | | |
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Biological Trainer: _____ Signature: _____ Date: __/__/__

Cultural Trainer: _____ Signature: _____ Date: __/__/__

Paleo Trainer: _____ Signature: _____ Date: __/__/__

4/16/14

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Justin Soller | Integrated Mech. | |
| 2. | Stephanie Rexwinkel | IMI | |
| 3. | Eddie Orton | Bigge Crane | |
| 4. | Robert Lander | Bigge Crane | |
| 5. | Dionne Chinn | Safety/FHI | |
| 6. | Donna Sanchez | Admin Asst/Abengoa | Sanchez |
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Biological Trainer: _____ Signature: _____ Date: ___/___/___

Cultural Trainer: _____ Signature: _____ Date: ___/___/___

Paleo Trainer: _____ Signature: _____ Date: ___/___/___

4/15/14

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Casey White | Electrician/Abacus | |
| 2. | SCOTT MANCE | ELECTRICIAN/Abacus | |
| 3. | Luca Villanueva | Electrician/Abacus | |
| 4. | STEVE BUTLER | WIREMAN/Abacus | |
| 5. | BEAU-Steve Kalmbach | WIREMAN/Abacus | |
| 6. | Rachel Maldonado | Safety manager/Abacus | E.W. Corp. |
| 7. | Joseph DiZio | ELECTRICAN/Abacus | |
| 8. | MAX J MARQUEZ | ELECTRICIAN/Abacus | |
| 9. | JUAN GONZALEZ | Electrician/Abacus | |
| 10. | TOM MENDOZA | ELECTRICIAN/Abacus | |
| 11. | Michael Alley | Fitter/Abacus | |
| 12. | Jose A Peña | Welder/Abacus | |
| 13. | Matthew Smith | WIREMAN/Abacus | |
| 14. | BALTAZAR NEWBILL | Electrician/Abacus | |
| 15. | ALFREDO INIGUEZ | ELECTRICIAN/Abacus | |
| 16. | Ricardo Camarillo | electrician/Abacus | |
| 17. | DANIEL GARCIA | PIPEFITTER/Abacus | |
| 18. | Chad Lee | PIPE FITTER/Abacus | |
| 19. | Enrique Arellano | electrician/Abacus | |
| 20. | Daniel Serrano | pipe fitter/Abacus | |
| 21. | DAVID MINOR | PIPEFITTER/ABACUS | |
| 22. | Anthony Crenshorn | Fueler/ABACUS | |
| 23. | Shaun Lipscomb | PIPEFITTER/Abacus | |
| 24. | RAMIRO LUNA | PIPE FITTER/Abacus | |
| 25. | Robert S. McClelland | Pipefitter/Abacus | |
| 26. | L.A. Palmer | Pipefitter/Abacus | - Maine Declaration |
| 27. | MARLON BONADIE | ELECTRICIAN/Abacus | |
| 28. | | | |
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Biological Trainer: _____ Signature: _____ Date: ___/___/___

Cultural Trainer: _____ Signature: _____ Date: ___/___/___

Paleo Trainer: _____ Signature: _____ Date: ___/___/___

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | EDWARDS CURTIS | HOBBS BRANNERMAN | |
| 2. | JESSE A. MAXEY | ASI, LLC | |
| 3. | MARCO A GUTIERREZ | ABACUS | MARCO A GUTIERREZ |
| 4. | Cesar Corona | ABACUS | |
| 5. | Darren Proctor | ABACUS | |
| 6. | Rico Thompson | Abengoa | |
| 7. | Raul Tinajero | Abengoa | |
| 8. | Ron Rivett | Abacus | |
| 9. | Kwan Young Lee | FHI | |
| 10. | Louie Lucero | Abacus | |
| 11. | William Sanchez | FHI | |
| 12. | Ruben Hernandez | FHI | |
| 13. | Kevin Lambeth | Abengoa | |
| 14. | Fernando Peralta | PCI | |
| 15. | R. Hanzlik | Abienesa | |
| 16. | PAUL CASTRO | PCI | |
| 17. | TAVERON DAWSON | P.C.I. | |
| 18. | Bryan Howells | FHI | |
| 19. | Aldo Cisneros | FHI | |
| 20. | Ricki Rangdell | FHI | |
| 21. | David Copeland | FHI | |
| 22. | Jay Mitchell | Abengoa | |
| 23. | CHAD BULLOCK | ABENGOA | |
| 24. | Fernando Aragon | Cuiran Electric | |
| 25. | Mahnaz Ghamati Fard | Abengoa Solar | |
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Biological Trainer: BRUCE ASAW Signature: _____ Date: 4/14/14

Cultural Trainer: _____ Signature: _____ Date: __/__/__

Paleo Trainer: _____ Signature: _____ Date: __/__/__

# Certification of Completion
# Worker Environmental Awareness Program
# Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | MICHAEL PATTERSON | LOCAL 5 AGENT | |
| 2. | JAMES LANCASTER | LOCAL #5 | |
| 3. | JOHN TODD | LOCAL #5 | |
| 4. | SHAWN KORTES | TECH/SUPERHEAT | |
| 5. | MARVIN LOPEZ | TECH/SUPERHEAT | |
| 6. | FRANK AGUIRRE | LOCAL #5 / 5 | |
| 7. | THOMAS SHAW | LOCAL 5 | |
| 8. | JAK STEWART | LOCAL #5 | |
| 9. | PAUL MEDINA | LOCAL #5 | |
| 10. | REGINAL BUTLER | LOCAL 5 | |
| 11. | ROGER FOGEL | LOCAL 5 | |
| 12. | ROBERT SOLORZANO | LOCAL 5 | |
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Biological Trainer: BRUCE ADAMS Signature: [signature] Date: 4/11/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Certification of Completion
# Worker Environmental Awareness Program
# Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | GARY MADONNA | ABACUS | |
| 2. | James Novello | PF DMI | |
| 3. | Eldon Lewis | welder / DMI | |
| 4. | Obriant Medina | welder - Abacus | |
| 5. | Rodney Almazan | Lantz | |
| 6. | ERICH A. GREEN | CH2M HILL | |
| 7. | Anthony Franklin | Lantz | |
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Biological Trainer: BRUCE ASATO Signature: _____ Date: 4/10/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | JONATHAN THORE | HOBBS BANNEMAN | |
| 2. | Johnny Romero | ABACUS - PF | |
| 3. | Ken Gray | Abacus-PF R | |
| 4. | Tim Eames | Abacus - PF | |
| 5. | J MANUEL CANO | PF. ABACUS | |
| 6. | Fernando E. Charcape | D M I - Welder | |
| 7. | Craig Kent | Abacus / PF | |
| 8. | JOSEP ORIOL RAMASA ROSELL | LAISA | |
| 9. | Adam Pownall | Abacus / PF | |
| 10. | Jason Sanchez | Abacus / PF | |
| 11. | Jeff MANGUM | Abacus / PFW | |
| 12. | Chris Catanco | Abacus / PF | |
| 13. | Ron Bonaventure | ISSC / BM | |
| 14. | Alex Cho | ABACUS | |
| 15. | JOSE GONZALEZ | ABACUS | |
| 16. | Sean Bridges | GIS | |
| 17. | BRIAN SZNAJD | GIS | |
| 18. | SAM MACIAS | PF / ABACUS | |
| 19. | FERNANDO JIMENEZ DIAZ | INSTYCAL S.L | |
| 20. | Victor Manuel Carreño Palma | INSTYCAL S.L | |
| 21. | Chris Davis | AERC / VISTA ENERGY | |
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Biological Trainer: BRUCE ABARA " Signature: " Date: 4/9/14

Cultural Trainer: " Signature: " Date: / /

Paleo Trainer: " Signature: " Date: / /

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

This is to acknowledge these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on biological, cultural, and paleontological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Kenneth C Arentz | ABACUS | Kenneth C Arentz |
| 2. | William J Horney | Abacus PE | William J Horney |
| 3. | FERNANDO VALDEZ | EW | |
| 4. | DAVID ROGERS | ABACUS | |
| 5. | TED M. POBLES | ABACUS | |
| 6. | Danny Foreman | ABACUS | |
| 7. | SAM FONSECA | EW | |
| 8. | ISAAC ONTIVEROS | ABACUS | |
| 9. | Timothy Knollhoff | ABACUS PFF | |
| 10. | ROGER SABOUSKY | ABACUS PW | |
| 11. | William McElroy | ABACUS PE | |
| 12. | HARVEY POOL JR | ABACUS PE | |
| 13. | RICARDO VARGAS | ABACUS PE | |
| 14. | Malcolm Joseph | ABACUS PE | Malcolm Joseph |
| 15. | STEVE BOIKE | ABACUS PE | S. Boike |
| 16. | LeAdelphuson | EW | |
| 17. | Rick McCullough | ABACUS | |
| 18. | Sebastian Rafael | Abacus | |
| 19. | ERIC JAUREGUI | Abacus | |
| 20. | Miguel Martinez | Abacus | |
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Biological Trainer: BRUCE ASAMS Signature: [signature] Date: 4/8/14

Cultural Trainer: " Signature " Date: / /

Paleo Trainer: " Signature " Date: / /

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Josh Wiggins | Bigge Crane | |
| 2. | Gene Connally | C W | |
| 3. | Pete Juarez | Abacus | |
| 4. | Francisco Gomez | SIZESA | |
| 5. | Oliver L Miller | Abacus | |
| 6. | David Sinclair | Abacus | |
| 7. | Ron Williams | ABACUS | |
| 8. | J.D. Dunlap | ABACUS | |
| 9. | Rudy Lancaster | ABACUS | |
| 10. | Brian Andes | Summit Fire | |
| 11. | Chris Gonzales | ABACUS | |
| 12. | Peter Dickson | ABACUS | |
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Biological Trainer: Bruce Asano Signature: _____ Date: 4/8/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Robert J. Steele | Abengoa Block/Abengoa | |
| 2. | Caleb Edwards | SF welder/Abengoa | |
| 3. | David Clark | DST water Treatment | |
| 4. | Justin Tibbetts | INSTALLER SMITH OHIO/ABG | |
| 5. | John Wheeler | ABG/ Smith Overhead Door | |
| 6. | Jeffrey Scott | Carpenter/Abacus PM | |
| 7. | Monica Camacho | Payroll/Abacus | |
| 8. | Jose Gallo | Laborer | |
| 9. | Michael Hinton | ABG Solar field operator | |
| 10. | Jesse Simon | PIPE FITTER/Abacus | |
| 11. | Robert Koupeny | welder | |
| 12. | Tim Mendez | CRO ABENGOA SOLAR | |
| 13. | Brandon DeCamilla | Laborer ABACUS | |
| 14. | Aniket Patel | EPS | |
| 15. | Ron Bauer | EPS | |
| 16. | Preston Scott | Safety/Abengoa | |
| 17. | Peter RIVAS | Sinflex | |
| 18. | David Sullivan | Sinflex | |
| 19. | Bujar Lobo | Sinflex | |
| 20. | Antonio Castellanos | SINFLEX | |
| 21. | Felipe Hernandez | Insul SYNFLEX | |
| 22. | Eric Summers | Amerc/FHI | |
| 23. | | | |
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| 30. | | | |

Biological Trainer: Bruce Asano Signature: [signature] Date: 4/7/14

Cultural Trainer: " Signature: " Date: / /

Paleo Trainer: " Signature: " Date: / /

# Certification of Completion
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## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Salvador Mora | ~~BH~~ Abacus | Salvador Mora |
| 2. | Leonardo Parra | ~~BM~~ Abacus | |
| 3. | Martin Mariscal | ~~BM~~ Abacus | Martin Mariscal |
| 4. | Carlos Magaña-Lopez | ~~BH~~ Abacus | Carlos Magaña-Lopez |
| 5. | Uziel Lopez | ~~BM~~ Abacus | Uziel Lopez |
| 6. | Nefotali Jimenez | ~~BM~~ Abacus | Nefotali Jimenez |
| 7. | Luis D Vega | ~~BM~~ Abacus | Luis D Vega |
| 8. | Elifonso Hernandez | SYN. | Elifonso Hernandez |
| 9. | Frank Rich | RMP/DMI | |
| 10. | Ruben Jaime | SYNFLEX | |
| 11. | Eric Guerrero | RMP/DMI | |
| 12. | DAVID C RODRIGUEZ | BM/ABACUS | |
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Biological Trainer: Bruce Abbott " Signature: " Date: 4/4/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Certification of Completion
## Worker Environmental Awareness Program
## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Mitchell Loneker | Pipefitter / Abacus | |
| 2. | Joel Preston | Sinflex / Insulator | |
| 3. | RAMIN ESLAMCHI | Supervisor / Fosterwheel | |
| 4. | Magnus Joseph | DMI | |
| 5. | Robert Pierce | Sales / world erection | |
| 6. | Jonathan Mesa | apprentice / synflex | |
| 7. | Carlos Del Hierro | apprentice / synflex | |
| 8. | Jaime del Hierro | apprentice / synflex | |
| 9. | JOSE HERRERA | APPRENTICE SYNFLEX | |
| 10. | James MONSOOR | DMI | |
| 11. | William Wellington | Hobbs Bemperman | |
| 12. | AMIN J. JONES | SCAFFOLDING / PCL | |
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Biological Trainer: BRUCE ASARO Signature: _____ Date: 4/3/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Certification of Completion
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| No. | Employee Name | Title/Company | Signature | |
|---|---|---|---|---|
| 1. | Miles Jeffrey | Abacus | | |
| 2. | TERRY EVERS | ABACUS | | |
| 3. | Mike Thomas | Fitter / Abacus | | |
| 4. | Gustavo Ramirez | FITTER / ABACUS | | |
| 5. | Bandilio Venzon | Fitter / ABACUS | | |
| 6. | LUIS GUTIERREZ | Fitter / ABACUS | | |
| 7. | Brielle Blount | Fitter / Abacus | | |
| 8. | ANDRES SARMIENTO | FITTER / ABACUS | | |
| 9. | Dave Perez | Fitter / ABACUS | | |
| 10. | Jeffrey Greer | Fitter / Abacus | | |
| 11. | ROB SENTIERI | FITTER / ABACUS | | |
| 12. | DANIEL PERNAMBUCO | FITTER / ABACUS | | |
| 13. | MIKE ANTONACCI | FITTER / ABACUS | | |
| 14. | STEVE AGUILERA | FITTER / ABACUS | | |
| 15. | Tim Miller | Labor Proimtu | | Re-trained DF TRAINED |
| 16. | BERNARD ROTHE | FITTER / ABACUS | | |
| 17. | GUSTAVO JUAREZ | Peyroll / ABACUSA | | |
| 18. | Matthew Lusky | A welder / Abacus | | |
| 19. | Samuel Rosado | Fitter / Abacus | | |
| 20. | Sara Jones-Sullivan | Accounting / ABEINSHER | Sara Jones-Sullivan | SELECT STAFFING Agency |
| 21. | MICHAEL D. RAMOS | PIPE FITTER | Michael D. Ramos | |
| 22. | Senovio Garza | PF / Abacus | | |
| 23. | ANTHONY HUNTER | FHI | | |
| 24. | Gilbert Garcia J.R | PF / Abacus | | |
| 25. | JOE IEMS | PF / ABACUS | | |
| 26. | ELLIOTT Green | J W / Hobbs Bamer | | |
| 27. | THOMAS Woods | SERVICEMASTER | | |
| 28. | JEFF JONES | ABACUS / P.F. | | |
| 29. | | | | |
| 30. | | | | |

Biological Trainer: BRUCE ASANO Signature: _____ Date: 4/2/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Certification of Completion
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## Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Darren Whitson | Teamster abacus | |
| 2. | Lonnie [illegible] | Electrician/Abacus | |
| 3. | Richard Taege | Teamster | |
| 4. | Jeremiah Kilmer | Piperfitter/Abacus | |
| 5. | Jose Chavez | Electrician/Abacus | |
| 6. | Chris Lopez | electrician/abacus | |
| 7. | Mike Kelley | Wireman Welder | |
| 8. | Joseph McGraw | Wireman | |
| 9. | Sergio Abarca | Insulator/PCI | |
| 10. | Darin Lay | Control Air | |
| 11. | Thomas Fiore | Control Air | |
| 12. | Aaron Clark | Control Air | |
| 13. | Christopher Perez | Insulator/PCI | |
| 14. | Rick Weileigh | Control Air | |
| 15. | Joel Ayala Jr | PCI | |
| 16. | Aaron Wilson | Electrician/Abacus | |
| 17. | Bethany Miranda | Electrician/Abacus | |
| 18. | Mike Rutkshe | Superintendent/Projects | |
| 19. | Randy Tryon | Teamsters Abacus | |
| 20. | Travis Brady | Teamster Abacus | |
| 21. | Todd Smith | EW Corp | |
| 22. | Bradley Nutt | IBEW Electrician/Wireman | |
| 23. | Eric Elkins | IBEW JW/welder | |
| 24. | James Coleman | JW/IBEW/Abacus | |
| 25. | Cody Madden | JW/IBEW/Abacus | |
| 26. | Allan Rohrke | Wireman | |
| 27. | Leo Garcia | Tool Tech United Rents | |
| 28. | Eddie Alfaro | Tool Tech - United Rents | |
| 29. | Mario Reyes | Insulator PCI | |
| 30. | Randall C. Richards | JW/IBEW/Abacus | |

Biological Trainer: Bruce Ashton Signature: " Date: 4/1/14

Cultural Trainer: " Signature: " Date: "

Paleo Trainer: " Signature: " Date: "

# Certification of Completion
# Worker Environmental Awareness Program
# Mojave Solar Project (09-AFC-5)

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| No. | Employee Name | Title/Company | Signature |
|---|---|---|---|
| 1. | Glenn Gaden | ABingom | |
| 2. | Yaroslav Bezsoberko | Abacus | |
| 3. | Jose Cisneros | Cisneros | |
| 4. | Juan Estrada | ABACUS | |
| 5. | Humberto Lugo | ABACUS | |
| 6. | John Montevenide | ABACUS | |
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Biological Trainer: BRUCE ASHER Signature: " Date: 4/1/14

Cultural Trainer: " Signature: " Date: __/__/__

Paleo Trainer: " Signature: " Date: __/__/__

# Attachment 3
# Monthly Common Raven Monitoring Results

# Monthly Common Raven Monitoring Results for Abengoa Mojave Solar Project San Bernardino County, California

**Monthly Compliance Report**
**April 2014**

**Prepared by:**

**CH2MHILL**

**2485 Natomas Park Drive**
**Sacramento, California 95833**

**May 2014**

## Table of Contents



## List of Tables



## List of Supplements

## 1.0 Introduction

The Abengoa Mojave Solar Project (MSP) is required to provide a monthly report on common ravens (*Corvus corax*) to the California Energy Commission (CEC), United States Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife (CDFW). The CEC Final Decision includes Condition of Certification (COC) BIO-18 stating that the project owner shall implement control measures to manage its construction site and related facilities in a manner to control raven populations and to mitigate cumulative and indirect impacts to desert tortoise associated with regional increase in raven numbers. In accordance with BIO-18, the CEC approved the Common Raven Monitoring, Management, and Control Plan (Raven Plan) on March 26, 2012. Refer to BIO-18 and the Raven Plan for monitoring and survey protocol description.

## 2.0 Construction Monitoring Activities

The following section summarizes biological monitoring activities conducted by CH2M HILL throughout April 2014.

On a typical weekday, one biological monitor or designated biologist:

- Monitors Harper Dry Lake Road at least every 3 hours during the desert tortoise active period (April through May). Due to desert tortoise observations on Harper Lake Road, biological staff monitored the road more often than every 3 hours during the cool morning and afternoon to evenings;
- Monitors active construction areas, parking lots, laydown yards, and any areas of potential threat to vegetation, soils, or wildlife;
- Inspects desert tortoise exclusion fences and tortoise guards as required;
- Inspects potential entrapment areas, e.g., trenches;
- Monitors for formation of potential standing water;
- Inspects kit fox exclusion buffers and downloads motion-sensor cameras at shelter sites;
- Conducts raven observations and bi-weekly point counts;
- Conducts bi-weekly breeding season raven nest search surveys (March through June);
- Reports hazardous waste spills to the designated biologist;
- Inspects pipes greater than 3 inches in diameter that are less than 8 inches above the ground surface; and
- Performs other special biological activities as required.

## 3.0 Methods

The designated biologist ensures that the biological monitors are trained to implement the Raven Plan in both raven monitoring and management measures. Biological staff also conduct 10-minute stationary point count surveys at 7 locations (Supplement 1). The purpose of the point counts is to record raven observations including date, time, location, number of individuals, age, behavior, distance from the station location, and any other

pertinent notes (e.g., nesting behavior). This information is recorded on a hard copy datasheet. Point count surveys are conducted with a minimum of 1 week in between.

Point count surveys were positioned to monitor project-specific activities and features that have potential to attract or subsidize ravens. The Raven Plan defines six "conditions of concern" as:

1. Availability of water from evaporation ponds;
2. Potential creation of new perching/roosting/nesting sites for ravens;
3. Temporary water ponding potential from dust suppression associated with construction, operation, and maintenance;
4. Raven food sources from soil disturbance (rodents, insects, etc.) and road kill associated with construction activity;
5. Human food and waste management; and
6. Landscaping that could provide foraging, perching, and available water opportunities.

During daily monitoring activities, biological staff records incidental observations of ravens interacting with MSP. This includes any raven observation within site boundaries, flying overhead, or adjacent to the site. These observations are recorded in field notebooks and include date, general site location, global positioning system (GPS) location, number of individuals, and activity. The GPS information is also presented on a map.

The incidental observations are also used to identify potential problem areas. Problem areas are those requiring management actions. If a problem area is identified, the surveys will be increased to a weekly basis until the issue is resolved. Habitual perching sites will be identified and actions taken to discourage use. If hazing techniques are employed to discourage raven use, biologists will record information on date, time, location, habitat, number of individuals, and response to hazing. Potential or active raven nests will be documented and removed according to Raven Plan specifications. Biological staff will report on whether control measures are working and provide further recommendations in the biological monthly compliance report.

## 4.0 Results

### Incidental Observations

In April, no raven problem areas were observed within the project boundaries. Two raven nests were observed being constructed onsite. Raven nesting behavior and information is discussed further in the "Nest Monitoring" section below. Ravens were seen twice foraging on food waste in the power block and parking areas. Ravens were also seen drinking from water that had collected in the evaporation ponds. As soon as the food waste is contained, the ravens will cease foraging and the risk of their nesting onsite decreases.

During biological monitoring, 108 ravens were incidentally observed during 77 separate observations (Table 1). Because ravens are indistinguishable from one another, multiple sightings of individual birds likely occur. Therefore, the number of observations does not reflect the number of individual birds onsite. Common ravens were observed throughout

the site (Supplement 2). The most common raven behavior observed was flying overhead. Many ravens were observed around the Beta evaporation ponds, access roads and power block, as well as the Alpha West staging area. Due to biologists staffing the kit fox exclusion buffer in Alpha West, a disproportionately high number of ravens was observed flying overhead. This area is not considered a problem area. Ravens were also observed perched on fences and various transmission line poles, but were not using a habitual perch location. Ravens were observed drinking from the evaporation ponds and foraging on construction-related food waste.

**Table 1**
**April 2014 Incidental Raven Observations**

| Date | Location | Number Observed | Activity |
|---|---|---|---|
| 4/1/2014 | Alpha East | 2 | Flying |
| 4/1/2014 | Alpha East | 1 | Flying |
| 4/2/2014 | Beta East | 1 | Perched |
| 4/2/2014 | Alpha West | 2 | Flying |
| 4/2/2014 | Alpha East | 4 | Flying |
| 4/3/2014 | Beta West | 4 | Flying |
| 4/3/2014 | Alpha East | 5 | Flying |
| 4/4/2014 | Alpha West | 1 | Flying |
| 4/4/2014 | Alpha East | 1 | Perched |
| 4/4/2014 | Alpha West | 1 | Flying |
| 4/4/2014 | Beta East | 1 | Flying |
| 4/5/2014 | Alpha West | 1 | Flying |
| 4/5/2014 | Beta East | 2 | Perched |
| 4/6/2014 | Alpha West | 2 | Flying |
| 4/7/2014 | Alpha West | 1 | Flying |
| 4/7/2014 | Alpha West | 2 | Flying |
| 4/7/2014 | Alpha West | 1 | Flying |
| 4/7/2014 | Alpha West | 1 | Flying |
| 4/7/2014 | Alpha West | 1 | Flying |
| 4/7/2014 | Beta East | 1 | Perched |
| 4/8/2014 | Alpha West | 1 | Flying |
| 4/8/2014 | Alpha West | 1 | Flying |
| 4/8/2014 | Alpha West | 1 | Flying |

| Table 1<br>April 2014 Incidental Raven Observations | | | |
|---|---|---|---|
| **Date** | **Location** | **Number Observed** | **Activity** |
| 4/8/2014 | Alpha West | 1 | Flying |
| 4/8/2014 | Alpha West | 1 | Flying |
| 4/8/2014 | Alpha West | 1 | Flying |
| 4/9/2014 | Alpha West | 2 | Flying |
| 4/9/2014 | Alpha West | 2 | Flying |
| 4/9/2014 | Beta East | 1 | Perched |
| 4/9/2014 | Alpha East | 2 | Perched |
| 4/9/2014 | Alpha West | 1 | Flying |
| 4/10/2014 | Alpha West | 3 | Flying |
| 4/10/2014 | Alpha West | 1 | Flying |
| 4/10/2014 | Alpha West | 2 | Flying |
| 4/10/2014 | Alpha West | 1 | Feeding |
| 4/10/2014 | Alpha East | 1 | Flying |
| 4/10/2014 | Beta West | 1 | Drinking |
| 4/10/2014 | Beta West | 1 | Flying |
| 4/11/2014 | Alpha West | 1 | Flying |
| 4/11/2014 | Alpha West | 1 | Flying |
| 4/11/2014 | Beta East | 1 | Perched |
| 4/11/2014 | Beta West | 1 | Flying |
| 4/11/2014 | Beta East | 1 | Flying |
| 4/12/2014 | Alpha East | 1 | Flying |
| 4/12/2014 | Beta West | 1 | Flying |
| 4/12/2014 | Beta East | 2 | Flying |
| 4/13/2014 | Alpha East | 4 | Flying |
| 4/14/2014 | Alpha East | 3 | Flying |
| 4/14/2014 | Alpha West | 1 | Flying |
| 4/14/2014 | Alpha East | 1 | Flying |
| 4/14/2014 | Alpha East | 1 | Drinking |
| 4/15/2014 | Beta East | 1 | Perched |

| Table 1<br>April 2014 Incidental Raven Observations | | | |
|---|---|---|---|
| **Date** | **Location** | **Number Observed** | **Activity** |
| 4/16/2014 | Alpha East | 1 | Drinking |
| 4/16/2014 | Alpha West | 1 | Flying |
| 4/18/2014 | Alpha West | 1 | Flying |
| 4/18/2014 | Alpha East | 1 | Flying |
| 4/19/2014 | Alpha West | 1 | Flying |
| 4/19/2014 | Beta West | 1 | Flying |
| 4/20/2014 | Beta East | 1 | Flying |
| 4/20/2014 | Beta West | 2 | Drinking |
| 4/22/2014 | Beta East | 1 | Perched |
| 4/23/2014 | Beta East | 2 | Flying |
| 4/23/2014 | Alpha West | 1 | Flying |
| 4/23/2014 | Alpha West | 2 | Flying |
| 4/23/2014 | Beta East | 1 | Perched |
| 4/24/2014 | Beta East | 1 | Flying |
| 4/24/2014 | Beta East | 1 | Flying |
| 4/25/2014 | Alpha West | 2 | Flying |
| 4/25/2014 | Alpha West | 1 | Flying |
| 4/25/2014 | Alpha West | 1 | Flying |
| 4/26/2014 | Beta West | 1 | Flying |
| 4/26/2014 | Beta West | 1 | Drinking |
| 4/28/2014 | Alpha West | 1 | Flying |
| 4/28/2014 | Alpha East | 1 | Flying |
| 4/29/2014 | Alpha West | 1 | Flying |
| 4/29/2014 | Alpha East | 1 | Flying |
| 4/29/2014 | Alpha East | 1 | Flying |
| Total Observations | | 108 | |

## Point Count Surveys

In April, two biweekly point count surveys were conducted according to Raven Plan protocol. Point count surveys were conducted on April 13 and April 27, 2014, by Joey Verge (JRV). On April 13, one raven was observed at Station 1 and two at Station 5. On April 27, two ravens were observed at Station 1, one at Station 3, two at Station 4, one at Station 6, and two at Station 7. Point count observations did not document any nesting behavior or problem areas. The Common Raven Fixed Point Observation Data Sheets are provided in Supplement 3.

Table 2 provides a summary of point count observations.

**Table 2**
**Summary of Common Raven Point Count Observations**

| Date: Time | Station | Number of Ravens Observed | Location Description | Activity Observed |
|---|---|---|---|---|
| 4/13/2014: 07:41 | #1 | 1 | Alpha West | Flying |
| 4/13/2014: 12:13 | #5 | 2 | Beta West | Flying |
| **Total Observed 4/13/14** | | 3 | | |
| 4/27/2014: 07:48 | #1 | 1 | Alpha West | Flying |
| 4/27/2014: 07:49 | #1 | 1 | Alpha West | Flying |
| 4/27/2014: 08:20 | #3 | 1 | Alpha East | Flying |
| 4/27/2014: 08:30 | #4 | 2 | Alpha East | Perched |
| 4/27/2014: 09:08 | #6 | 1 | Beta East | Feeding |
| 4/27/2014: 09:25 | #7 | 1 | Beta East | Flying |
| 4/27/2014: 09:28 | #7 | 1 | Beta East | Flying |
| **Total Observed 4/27/2014** | | 8 | | |

## Nest Monitoring

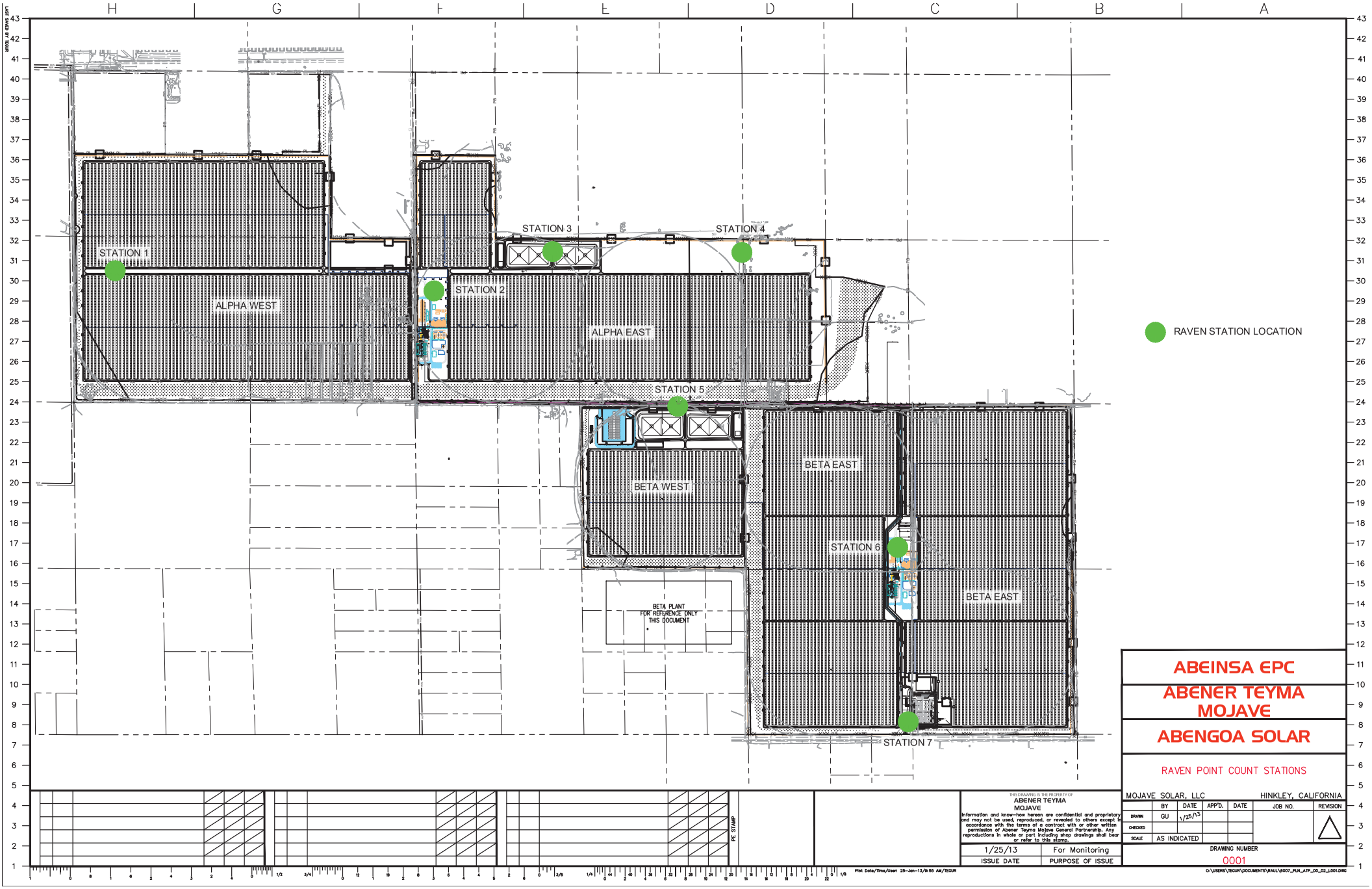
According to the Raven Plan, biweekly breeding season raven nest surveys occurred in April. Two nests were found onsite. Both nests were in the same location on an escape ladder on the east side of Beta cooling tower. Per the Raven Plan requirements, the first inactive nest was dismantled on April 3. After the nest was removed, the raven pair quickly rebuilt the nest and biological staff dismantled it again on April 7. The raven pair has not attempted to rebuild it since.

In addition to these nests a total of 16 offsite common raven nests were observed during biweekly breeding season raven nest surveys (Supplement 2). Most of the nests were observed on the Southern California Edison transmission line south of MSP and on the transmission lines along Harper Lake Road. The designated biologists are waiting for CEC

staff clarification on whether the offsite nests needed to be monitored according to biweekly breeding season raven nest survey protocol.

# Monthly Common Raven Monitoring Results
# April 2014

## Supplement 1—Common Raven Point Count Stations




# ABEINSA EPC

# ABENER TEYMA MOJAVE

# ABENGOA SOLAR

RAVEN POINT COUNT STATIONS

MOJAVE SOLAR, LLC — HINKLEY, CALIFORNIA

| | BY | DATE | APP'D. | DATE | JOB NO. | REVISION |
|---|---|---|---|---|---|---|
| DRAWN | GU | 1/25/13 | | | | |
| CHECKED | | | | | | |
| SCALE | AS INDICATED | | | | | |

DRAWING NUMBER
0001

| ISSUE DATE | PURPOSE OF ISSUE |
|---|---|
| 1/25/13 | For Monitoring |



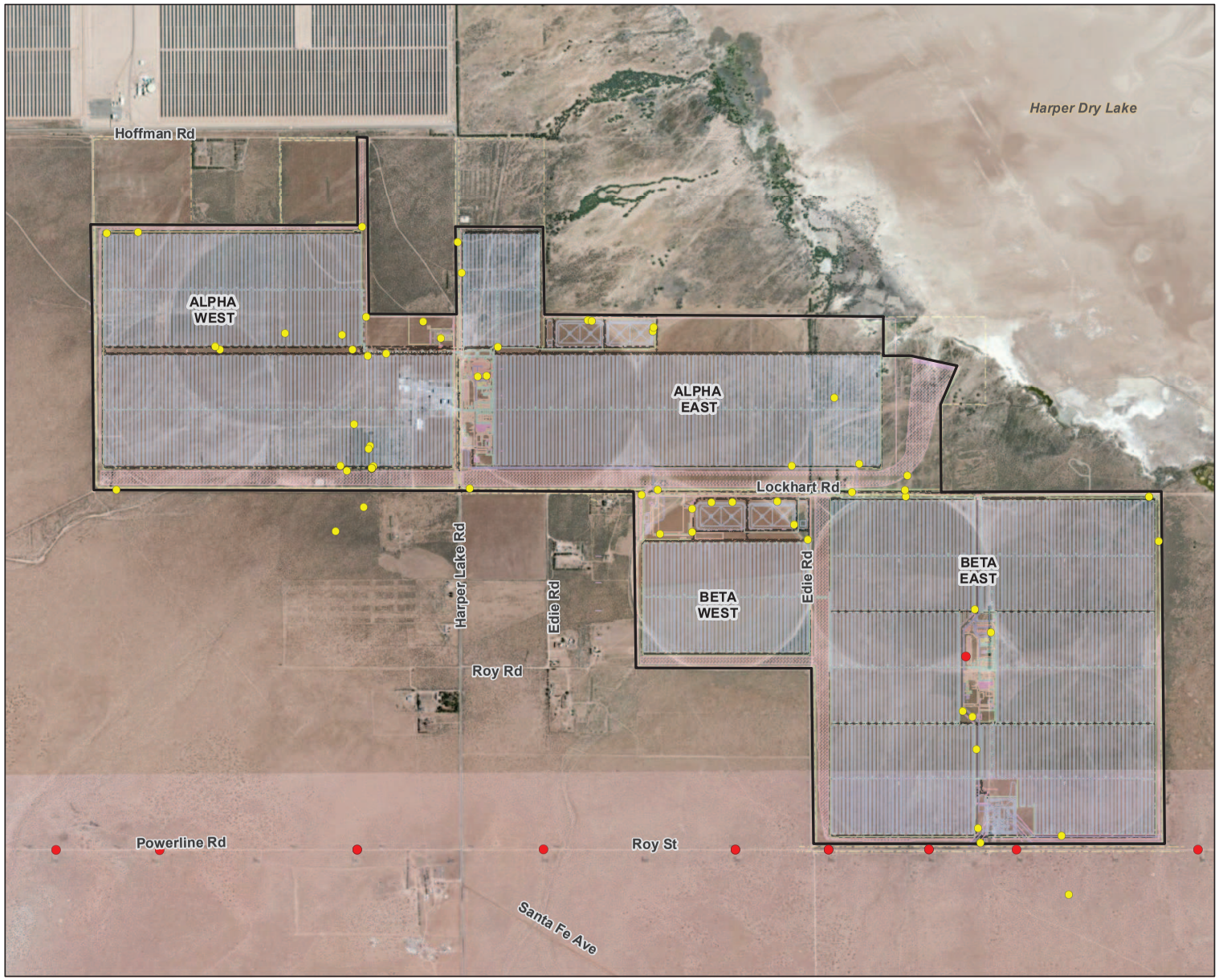
PE STAMP

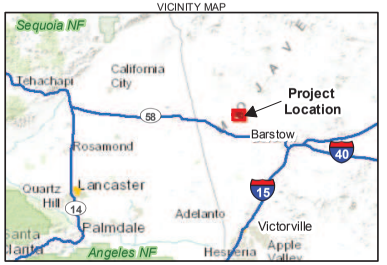
Plot Date/Time/User: 25-Jan-13/8:55 AM/TEGUR

C:\USERS\TEGUR\DOCUMENTS\RAUL\6007_PLN_ATP_00_02_L001.DWG

# Monthly Common Raven Monitoring Results
# April 2014

## Supplement 2—Incidental Common Raven Observations




LEGEND

Common Raven

- Incidental Observations
- Nest Location

Project Boundary

N

0 750 1,500

Feet

**Supplement 2**
**Incidental Common Raven Observations, April 2014**
Abengoa Mojave Solar Project
*San Bernardino County, California*



CH2MHILL

# Monthly Common Raven Monitoring Results
# April 2014

## Supplement 3—Point Count Data Sheets

Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/13/14 Observer (init.) SPV Start Time 0737 End Time 0747 Obs Pt. CD

Page 1 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 55 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0741 | - | A | 1 | WA | PE | S | 300 | 310 | SITE | N | Y | |
| | | | | | (FL) | OT | | | | | | | |
| 2 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 3 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 4 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 5 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 6 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 7 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 8 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 9 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 10 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 11 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 12 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)

Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
|---|---|
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/13/14 Observer (init.) JRV Start Time 0757 End Time 0801 Obs Pt. (2)

Page 2 of 7

Visibility: Clear or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) ____ High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 55 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Auc? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE / FL OT | | | | | | | |
| 2 | | | | | WA PE / FL OT | | | | | | | |
| 3 | | | | | WA PE / FL OT | | | | | | | |
| 4 | | | | | WA PE / FL OT | | | | | | | |
| 5 | | | | | WA PE / FL OT | | | | | | | |
| 6 | | | | | WA PE / FL OT | | | | | | | |
| 7 | | | | | WA PE / FL OT | | | | | | | |
| 8 | | | | | WA PE / FL OT | | | | | | | |
| 9 | | | | | WA PE / FL OT | | | | | | | |
| 10 | | | | | WA PE / FL OT | | | | | | | |
| 11 | | | | | WA PE / FL OT | | | | | | | |
| 12 | | | | | WA PE / FL OT | | | | | | | |

NONE OBSERVED

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/13/14 Observer (init.) JRV Start Time 0806 End Time 0816 Obs Pt. (3)

Page 3 of 7

Visibility: Clear or Min ____ Max ____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 65 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE / FL OT | | | | | | | |
| 2 | | | | | WA PE / FL OT | | | | | | | |
| 3 | | | | | WA PE / FL OT | | | | | | | |
| 4 | | | | | WA PE / FL OT | | | | | | | |
| 5 | | | | | WA PE / FL OT | | | | | | | |
| 6 | | | | | WA PE / FL OT | | | | | | | |
| 7 | | | | | WA PE / FL OT | | | | | | | |
| 8 | | | | | WA PE / FL OT | | | | | | | |
| 9 | | | | | WA PE / FL OT | | | | | | | |
| 10 | | | | | WA PE / FL OT | | | | | | | |
| 11 | | | | | WA PE / FL OT | | | | | | | |
| 12 | | | | | WA PE / FL OT | | | | | | | |

NONE OBSERVED

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/3/14 Observer (init.) SPV Start Time 0820 End Time 0830 Obs Pt. (4)

Page 4 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 55 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE FL OT | | | | | | | |
| 2 | | | | | WA PE FL OT | | | | | | | NONE |
| 3 | | | | | WA PE FL OT | | | | | | | |
| 4 | | | | | WA PE FL OT | | | | | | | OBSERVED |
| 5 | | | | | WA PE FL OT | | | | | | | |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/13/14 Observer (init.) SFV Start Time 0843 End Time 0853 Obs Pt. (5)

Visibility: (Clear) or Min ____ Max ____ (m) Page ____ of ____

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 55 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Acc? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0843 | - | A | 2 | WA | PE | - | 300 | 300 | SITE | - | Y | Drinking from water in evaporation pond. |
| | | | | | FL | (OT) | | | | | | | |
| 2 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 3 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 4 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 5 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 6 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 7 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 8 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 9 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 10 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 11 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 12 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mm/dd/yy) 4/13/14 Observer (init.) SRV Start Time 0901 End Time 0911 Obs Pt. 6

Page 6 of 7

Visibility: (Clear) or Min ____ Max ____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 63 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE FL OT | | | | | | | |
| 2 | | | | | WA PE FL OT | | | | | | | |
| 3 | | | | | WA PE FL OT | | | | | | | NONE |
| 4 | | | | | WA PE FL OT | | | | | | | |
| 5 | | | | | WA PE FL OT | | | | | | | OBSERVED |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)

Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/13/14 Observer (init.) JRV Start Time 0913 End Time 0923 Obs Pt. 7

Page 7 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: (Low) High ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 68 (°F) Cloud Cover: 10 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE FL OT | | | | | | | |
| 2 | | | | | WA PE FL OT | | | | | | | |
| 3 | | | | | WA PE FL OT | | | | | | | |
| 4 | | | | | WA PE FL OT | | | | | | | |
| 5 | | | | | WA PE FL OT | | | | | | | |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

NONE OBSERVED

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)

Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/27/14 Observer (init.) SRV Start Time 0744 End Time 0754 Obs Pt. 1

Page 1 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: Low ____ (High) ____ (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 56 (°F) Cloud Cover: 30 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0748 | - | A | 1 | WA | PE | E | 50 | 50 | SITE | N | Y | |
| | | | | | (FL) | OT | | | | | | | |
| 2 | 0749 | - | A | 1 | WA | PE | W | 100 | 20 | SITE | N | Y | |
| | | | | | (FL) | OT | | | | | | | |
| 3 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 4 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 5 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 6 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 7 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 8 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 9 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 10 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 11 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 12 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)

Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/17/14 Observer (init.) SRV Start Time 0759 End Time 0809 Obs Pt. (2)

Page 2 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable | Speed: Low (High) (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other | Temp: 56 (°F) | Cloud Cover 30 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE / FL OT | | | | | | | NO USE OBSERVED |
| 2 | | | | | WA PE / FL OT | | | | | | | |
| 3 | | | | | WA PE / FL OT | | | | | | | |
| 4 | | | | | WA PE / FL OT | | | | | | | |
| 5 | | | | | WA PE / FL OT | | | | | | | |
| 6 | | | | | WA PE / FL OT | | | | | | | |
| 7 | | | | | WA PE / FL OT | | | | | | | |
| 8 | | | | | WA PE / FL OT | | | | | | | |
| 9 | | | | | WA PE / FL OT | | | | | | | |
| 10 | | | | | WA PE / FL OT | | | | | | | |
| 11 | | | | | WA PE / FL OT | | | | | | | |
| 12 | | | | | WA PE / FL OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/27/14 Observer (init.) SBV Start Time 0814 End Time 0824 Obs Pt: 3

Page 3 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: Low (High) (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 86 (°F) Cloud Cover: 30 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0820 | - | A | 1 | WA PE (FL) OT | N | 300 | 300 | SCTE | N | Y | |
| 2 | | | | | WA PE FL OT | | | | | | | |
| 3 | | | | | WA PE FL OT | | | | | | | |
| 4 | | | | | WA PE FL OT | | | | | | | |
| 5 | | | | | WA PE FL OT | | | | | | | |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/24/14 Observer (init.) SPV Start Time 0830 End Time 0840 Obs Pt. (4)

Visibility: (Clear) or Min _____ Max _____ (m) Page ___ of ___

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: Low (High) (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 56 (°F) Cloud Cover: 25 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0830 | - | A | 2 | WA | (FE) | - | 400 | 400 | SITE MIRROR | N | Y | |
| | | | | | FL | OT | | | | | | | |
| 2 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 3 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 4 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 5 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 6 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 7 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 8 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 9 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 10 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 11 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |
| 12 | | | | | WA | PE | | | | | | | |
| | | | | | FL | OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mm/dd/yr) 4/24 Observer (init.) SPV Start Time 0852 End Time 0902 Obs Pt 5

Page ___ of ___

Visibility: (Clear) or Min ____ Max ____ (m)

Wind Direction from (circle one): Calm N NE E SE S (SW) W NW Variable Speed: Low (High) (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 60 (°F) Cloud Cover: 25 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (b) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | WA PE FL OT | | | | | | | |
| 2 | | | | | WA PE FL OT | | | | | | | |
| 3 | | | | | WA PE FL OT | | | | | | | |
| 4 | | | | | WA PE FL OT | | | | | | | |
| 5 | | | | | WA PE FL OT | | | | | | | |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

NONE OBSERVED

*Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)

Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mm/dd/yy) 4/27/14 Observer (init.) SRV Start Time 0808 End Time 0918 Obs Pt: 6

Page 6 of 7

Visibility: (Clear) or Min _____ Max _____ (m)

Wind Direction from (circle one): calm N NE E SE S (SW) W NW Variable Speed: Low (High) (km/h)

Precipitation (circle one): (none) light rain rain snow sleet hail fog other Temp: 68 (°F) Cloud Cover: 25 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Perch Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0908 | - | A | 1 | WA PE FL (OT) | – | 50 | 50 | SITE | N | Y | Eating food waste from ground. |
| 2 | | | | | WA PE FL OT | | | | | | | |
| 3 | | | | | WA PE FL OT | | | | | | | |
| 4 | | | | | WA PE FL OT | | | | | | | |
| 5 | | | | | WA PE FL OT | | | | | | | |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)

Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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Mojave Solar

Common Raven Fixed Point Observation Data Sheet

Date (mmddyy) 4/27/14 Observer (init.) SRV Start Time 0920 End Time 0930 Obs Pt. 1

Page 1 of 7

Visibility: Clear or Min _____ Max _____ (m)

Wind Direction from (circle one): Calm N NE E SE S SW W NW Variable | Speed: Low High ___ (km/h)

Precipitation (circle one): none light rain rain snow sleet hail fog other | Temp: 63 (°F) | Cloud Cover: 25 %

| Obs # | Time | Sex | Age | # of birds | Activity (circle 1st, X others) | Flight Dir (to) | Horizontal Distance (m) 1st | Horizontal Distance (m) closest | Habitat Type/ Feron Structure | Aud? | Vis? | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0915 | - | A | 1 | WA PE (FL) OT | E | 200 | 200 | SITE | N | Y | |
| 2 | 0928 | - | A | 1 | WA PE (FL) OT | S | 250 | 200 | SITE | N | Y | |
| 3 | | | | | WA PE FL OT | | | | | | | |
| 4 | | | | | WA PE FL OT | | | | | | | |
| 5 | | | | | WA PE FL OT | | | | | | | |
| 6 | | | | | WA PE FL OT | | | | | | | |
| 7 | | | | | WA PE FL OT | | | | | | | |
| 8 | | | | | WA PE FL OT | | | | | | | |
| 9 | | | | | WA PE FL OT | | | | | | | |
| 10 | | | | | WA PE FL OT | | | | | | | |
| 11 | | | | | WA PE FL OT | | | | | | | |
| 12 | | | | | WA PE FL OT | | | | | | | |

Activity Codes: WA-walking on ground, PE-perched above ground, FL-flying, OT-other (please specify)
Habitat Codes: CBS-Creosote Bush Scrub, SD/SS-Sand Dunes/Sand Sheets, DP-Desert Pavement, OT-other (please specify, provide details of Project structure/facility)

| OBS. # (Time) | ADDITIONAL NOTES |
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# Attachment 4
# Observed Wildlife Species List

| Observed Wildlife Species List April 2014<br>Mojave Solar Project | | |
|---|---|---|
| **Common Name** | *Scientific Name* | **Status<br>State/Federal** |
| **Reptiles** | | |
| Western Whiptail | *Aspidoscelis tigris* | __/__ |
| Mojave Green | *Crotalus scutulatus* | __/__ |
| Gopher Snake | *Pituophis catenifer* | __/__ |
| Side-blotched Lizard | *Uta stansburiana* | __/__ |
| **Birds** | | |
| Red-winged Blackbird | *Agelaius phoeniceus* | __/__ |
| Black-throated Sparrow | *Amphispiza bilineata* | __/__ |
| Golden Eagle | *Aquila chrysaetos* | CDF-S,FP/BCC |
| Least Sandpiper | *Calidris minutilla* | __/__ |
| House Finch | *Carpodacus mexicanus* | __/__ |
| Turkey Vulture | *Cathartes aura* | __/__ |
| Killdeer | *Charadrius vociferus* | __/__ |
| Common Raven | *Corvus corax* | __/__ |
| Snowy Egret | *Egretta thula* | __/__ |
| Horned Lark | *Eremophila alpestris* | WL/__ |
| Greater Roadrunner | *Geococcyx californianus* | __/__ |
| Loggerhead Shrike | *Lanius ludovicianus* | CSC/__ |
| House Sparrow | *Passer domesticus* | __/__ |
| Western Meadowlark | *Sturnella neglecta* | __/__ |
| European Starling | *Sturnus vulgaris* | __/__ |
| Yellow-headed Blackbird | *Xanthocephalus xanthocephalus* | CSC/__ |
| Mourning Dove | *Zenaida macroura* | __/__ |

| Observed Wildlife Species List April 2014<br>Mojave Solar Project | | |
|---|---|---|
| **Common Name** | *Scientific Name* | **Status<br>State/Federal** |
| **Mammals** | | |
| White-tailed Antelope Squirrel | *Ammospermophilus leucurus* | __/__ |
| Black-tailed Jackrabbit | *Lepus californicus* | __/__ |
| Desert kit fox | *Vulpes macrotis* | CSC/__ |

Status Codes:

Federal:

FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range

FT = Federally listed, threatened: species likely to become endangered within the foreseeable future

State:

SE = State listed as endangered

ST = State listed as threatened

CSC = California Species of Special Concern Species of concern to CDFW because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

CCR = protected by the California Code of Regulations

WL = Watch List

CDF-S = California Department of Forestry Sensitive

# Appendix C
# Cultural Resources

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA
95833-2937
Tel: 916.920.0300
Fax: 916.920.8463

May 5, 2014

Dale Rundquist
Compliance Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Abengoa Mojave Solar Project (09-AFC-5C)
Monthly Compliance Report CUL-1 and CUL-6

Dear Mr. Rundquist:

CH2M HILL is assisting Abengoa Solar Inc. (Abengoa) in complying with California Energy Commission (CEC) Conditions of Certification, specifically, CUL-1 and CUL-6, for cultural resource monitoring, as set forth in the Commission Decision for the Mojave Solar Project (MSP). This report covers the cultural resources monitoring conducted from April 1, 2014 through April 30, 2014 by CH2M HILL.

## Personnel Active in Cultural Monitoring This Period

The Cultural Resources Monitors (CRMs) included: Kurt Lambert, Sonia Sifuentes, Ryan Rolston, and Jesse Shelmire. The Native American Monitors (NAMs) included: Tommy Herrera, Rebecca Brierty, Vanessa Brierty, Joseph Lente, and Leona Gilvin. Additionally, Cultural Resource Specialist, Gloriella Cardenas, was periodically onsite.

## Monitoring and Associated Activities This Period

Ground-disturbing activities subject to cultural resource monitoring occurred in various locations of the MSP. In Alpha East, septic system excavations, corner load foundations, concrete wash, corner load trenching, vault excavations, multimedia filter, heat trace foundations/removals, miscellaneous foundation excavations, and bore holes (a spot check activity) were monitored. In Beta West, grounding installations and corner load foundations required monitoring. In Beta East, grounding installations, grounding boreholes (a spot check activity), raw water line trenching, and septic system excavations, required monitoring.

## Cultural Resources Discoveries This Period

None.

## Anticipated Changes in the Next Period

Monitoring will continue for various foundations, electrical trenching, drainages, water line trenching, and other activities. The CRMs and NAMs will remain onsite to continue monitoring and to respond to discoveries if they occur.

## Comments, Issues or Concerns

During the reporting period one non-compliance event was resolved.

**NCR No. 9**. On March 18, 2014, it was confirmed that since March 3, 2014, eight heat transfer fluid spills had occurred in the solar fields and excavations of contaminated soils were completed without providing notification to the CRS and without CRMs present. Because failure to notify the CRS of ground-disturbing activities is a non-compliance issue per CUL-2, and conducting ground disturbance of native sediments without cultural monitoring is a non-compliance issue per CUL-6, an NRC was issued on March 19, 2014.

Resolution

## NCR No. 9 Resolution

As noted in the March 2014 MCR, on March 28, 2014, the CRS requested the following additional information and supporting documentation from the contractor regarding NCR No. 9.

1. Names of personnel involved in infractions.
2. Dates of protocols review.
3. Document/correspondence notifying personnel involved in the infractions that they are placed on probation for the remainder of their contract.
4. Correspondence documenting the contractor's proposed spill clean-up procedures consisting of immediate clean-up followed by a notification to the CRS to assess the open excavation for cultural resources was submitted to the CEC.

The documentation was received on April 4, 2014; and accepted by the CRS as complete on April 16, 2014. Attached to this report is the Non-compliance Resolution documentation that was received.

Sincerely,
CH2M HILL

Aaron Fergusson, M.A., RPA
Cultural Resources Monitor

**Attachment**
**NCR Report No. 9 Resolution**

ABEINSA EPC
MOJAVE

**Customer Non Conformity Report**

| **Project:** Mojave Solar Project | **Reference:** Cultural NCR 9 |
|---|---|
| **Date:** 3/25/2014 | |
| **Affected Area: Construction** | |

**Description of the problem:**

During the week of March 3rd through 7th, 2014, informal reports were announced of HTF spills and subsequent clean ups at Mojave Solar Project. Upon learning of potential ground disturbing activities having taken place without notification of cultural monitors present, the Cultural Resource Specialist (CRS) made several requests, during the daily construction meetings, to be provided with information on spill reports. Requested information consisted of number of spills, dates, depth of excavations, and locales. This information was necessary in order to assess if any impacts were made to cultural resources. The contractor, Abeinsa, stated no such events had occurred and there was no data to provide.

On March 13, 2014, the CRS was notified by Alejandra Moreno, from Abeinsa, of an HTF spill in the area known as Mojavito, located within the Alpha East section of the project area; a request for cultural monitors was also made. That was the extent of information provided as Ms. Moreno would not elaborate on exact location, details regarding the spill or the time to deploy monitors. Ms. Moreno informed the CRS that Abeinsa was still assessing and would be in touch with further instructions. No additional calls were made to the CRS and no additional information was provided. The CRS contacted several oversight departments within Abengoa and Abeinsa, but the response was that the information sought had not been provided to them.

On March 18, 2014 the Designated Biologist (DB) for MSP shared with the CRS that the DB had obtained HTF spill reports and knew of the locations where clean ups, which included excavations, had occurred. The official spill report for the Mojavito incident was dated March 5, 2014. The spill report logs documented seven other spills having occurred between March 3rd and 4th, 2014. The areas for the known spills were assessed for impacts to cultural resources; a finding of no impacts was determined for seven of the eight HTF spills. The spill in the Mojavito area consisted of three deposits, the smallest of which was approximately two-meters-by- two-meters with an unknown depth. These spills, located between mirror rows 93 and 94, had been backfilled and the CRS was unable to determine if any impacts had occurred. Although the likelihood for impacts to cultural resources is considered minimal, the theoretical potential exists.

In conclusion to the HTF spill inquiry, it was reported by Abeinsa during the construction meeting held on March 19, 2014, that their commissioning department had failed to provide personnel with ground disturbing procedures and reporting requirements per the Conditions of Certification. Because failure to notify the CRS of ground disturbing activities is a non-compliance issue per CUL-2, and conducting ground disturbance of native sediments without cultural monitoring is a non-compliance issue per CUL-6, this NCR was issued. Additionally, this is the contractor's third non-compliance incident regarding failure to notify the CRS of an excavation in conjunction with failure to obtain cultural monitors for ground disturbing activities.

Requires preventive action: No ☐ Yes ☒ (IA Opening)

| **IRP No.** | **Date:** 3/25/14 |
|---|---|

ABEINSA EPC
MOJAVE

| **IRP Evaluator:** | |
|---|---|
| The recommendations are as follows:<br>1. Because this is the third infraction with the contractor (see Cultural NCR No. 6 and 7), upon receipt of this NCR, the parties involved should undergo an immediate review of procedures for ground disturbing operations and be put on a probationary status for the remainder of the contract. Suspension of work for a minimum of five working days should occur upon another infraction by these parties, with all-hands retraining and training documentation to occur during that interval.<br>2. A general requirement should be provided by the Project Owner that no excavations whatsoever are to occur without a cultural resources monitor present, or without a specific clearance from the CRS directly.<br>3. Construction is recommended to realign their work to be in compliance with the Conditions of Certification, existing plans, and SHPO stipulations regarding Determination of No Adverse Effects, specifically, the specifications listed in the Modification in the Mojave Solar Plant Construction Cultural Monitoring Requirements, dated April 9, 2013. | |
| **Root Cause:** | |
| Unfulfilled Procedure - Potential impacts could have included destruction of buried cultural deposits. | |
| **Corrective Action:** | |
| **IRP Coordinator:** Steven Pochmara | **Date: 3/25/2014** |

# ABEINSA EPC
# MOJAVE

**Comment:**
After much discussion with all site staff, it was concluded that should a minor spill occur the cleanup and excavation will begin immediately and the DB and CRS notified. The excavation will be left open until the cultural monitor arrives for inspection. This procedure is intended protocol for addressing spills only. The CEC was sent an email informing them of this procedure, see attached. All other excavations will adhere to the Cultural-2 and -6 compliances as specified. Abeinsa EPC will continue to take a proactive approach with the CEC as a safe site is of utmost importance.
Construction/commissioning will continue to provide daily schedules to cultural and biological staff for areas where the subcontractors will be excavating and continue to immediately inform cultural and biological staff of any changes to those schedules.
AEPC will implement the following actions:
a. Activity managers, supervisors, and coordinators underwent a review of procedures for ground disturbance. Abacus, the subcontractor involved in the infraction committed on 3/5/2014, has been put on probationary status for seven (7) days and communicated via a Non-Conformity from AEPC of their suspension upon their next infraction (see attached sign-in sheet and email confirming the submittal of the NCR).
b. As per CRS's email, AEPC will provide daily monitoring schedule maps to all monitors, via CRS, each morning. Deliverable to stakeholders will still be sent out daily to reflect the quantity of monitors requested the next day.
c. Activity managers, supervisors, and coordinators have undergone a review of the COC and SHPO for Mojave Solar Project in regards to cultural compliance. See attached sign-in-sheet acknowledging review by 3/25/2014, official deadline.

**Attachments :**

CEC email
Signed acknowledgement sheet from subcontractor
Sign-in sheet acknowledging review of COC and SHPO by AM's, supervisors and coordinators.

**NCR Coordinator:**
Steven Pochmara

**Position:** Permitting Manager

**Signature of Coordinator:**

**NCR Evaluator:**
Nicolas Gallo Massa

**Position:** Project Sub-Director

**Signature of Evaluator:**

**NCR Supervisor:**
Efrain Perez

**Position:** Quality Manager

**Signature of Supervisor:**

ABENER TEYMA
MOJAVE

# EHS Training Record

| | |
|---|---|
| Training Description: Cultural Protocol, MOJAVE Site | |
| Describe Training and Material: Excavation Removal Process, Recording ~ Reporting. | |
| Date conducted: 3-31-14 | Amount of time: 30 min. |
| Presenter name: Terry Barker | |

Expectations for Attendees:

Personnel attending and satisfactorily completing the training will record their participation by signing the training record below, acknowledging:

- their attendance,
- their opportunity to ask questions regarding the material and concepts,
- their understanding of the material and concepts as presented, and
- their understanding that follow up questions or additional training regarding the material and concepts can be pursued with the presenter or functional manager after the training session.

| Attendance (print name) | Signature of Attendee |
|---|---|
| TODD E KING | T.E King |
| Tim Miller | Tim Miller |
| CLAUDIO | |
| BERNARD KOTHE | B. Kothe |
| Sebastian Barrera Rescalvo | |
| Michael Mraz | Michael Mraz |
| PEDRO MARTINEZ | Pedro Martinez |
| Christopher Scott | Christopher Scott |
| IAN SPINNEY | Ian Spinney |
| MIKE DAVIS | Mike Davis |
| Jacob Manalisay | Jacob Manalisay |
| Jose godinez JR | godinez Jr |
| | |

ABEINSA EPC

**Steven Pochmara**
03/19/2014 12:28 PM

Send To: drundqui@energy.state.ca.us, drundqui@energy.ca.gov, agreenberg@risksci.com

cc: charles.walker@us.bureauveritas.com, Larry Davis/AbeinsaEPC/Abengoa@Abengoa, Alejandra Moreno Aguilar/AbeinsaEPC/Abengoa@Abengoa, Ángel Muller Hernández/AbeinsaEPC/Abengoa@Abengoa, Octavio Zabala García/AbeinsaEPC/Abengoa@Abengoa, Francisco García Ariza/AbeinsaEPC/Abengoa@Abengoa, Mercedes Macias Paris/AbeinsaEPC/Abengoa@Abengoa, Pablo Enrique Schenone Laborde/AbeinsaEPC/Abengoa@Abengoa, Nicolás Gallo Massa <ngallo@teyma.abengoa.com>, Nicholas Herrera Cave/AbeinsaEPC/Abengoa@Abengoa, Holmes Bassette/Solar/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa

Subject: Mojave solar spill containment procedures

Good Morning Dale,
Now that the project is at a point where HTF will be on site, we want to be proactive with regards to addressing and cleaning up spills. The spills in question are of the minor variety, below the reportable threshold of less than 20 gallons. In addition to following protocol from the SPCC and WKSF-2 plans, BIO-7 also provides language that spills should be cleaned up immediately. However, these compliances run contrary to the CUL-2, -6 compliances which specify that any excavation, even if it's a shovel to the ground, must not proceed until a cultural monitor is present. This has presented a conflict on several occasions as the general consensus is spills need to be addressed immediately as health and safety issues take precedence. After much discussion with all site staff, it was concluded that should a minor spill occur, the cleanup and excavation will begin immediately with the contaminated soil disposed of into proper bulk containers and the shallow hole left open until the cultural monitor arrives for inspection. The contaminated soil will be promptly transported to the bioremediation facility and address per the bioremediation plans and manual. A weekly spreadsheet detailing all spills will be provided to both the CRS and DB. This procedure ensures that all compliances are followed and helps maintain a safe site. Abeinsa EPC will continue to take a proactive approach with the CEC as a safe site is of utmost importance. If you have any questions please feel free to contact me.

Regards,

Steven Pochmara - Permit Manager

ABEINSA EPC
13911 Park Avenue, Suite 208
Victorville, CA 92392
Cell: +14802871419
Steven.Pochmara@teyma.abengoa.com
www.teyma.com

**Gloriella.Cardenas**
04/16/2014 06:32 AM

| | |
|---|---|
| Send To | <holmes.bassette@solar.abengoa.com> |
| cc | <william.grisolia@solar.abengoa.com> |
| bcc | |
| Subject | Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9 |

History: This memo has been forwarded

Received and no request for changes or comments from my end. Thank you.

Sent from my iPhone

> On Apr 15, 2014, at 9:42 PM, "holmes.bassette@solar.abengoa.com" <holmes.bassette@solar.abengoa.com> wrote:
>
> Gloriella,
>
> My records show that I sent this to you but you may not have gotten it. I can't seem to find your acceptance of it. Can you confirm that you already accepted this resolution and that there are no outstanding CRS issued cultural NCR's?
>
> Thank you and kind Regards,
>
> Holmes Bassette - (Trey)
> Director of Permitting
>
> ABENGOA SOLAR
> Abengoa Solar Inc.
> Abengoa Solar Inc.
> 11500 W.13th Avenue, Lakewood, CO 80215
> Phone: 636-519-3640 (x86250)  Cell: 720-289-5542
> Holmes.Bassette@solar.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
> ----- Forwarded by Holmes Bassette/Solar/Abengoa on 04/15/2014 09:37 PM -----
> ABEINSA EPC
> Chantal Contijoch
> 04/04/2014 01:40 PM
> Send To:
> Holmes Bassette/Solar/Abengoa@Abengoa
> cc: Document Control - Mojave, Efrain Perez/AbeinsaEPC/Abengoa@ABENGOA, Enrique Valades Nieto/AbeinsaEPC/Abengoa@ABENGOA, Frances Sanchez/Solar/Abengoa@ABENGOA, Frederick Redell/Solar/Abengoa@ABENGOA, jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@ABENGOA, Juan Manuel Varo Nuñez/Solar/Abengoa@ABENGOA, Kathleen Sullivan/Solar/Abengoa@ABENGOA, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@ABENGOA, Mercedes Macias Paris/AbeinsaEPC/Abengoa@ABENGOA, Mojave Subs/Teyma/Abengoa@ABENGOA, Nicholas Potrovitza/Solar/Abengoa@ABENGOA, Nicolás Gallo Massa/AbeinsaEPC/Abengoa@ABENGOA, Pablo Enrique Schenone

Laborde/AbeinsaEPC/Abengoa@ABENGOA, Regine Wendt-Parker/Solar/Abengoa@ABENGOA, Steven Pochmara/AbeinsaEPC/Abengoa@ABENGOA, Vernon Leeming/AbeinsaEPC/Abengoa@ABENGOA, William Grisolia/Solar/Abengoa@ABENGOA
> Subject: Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Trey,
>
> Please find attached the corrected resolution, which includes a revised report, WEAP training sign-in sheets, and an email communication from permitting to the CEC. Thanks and let us know of any questions.
>
>
>
> Regards,
>
> Chantal Contijoch - Quality Department
>
> ABEINSA EPC
> Abener Teyma Mojave General Partnership
> 13911 Park Ave. Suite 200
> Victorville, CA. 92392
> Cell: 480-432-3741
> chantal.contijoch@abeinsaepc.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
>
>
>
> ABENGOA SOLAR
> Holmes Bassette
> 03/31/2014 07:41 AM
> Send To:
> Chantal Contijoch/AbeinsaEPC/Abengoa@ABENGOA
> cc: Document Control - Mojave, Efrain Perez/AbeinsaEPC/Abengoa@Abengoa, Enrique Valades Nieto/AbeinsaEPC/Abengoa@Abengoa, Frances Sanchez/Solar/Abengoa@Abengoa, Frederick Redell/Solar/Abengoa@Abengoa, jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@Abengoa, Juan Manuel Varo Nuñez/Solar/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@Abengoa, Mercedes Macias Paris/AbeinsaEPC/Abengoa@Abengoa, Mojave Subs/Teyma/Abengoa@Abengoa, Nicholas Potrovitza/Solar/Abengoa@Abengoa, Nicolás Gallo Massa/AbeinsaEPC/Abengoa@Abengoa, Pablo Enrique Schenone Laborde/AbeinsaEPC/Abengoa@Abengoa, Regine Wendt-Parker/Solar/Abengoa@Abengoa, Steven Pochmara/AbeinsaEPC/Abengoa@Abengoa, Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, William Grisolia/Solar/Abengoa@Abengoa
> Subject: Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Chantal,
>
> Please see the comments to the proposed resolution. The comments were provided by the CRS.
>
> [attachment "Cultural NCR 09 Resolution Report CRS Comments.pdf" deleted by Chantal Contijoch/AbeinsaEPC/Abengoa] [attachment "CUL NCR #9 Resolution CRS Response 3.28.14.pdf" deleted by Chantal Contijoch/AbeinsaEPC/Abengoa]
>
> Thank you and kind Regards,

>
> Holmes Bassette - (Trey)
> Director of Permitting
>
> ABENGOA SOLAR
> Abengoa Solar Inc.
> Abengoa Solar Inc.
> 11500 W.13th Avenue, Lakewood, CO 80215
> Phone: 636-519-3640 (x86250)  Cell: 720-289-5542
> Holmes.Bassette@solar.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
>
>
>
>
> ABEINSA EPC
> Chantal Contijoch
> 03/27/2014 03:06 PM
> Send To:
> Holmes Bassette/Solar/Abengoa@Abengoa
> cc:  Document Control - Mojave, Efrain Perez/AbeinsaEPC/Abengoa@ABENGOA, Enrique Valades Nieto/AbeinsaEPC/Abengoa@ABENGOA, Frances Sanchez/Solar/Abengoa@ABENGOA, Frederick Redell/Solar/Abengoa@ABENGOA, jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@ABENGOA, Juan Manuel Varo Nuñez/Solar/Abengoa@ABENGOA, Kathleen Sullivan/Solar/Abengoa@ABENGOA, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@ABENGOA, Mercedes Macias Paris/AbeinsaEPC/Abengoa@ABENGOA, Mojave Subs/Teyma/Abengoa@ABENGOA, Nicholas Potrovitza/Solar/Abengoa@ABENGOA, Nicolás Gallo Massa/AbeinsaEPC/Abengoa@ABENGOA, Pablo Enrique Schenone Laborde/AbeinsaEPC/Abengoa@ABENGOA, Regine Wendt-Parker/Solar/Abengoa@ABENGOA, Steven Pochmara/AbeinsaEPC/Abengoa@ABENGOA, Vernon Leeming/AbeinsaEPC/Abengoa@ABENGOA, William Grisolia/Solar/Abengoa@ABENGOA
> Subject:  Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Trey,
>
> Please find attached the corrected resolution report, if you have any comments please let us know.
>
> [attachment "Cultural NCR 09 Resolution Report.pdf" deleted by Holmes Bassette/Solar/Abengoa]
>
> Regards,
>
> Chantal Contijoch - Quality Department
>
> ABEINSA EPC
> Abener Teyma Mojave General Partnership
> 13911 Park Ave. Suite 200
> Victorville, CA. 92392
>  Cell: 480-432-3741
> chantal.contijoch@abeinsaepc.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
>
>
>

>
> ABENGOA SOLAR
> Holmes Bassette
> 03/26/2014 08:27 AM
> Send To:
> Efrain Perez/AbeinsaEPC/Abengoa@Abengoa
> cc: Chantal Contijoch/AbeinsaEPC/Abengoa@Abengoa, Document Control - Mojave, Enrique Valades Nieto/AbeinsaEPC/Abengoa@Abengoa, Frances Sanchez/Solar/Abengoa@Abengoa, Frederick Redell/Solar/Abengoa@Abengoa, jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@Abengoa, Juan Manuel Varo Nuñez/Solar/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@Abengoa, Mercedes Macias Paris/AbeinsaEPC/Abengoa@Abengoa, Mojave Subs/Teyma/Abengoa@Abengoa, Nicholas Potrovitza/Solar/Abengoa@Abengoa, Nicolás Gallo Massa/AbeinsaEPC/Abengoa@Abengoa, Pablo Enrique Schenone Laborde/AbeinsaEPC/Abengoa@Abengoa, Regine Wendt-Parker/Solar/Abengoa@Abengoa, Steven Pochmara/AbeinsaEPC/Abengoa@Abengoa, Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, William Grisolia/Solar/Abengoa@Abengoa
> Subject: Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Efrain,
>
> The corrective action does not include any reference to immediate review of procedures or the application of a probationary status as was recommended by CEC.
>
> On 3/21 at 2:06 PM, the CPM stated in an email "Staff concurs with these recommendations as drafted in Cultural NCR No. 9, and requests that Abengoa Solar immediately provide the CPM with a written commitment to implement them, as drafted."
>
> This corrective action is insufficient for ASLLC to in turn provide the CPM with the written commitment to implement the CUL NCR #9 resolutions as drafted by the CRS.
>
> Please provide a corrective action that allows for a confirmation to be provided as soon as possible.
>
>
>
> Thank you and kind Regards,
>
> Holmes Bassette - (Trey)
> Director of Permitting
>
> ABENGOA SOLAR
> Abengoa Solar Inc.
> Abengoa Solar Inc.
> 11500 W.13th Avenue, Lakewood, CO 80215
> Phone: 636-519-3640 (x86250) Cell: 720-289-5542
> Holmes.Bassette@solar.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
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>
>
>
> ABEINSA EPC

> Efrain Perez
> 03/25/2014 10:08 AM
> Send To:
> Holmes Bassette/Solar/Abengoa@Abengoa
> cc: Document Control - Mojave, Enrique Valades Nieto/AbeinsaEPC/Abengoa@Abengoa, Frances Sanchez/Solar/Abengoa@Abengoa, Frederick Redell/Solar/Abengoa@Abengoa, jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@Abengoa, Juan Manuel Varo Nuñez/Solar/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@Abengoa, Mercedes Macias Paris/AbeinsaEPC/Abengoa@Abengoa, Mojave Subs/Teyma/Abengoa@Abengoa, Nicholas Potrovitza/Solar/Abengoa@Abengoa, Nicolás Gallo Massa/AbeinsaEPC/Abengoa@Abengoa, Pablo Enrique Schenone Laborde/AbeinsaEPC/Abengoa@Abengoa, Regine Wendt-Parker/Solar/Abengoa@Abengoa, Steven Pochmara/AbeinsaEPC/Abengoa@Abengoa, Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, William Grisolia/Solar/Abengoa@Abengoa, Chantal Contijoch/AbeinsaEPC/Abengoa@ABENGOA
> Subject: Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Trey,
>
> Please find attached the resolution report for Cultural NCR-09. If you need any additional information please inform us. Thank you
>
>
> [attachment "Customer Non Conformity Resolution Report Cultural NCR 9.doc" deleted by Holmes Bassette/Solar/Abengoa]
>
> Regards
>
> Efrain Perez -
> Quality & Environmental Manager
>
> ABEINSA EPC
> Abener Teyma Mojave General Partnership
>
> 42134 Harper Lake road,
> Hinkley, CA, 92347
> Cell: 661 (7546234)
> efrain.perez@teyma.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
>
>
>
>
> ABENGOA SOLAR
> Holmes Bassette
> 03/24/2014 02:24 PM
> Send To:
> Steven Pochmara/AbeinsaEPC/Abengoa@Abengoa
> cc: Document Control - Mojave, Efrain Perez/AbeinsaEPC/Abengoa@Abengoa, Enrique Valades Nieto/AbeinsaEPC/Abengoa@Abengoa, Frances Sanchez/Solar/Abengoa@Abengoa, Frederick Redell/Solar/Abengoa@Abengoa, jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@Abengoa, Juan Manuel Varo Nuñez/Solar/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@Abengoa, Mercedes Macias Paris/AbeinsaEPC/Abengoa@Abengoa, Mojave Subs/Teyma/Abengoa@Abengoa, Nicholas

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Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, William
Grisolia/Solar/Abengoa@Abengoa
> Subject:  Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Steve,
>
> Do you know when AEPC will provide a response?
>
> Thank you and kind Regards,
>
> Holmes Bassette - (Trey)
> Director of Permitting
>
> ABENGOA SOLAR
> Abengoa Solar Inc.
> Abengoa Solar Inc.
> 11500 W.13th Avenue, Lakewood, CO 80215
> Phone: 636-519-3640 (x86250)  Cell: 720-289-5542
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>
> ABEINSA EPC
> Steven Pochmara
> 03/21/2014 03:24 PM
> Send To:
> Holmes Bassette/Solar/Abengoa@Abengoa
> cc:  Document Control - Mojave, Efrain Perez/AbeinsaEPC/Abengoa@ABENGOA,
Enrique Valades Nieto/AbeinsaEPC/Abengoa@ABENGOA, Frances
Sanchez/Solar/Abengoa@ABENGOA, Frederick Redell/Solar/Abengoa@ABENGOA,
jmanuel.bravo@solar.abengoa.com, John Costanzo/Solar/Abengoa@ABENGOA, Juan
Manuel Varo Nuñez/Solar/Abengoa@ABENGOA, Kathleen
Sullivan/Solar/Abengoa@ABENGOA, Leonardo Bruno
Carrero/AbeinsaEPC/Abengoa@ABENGOA, Mercedes Macias
Paris/AbeinsaEPC/Abengoa@ABENGOA, Mojave Subs/Teyma/Abengoa@ABENGOA, Nicholas
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Laborde/AbeinsaEPC/Abengoa@ABENGOA, Regine Wendt-Parker/Solar/Abengoa@ABENGOA,
Vernon Leeming/AbeinsaEPC/Abengoa@ABENGOA, William
Grisolia/Solar/Abengoa@ABENGOA
> Subject:  Re: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Recieved Dale's email, spoke with him and are addressing the comments.  Will
submit later this evening or on Monday morning.
>
> Regards,
>
> Steven Pochmara - Permit Manager
>
> ABEINSA EPC
> 13911 Park Avenue, Suite 208
> Victorville, CA 92392

> Cell: +14802871419
> Steven.Pochmara@teyma.abengoa.com
> www.teyma.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
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>
> ABENGOA SOLAR
> Holmes Bassette
> 03/21/2014 03:05 PM
> Send To:
> Steven Pochmara/AbeinsaEPC/Abengoa@Abengoa
> cc: Vernon Leeming/AbeinsaEPC/Abengoa@Abengoa, Nicolás Gallo Massa/AbeinsaEPC/Abengoa@Abengoa, Pablo Enrique Schenone Laborde/AbeinsaEPC/Abengoa@Abengoa, Efrain Perez/AbeinsaEPC/Abengoa@Abengoa, Mercedes Macias Paris/AbeinsaEPC/Abengoa@Abengoa, Leonardo Bruno Carrero/AbeinsaEPC/Abengoa@Abengoa, Enrique Valades Nieto/AbeinsaEPC/Abengoa@Abengoa, Document Control - Mojave, Mojave Subs/Teyma/Abengoa@Abengoa, Frederick Redell/Solar/Abengoa@Abengoa, Kathleen Sullivan/Solar/Abengoa@Abengoa, John Costanzo/Solar/Abengoa@Abengoa, Regine Wendt-Parker/Solar/Abengoa@Abengoa, Frances Sanchez/Solar/Abengoa@Abengoa, William Grisolia/Solar/Abengoa@Abengoa, jmanuel.bravo@solar.abengoa.com, Juan Manuel Varo Nuñez/Solar/Abengoa@Abengoa, Nicholas Potrovitza/Solar/Abengoa@Abengoa
> Subject: 6007-ANC-ASI-AEPC-0921 Regarding Cultural NCR #9
>
>
> Steve,
>
> Please review the attached email from the CEC CPM, Dale Rundquist, and confirm that AEPC will commit to implement the resolutions as stated. A prompt reply is requested as ASLLC needs to respond to the CPM as soon as possible.
>
> [attachment "Cultural NCR No. 9 CEC response 3.21.14.pdf" deleted by Holmes Bassette/Solar/Abengoa]
>
> Thank you and kind Regards,
>
> Holmes Bassette - (Trey)
> Director of Permitting
>
> ABENGOA SOLAR
> Abengoa Solar Inc.
> Abengoa Solar Inc.
> 11500 W.13th Avenue, Lakewood, CO 80215
> Phone: 636-519-3640 (x86250) Cell: 720-289-5542
> Holmes.Bassette@solar.abengoa.com
> P Eco-Tip: Printing e-mails is usually a waste.
>
> <Non Conformity Resolution Report Cultural NCR 9 rev 01.pdf>
> <EHS Training RecordWEAP Sign in Sheet.pdf>
> <Communication_with_CEC_3-19-14.pdf>

# Appendix D
# Paleontological Resources

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

# Appendix D
# Paleontological Resources

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.

Pasadena Office
150 S. Arroyo Parkway, 2nd Floor
Pasadena, CA 91105
Tel 626.240.0587 Fax 626.240.0607
www.swca.com

Mr. Dale Rundquist, CPM
(09-AFC-5C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

May 1, 2014

RE: PAL-5, Summary of Paleontological Monitoring and Mitigation Activities at the Mojave Solar Project (MSP) for the period of April 2014

Dear Mr. Rundquist:

This letter is to confirm SWCA Environmental Consultants paleontological monitoring and mitigation activities at the MSP site during the period of April 1 through April 30, 2014. As of February 28, 2014, major ground-disturbing activities for the MSP have been completed and SWCA's monitoring services are no longer required onsite. No paleontological monitoring occurred during the above-referenced period.

It has been a pleasure working with you on this project. If you have any questions please do not hesitate to contact me at 626 240 0587 ext 6605 or at ccorsetti@swca.com.

Respectfully,

Cara Corsetti, M.S.
Principal
Paleontological Resources Specialist, MSP

# Appendix E
# Worker Safety

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

**Monthly Safety Inspection Report**
Larry Davis, Mojave Solar Project Safety Manager
April, 2014

**Record of all employees trained for the month**
Worked **4,704,429** hours project to date with **64** recordable incidents. **8,404** new employee orientations completed to date. **5,330** visitor safety orientations completed to date. **346** new employee orientations were completed in the month of April.

**Summary report of safety management actions and safety-related incidents that occurred:**

- **Light level measurements continue to be taken on night shift to ensure compliance for OSHA standards.**
- **End loop hydro testing completed in both Alpha and Beta solar fields.**
- **Solutia VP-1 deliveries continue in both Alpha and Beta to the Overflow tanks.**
- **H&S is conducting a complete audit of all H&S incidents and injuries including follow up corrective actions.**
    - **Zurich Reporting Officer added.**
    - **Incident Investigation Team (IIT) created.**

Safety management actions included WEAP and new employee orientation training, safety committee meetings and training classes for Confined Space, HTF Awareness, AWP training and LOTO/ 70E training. H&S continues with monthly subcontractor audits. Weekly inspection with Bureau Veritas revealed no major safety issues and all other issues corrected right away. BV reviewed four recordables for March 2014 for root cause and corrective actions. Worker Safety-2, Emergency Response Plan, and HTF Spill Procedure have been approved by the CEC. Four safety staff was added to the H&S team. **Santa Fe/Pipe Line/BNSF right of way Rd update: Violators detected during the month of April had their site access badges deactivated and site access denied.**

**Recordable incidents in previous months (Updates on bold)**

August 2013 open case
- Case #3 8/15/13. Milco. Worker fell while unloading HTF flex pipe resulting in a bruised tailbone. First Aid case reclassified as Lost Time on January 8, 2014.

October 2013 open cases
- Case #4: 10/16/2013. HLC. Left shoulder strain. Recordable reclassified as Lost Time.
- 10/16/2013. E.W. Corp. Physical Altercation Case. This non-occupational case is currently under worker compensation court review.

November 2013 open cases pending closure by Zurich
- Case #1: 11/19/2013. HLC. Worker suffered right clavicle dislocation resulting in RTW modified Duty. Retrained in safe work practices. Classified as recordable.

December 2013 open cases
- Case #1: 12/18/2013. Murray. Worker was unloading material from a flatbed trailer lost his footing and fell backwards to the ground and landed on left hip and leg area. Classified as Lost Time.

**Report of accidents and injuries that occurred during the month of March:**

**One lost work day case** and **four RWDC's** were incurred in the month of April 2014.

**Case #1: 4/11/2014 – ARB, right knee strain; Classified as RWDC**

- **Install step with handrails at North side of BOP foundation.**
- **Conduct eyes on path/taking the best route training with entire crew.**

**Case #2: 4/14/2014 – Synflex, splinter in left hand; Classified as LWDC**

- **Training in proper handling and lifting of materials.**

**Case #3: 4/15/2014 – Abacus, twisted right knee; Classified as RWDC**

- **A safety stand down was held on 4/16/2014 to discuss and coach the importance of work area awareness, being aware of your surroundings, clear paths of travel, and good body positioning.**

**Case #4: 4/22/2014 – Abacus, right lower back strain; Classified as RWDC**

- **Worker injured on 4/22/2014 and resigned on 4/25/2014.**

**Case #5: 4/24/2014 – ARB, left index finger avulsion; Classified as RWDC**

- **Train crew on "Not to hold onto grating".**

**No report of any continuing or unresolved situations and incidents that may pose danger to life or health.**

Currently we have an average of **1,575** employees on site daily.
Landing Zone prepared for emergency evacuation cleared at all times.

Construction has worked **4,704,429** hours with **64** recordable cases.
Total Recordable Incident Rate, (TRIR), for Project in the month of April is **1.90%**
Total Recordable Incident Rate, (TRIR), for year to date is **2.98%**
Total Recordable Incident Rate, (TRIR), for Project to date is **2.72%**
Total Lost Work day cases- **14**, Lost Work days total - **991**

ABENER TEYMA MOJAVE

# Safety Conditions Check List

## Internal by Work Site

| Mojave Solar Project | |
|---|---|
| **Activities performed:** | |
| **Safety Inspection Report**<br>**Record periodically (monthly)**<br>**April, 2014** | |

| Date: | Time: | Project Name & Number |
|---|---|---|
| 4.29.14 | 10:45 am | Mojave Solar Project -4A6007 |
| **Inspected by:** | | **Title** |
| Larry Davis | | Safety Manager |
| **Accompanied by:** | | **Title** |
| Raivo Neggo | | BV Safety |

| A | Safety & Risk Management Program Administration & Record Keeping | Values | | | | Comments |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | N/A | |
| 1 | Is there a Safety Manual, 29 CFR Sub Part 1926 and HAZCOM Manuals available on-site? | | | 3 | | |
| 2 | Are there Weekly Safety meetings (Toolbox Talks) conducted and documented? | | | 3 | | |
| 3 | Is the Weekly Job Safety Inspection conducted and documented? | | | 3 | | |
| 4 | Are the Federal & State Labor Notices posted in a conspicuous location? | | | 3 | | |
| 5 | Are the Emergency phone numbers & Doctors list posted conspicuously? | | | 3 | | |
| 6 | Are the Company vehicle operators authorized per company policy? | | | 3 | | |
| 7 | Are the New employee orientations documented for all new subcontractor employees? | | | 3 | | |
| 8 | Are the PM follow up letters to subcontractors re: Serious Violations on file? | | | 3 | | |
| 9 | Is the approved safety plan including the emergency action plan on site? | | | 3 | | |
| 10 | Is the Safety Plan updated to reflect any/all scope changes? | | | 3 | | |
| **B** | **Ladders & Stairways - OSHA Subpart X** | **Values** | | | | **Comments** |
| 1 | Are the ladders inspected for defects? | | | 3 | | |
| 2 | Are extension ladders extending 3 ft. above landing? | 1 | | | | DMI water treatment, Corrected at time of discovery |
| 3 | Are extension ladders pitched at 1 ft. out from vertical for every 4 ft. of height? | | | 3 | | |
| 4 | Are straight ladders secured in place? | 1 | | | | DMI water treatment, Corrected at time of discovery |
| 5 | Are the straight ladders equipped with safety feet? | | | 3 | | |

## Safety Conditions Check List

### Internal by Work Site

| | | | | | | |
|---|---|---|---|---|---|---|
| 6 | Are the step ladders used only in open position? | | | 3 | | |
| 7 | Are the stepladders tall enough for job without using top step, second step from top step or platform? | | | 3 | | |
| 8 | Is the use on non-conductive (non-metal) ladders only in proximity of electricity? | | | 3 | | |
| 9 | Are the stairways, ramps, and landing equipped with rails and handrails? | | | 3 | | . |
| 10 | Are the stairways and/or landings in use poured, filled, finished and free of debris, slip, trip or fall hazards? | | | 3 | | |
| 11 | Are the stairways adequately lighted? | | | 3 | | |
| 12 | Do the permanent ladders meet OSHA 1910 standards? | | | 3 | | |
| **C** | **Fall Protection OSHA - Subpart M** | **Values** | | | | **Comments** |
| 1 | Are the floor/roof deck openings protected with properly secured and marked covers or guardrails? | | | 3 | | |
| 2 | Are the wall openings/open-sided floors protected with fall protection/prevention systems? | | | 3 | | |
| 3 | Are the workers exposed to falls of 6' or more provided with and required to use personal fall arrest systems (PFAS) when not protected by guardrails? | | | 3 | | |
| 4 | Are the exposed rebar in work areas properly protected - capped, etc.?<br>Both vertical and horizontal? | | 2 | | | Abacus missing rebar caps<br>Corrected at time of discovery |
| 5 | Are specialty trades, I.e., roofers, ironworkers, etc., working under fall protection plans prepared by them and approved by controlling contractor? | | | 3 | | |
| 6 | Are the PFAS - Harnesses, Lanyards, Anchorage Points, Lifelines and Retractables inspected? | | | 3 | | |
| 7 | Are the anchorage Points 5K per person? | | | 3 | | |
| **D** | **Demolition – OSHA Subpart T** | **Values** | | | | **Comments** |
| 1 | Is the Engineering Survey completed and documented? | | | | N/A | |
| 2 | Is the work area "Identified & Protected", i.e., electricity, gas, water, sprinkler system? | | | | N/A | |
| **E** | **Scaffolds and Aerial Lifts – OSHA Subpart L** | **Values** | | | | **Comments** |
| 1 | Is there a competent Person, designated in writing, assigned to supervise operations and conduct documented daily inspections and on-site full time? | | | 3 | | |
| 2 | Are the working surfaces 6' or higher equipped with guardrails? | | | 3 | | |
| 3 | Are the working surfaces clear of debris, slip, trip and fall hazards? | | | 3 | | |
| 4 | Are the plumbs, tied in as necessary, safe footing, base plates, mudsills assembled and erected properly -? Are they equipped with all pins and bracing? Is a complete platform? | | | 3 | | |

## Safety Conditions Check List

### Internal by Work Site

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Is there a safe means of access to platform provided? | | | 3 | | |
| 6 | Are the wheels locked on rolling units when platform occupied? | | | 3 | | |
| 7 | Are the scaffolds at least 10 ft. from energized power lines? | | | 3 | | |
| 8 | Are the workers tied off in articulating boom lift? | | | 3 | | |
| 9 | Is the aerial lift on level surface? | | | 3 | | |
| 10 | Has safety been notified in advance of erecting a suspended scaffold? | | | 3 | | |
| 11 | Is there a competent Scaffold Person inspected and signed-off on scaffold prior to each shift daily? | | | 3 | | |
| 12 | Is a Tagging system used? | | | 3 | | |
| **F** | **Excavations & Trenches – OSHA Subpart P** | **Values** | | | | **Comments** |
| 1 | Is there a competent Person, designated in writing, assigned to supervise operations and conduct documented daily inspections and on site full time? | | | 3 | | |
| 2 | Are all excavations and trenches 5 ft. or greater in depth equipped with Protective Systems (shoring/shielding or sloped/benched)? | | | 3 | | |
| 3 | Are the ladders or other means of quick exit within 25 ft. of lateral travel for workers? | | | 3 | | |
| 4 | Is the Spoil pile at least 3 ft. from edge of excavation or trench? | | | 3 | | |
| 5 | Are the Underground utilities located & marked before excavation starts? (Verify ticket/maps/plans) | | | 3 | | |
| 6 | Are the barricades provided around all open excavations? | 1 | | | | Abacus/ARB missing information tags on barricades Corrected at time of discovery |
| 7 | Is the Equipment kept at proper distance from occupied excavations/trenches to minimize risk of cave-in or equipment falling in on workers? | | | 3 | | |
| 8 | IF 20' OR DEEPER Has Safety been notified? | | | 3 | | |
| 9 | IF 20' OR DEEPER, are the protective systems designed by a RPE? | | | 3 | | |
| 10 | Are the Surface and subsurface encumbrances identified? | | | 3 | | |
| 11 | Are the Water, atmospheric conditions, & surcharge loads considered? | | | 3 | | |
| **G** | **Motor Vehicles, Mechanized Equipment – OSHA Subpart** | **Values** | | | | **Comments** |
| 1 | Are the Tractors, backhoes, other vehicles equipped with operable backup alarms? | | | 3 | | |
| 2 | Are the Operators required wearing seat belts when provided on equipment? | 1 | | | | ARB/ABACUS/DMI several operators witnessed not using seatbelts on site mules. Corrected at time of discovery |
| 3 | Is the Forklift/Lull operator certification documented and available on project? | | | 3 | | |
| 4 | Is a High visible vest worn around earth moving equipment? | | | 3 | | |
| **H** | **Electrical – OSHA Subpart K** | **Values** | | | | **Comments** |

## Safety Conditions Check List

### Internal by Work Site

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|---|---|---|---|---|---|---|
| 1 | Are the Ground fault circuit interrupters (GFCI) used with all temporary wiring, e.g., extension cords and power from welding machines? | | | 3 | | |
| 2 | Is the GFCI in good appearance and in working order? | | | 3 | | |
| 3 | Are All tools and equipment inspected for defects in cords and plugs? | 1 | | | | DMI cords not being inspected prior to use. Cords removed from service with damages. |
| 4 | Are the Extension cords and ground pins are in good condition? | 1 | | | | DMI cords not being inspected prior to use. several removed from service without ground pins |
| 5 | Are the Sources of electricity, such as energized panel boxes, overhead lines, etc., properly marked, barricaded and protected? Inspected by a Qualified Person? | | | 3 | | |
| 6 | Is there an adequate lockout/tag out/try out procedures in place to protect employees? | | | 3 | | |
| 7 | Is the Temporary Lighting installed properly? (i.e. parking, construction trailer, & site) | | | 3 | | |
| **I** | **Personal Protective Equipment – OSHA Subpart E** | **Values** | | | | **Comments** |
| 1 | Is an adequate eye protection available and worn when required? | | | 3 | | |
| 2 | Is a Hearing protection available and used when necessary? | | | 3 | | |
| 3 | Are Hard hats available and worn at all times? | | | 3 | | |
| 4 | Are Work boots with protective toes worn by all employees? | 1 | | | | Individual witnessed w/o protected toe boxshoes 3 day suspension/re-attend orientation |
| 5 | Are All employees wearing shirts with sleeves? | | | 3 | | |
| 6 | Is a Hand protection available and in use when required? | | | 3 | | |
| 7 | Is there a Written respirator program available? | | | 3 | | |
| 8 | Are they Using N95 respirators for "voluntary use"? | | | 3 | | |
| 9 | Are the PFAS inspected by employees prior to use? | | | 3 | | |
| **J** | **Fire Prevention – OSHA Subpart F** | **Values** | | | | **Comments** |
| 1 | Are the flammable/combustible liquids stored away from ignition sources and identified by warning signs? | | | 3 | | |
| 2 | Are the approved metal safety cans utilized for storing all liquid flammables? | | | 3 | | |
| 3 | Are the fuel tanks surrounded by containment and 20' from building? | | | 3 | | |
| 4 | Are an adequate number of charged fire extinguishers available? With-in 75'? | | | 3 | | |
| 5 | Are the Extinguishers properly located, protected, Inspected? | | | 3 | | |
| 6 | Are the Flammable/combustible debris & storage kept away from welding & cutting? | | | 3 | | |
| **K** | **Welding & Cutting - OSHA Subpart J** | **Values** | | | | **Comments** |
| 1 | Are welding leads in good condition? | | | 3 | | |
| 2 | Is a Portable fire extinguisher located within 20' of all welding operations? | | | 3 | | |

## Safety Conditions Check List

### Internal by Work Site

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|---|---|---|---|---|---|---|
| 3 | Are Fire blankets available and used to cover combustible material located around welding operations? | | | 3 | | |
| 4 | Are Hot Work Permits used when required? | | | 3 | | |
| 5 | Is an Adequate use of fire curtains to enclose and shield welding operations? | | | 3 | | |
| 6 | Are Hoses, torches, and gauges free from defects, dirt and hydrocarbons such as oil and grease? | | | 3 | | |
| 7 | Are Regulators provided with flash arrestors? | | | 3 | | |
| 8 | Are Welding / cutting helmets, eye protection, gloves, bibs, face shields available and properly used when necessary? | | | 3 | | |
| 9 | Are the Stored oxygen and fuel cylinders separated by a minimum of 20 ft. with valve protection caps in place? | | 2 | | | Hobbs Bannerman improper storage corrected at time of discovery |
| 10 | Are All cylinders firmly secured in upright position? | | | 3 | | |
| 11 | Are Cylinders secured to welding cart, valve closed and caps on when not in use? | | | 3 | | |
| 12 | Are Empty and full cylinders separated and marked? | | | 3 | | |
| 13 | Are Flammable gas cylinders and oxygen gas cylinders are separated 20' apart? | | | 3 | | |
| **L** | **Tools – Hand & Powered – OSHA Subpart I** | **Values** | | | | **Comments** |
| 1 | Are Tools and equipment in good condition? | | | 3 | | |
| 2 | Is the Defective equipment tagged as such and removed from work area? | | | 3 | | |
| 3 | Are Tools and equipment guards and handles in place and in good condition? | | | 3 | | |
| 4 | Are the Powder actuated tool operators properly trained and documented? | | | 3 | | |
| **M** | **Confined Space Entry - OSHA 29CFR1910.146** | **Values** | | | | **Comments** |
| 1 | Is a competent Person / Entry Supervisor designated in writing? On site full time? | | | 3 | | |
| 2 | Is an Entry permit properly issued prior to work starting? | | | 3 | | |
| 3 | Is the Air sampling equipment available and properly used? Calibrated? | | | 3 | | |
| 4 | Are the Air samples show acceptable oxygen concentrations of (19.5% to 23.5%)? | | | 3 | | |
| 5 | Are the Air samples show space is free of toxic/flammable/explosive gases? | | | 3 | | |
| 6 | Is there a Trained attendant assigned to maintain constant contact with workers inside space? | | | 3 | | |
| 7 | Is there Trained person assigned to recheck air quality frequently throughout the project? | | | 3 | | |
| 8 | Is there an Emergency rescue plan and equipment in place? | | | 3 | | |
| **N** | **Hazard Communication - OSHA 29CFR1910.1200** | **Values** | | | | **Comments** |
| 1 | Is there an Abeinsa EPC, Subcontractor MSDS's available? | | | 3 | | |
| 2 | Is there an Abeinsa EPC List of Hazardous Chemicals current? | | | 3 | | |

## Safety Conditions Check List

### Internal by Work Site

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|---|---|---|---|---|---|---|
| 3 | Is there an Abeinsa EPC, Subcontractor written programs on site? | | | 3 | | |
| 4 | Are the Containers labelled? Are the Notices posted? | | | 3 | | |
| **O** | **Health and Safety - OSHA Subparts C & D** | **Values** | | | | **Comments** |
| 1 | Is illumination, task lighting adequate? | | | 3 | | |
| 2 | Are sanitary facilities adequate and clean? | | | 3 | | |
| 3 | Is drinking water properly dispensed and community water containers cleaned and secured? | | | 3 | | |
| 4 | Is First Aid kit stocked including latex gloves and Bloodborne clean-up kit? | | | 3 | | |
| 5 | Are Eye wash stations available & accessible? | | | 3 | | |
| **P** | **Housekeeping - OSHA Subparts C & D** | **Values** | | | | **Comments** |
| 1 | Are Suitable containers available for disposal of trash, debris and recyclables? | | | 3 | | |
| 2 | Are Walkways, aisles, hallways and passageways clear of trash, debris, materials? | | | 3 | | |
| 3 | Are Tools not in use stored in job boxes? | | | 3 | | |
| 4 | Is the Equipment not in use stored properly? | | | 3 | | |
| 5 | Are Pipes and other materials stored kept neatly? | | | 3 | | |
| 6 | Are Appropriate sub-contractors dumpsters available? | | | 3 | | |
| **Q** | **Cranes and Hoists - OSHA Subpart N** | **Values** | | | | **Comments** |
| 1 | Are Operator's "daily inspections" available for review? | | | 3 | | |
| 2 | Is there an Annual Inspection and 3rd party crane inspection documented? | | | 3 | | |
| 3 | Are the Swing radius barricaded? | 1 | | | | Bigge Crane no swing radius barricade Operator removed from site |
| 4 | Are the Hydraulic crane outriggers padded and on stable ground? | | | 3 | | |
| 5 | Are the Power lines at safe distance? De-energized or protected? (Check clearance heights) | | | 3 | | |
| 6 | Are the Uniform signals properly used? | | | 3 | | |
| 7 | Are Cable and slings regularly inspected and in good condition? Red is dead! | | | 3 | | |
| 8 | Are Operable safety catches provided on load hooks? | | | 3 | | |
| 9 | Is there a Proper rigging used for loads? | | | 3 | | |
| 10 | Are the Operator qualifications on site? | | | 3 | | |
| 11 | Is a competent training person involved with safe rigging practices? | | | 3 | | |
| **R** | **Abatement & Remediation - OSHA Subparts D & Z** | **Values** | | | | **Comments** |
| 1 | Is the Personnel trained & medically qualified including fit tests? Documentation on site? | | | | N/A | |
| 2 | Are the three work zones delineated? | | | | N/A | |

## Safety Conditions Check List

### Internal by Work Site

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|---|---|---|---|---|---|---|
| 3 | Are workers wearing the correct level of protection? | | | | N/A | |
| 4 | Is on-going air monitoring documented? | | | | N/A | |
| 5 | Are vision panels installed where practical? | | | | N/A | |
| **S** | **Public Safety & General Liability – ANSI A.10-30-2001** | **Values** | | | | **Comments** |
| 1 | Is an adequate placement of flashers, barricades, signs around excavations and equipment or materials located in foot/vehicle traffic areas? | | | 3 | | |
| 2 | Is Security in place? Is the Access control plan established? | | | 3 | | |
| 3 | Is the fencing erected around laydown/material storage areas? | | | 3 | | |
| 4 | Is the Site lighting meets 5-foot candles? | | | 3 | | |
| 5 | Have All contractors submitted COI? | | | 3 | | |
| 6 | Are the way (Traffic signs) signs clear? | | | 3 | | |
| 7 | Are the Off-site work hazards identified? | | | 3 | | |
| | **Safety Deficiency Point Reduction**<br>**Inspection Score: 390 /408 = 95.5 %** | | | | | |

Comments:

- PTD worked hours 4,704,429 hours with 64 recordable incidents.
- 8,404 New employee orientations completed to date.
- 5,330 Visitor safety orientations completed to date.
- 346 new employee orientations were completed in the month of April.
- Weekly Safety Committee Meetings were held and the following trainings were offered: Combined AWP, Confined Space, LOTO & ARC Flash, and HTF Awareness.

# Appendix F
# Engineering

## Soil & Water
## Waste
## General Conditions
## Civil
## Structural
## Mechanical
## Electrical
## Transmission System

## Mojave Solar Project
## Monthly Compliance Report
## San Bernardino County, California

## April 2014 Reporting Period

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| | |
|---|---|
| **Subject:** | Mojave Solar Project (09-AFC-5C) |
| **Condition No.:** | Compliance5 |
| **Description:** | Monthly Compliance Matrix |
| **Submittal No.:** | COMPLIANCE5-00-00 |

May 9, 2014
Mr. Dale Rundquist, CPM
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814
drundqui@energy.state.ca.us

Dear Mr. Rundquist,

As required by the California Energy Commission and more specifically by Condition of Certification COMPLIANCE5, attached please find an update to the following Compliances:

COMPLIANCE-2 [ASI + A/T]

The project owner shall maintain project files on-site or at an alternative site approved by the CPM for the life of the project, unless a lesser period of time is specified by the Conditions of Certification. The files shall contain copies of all "as-built" drawings, documents submitted as verification for Conditions, and other project-related documents. Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files maintained pursuant to this Condition.
**Hardcopy files of all "as-built" drawings and documents are available for review at the Abeinsa EPC Alpha east main site trailer.**

**COMPLIANCE-6 [ASI + A/T]**

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date upon which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include the AFC number and an initial list of dates for each of the events identified on the Key Events List found at the end of this section of the Decision.

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**The Key Events list has been included with current completed activity dates listed, please see attachment. The 2-month look ahead schedule has been included, please see attachment.**

**AIR QUALITY PERMIT**

**Air Quality permit amendment was submitted to MDAQMD on 10/19/2013. MDAQMD approved on 02/24/2014. MDAQMD submitted this approval to the CPM on 02/24/2014, MDAQMD submitted revised ATC to CPM on 03/14/2014. CPM provided revised conditions of certification on 03/21/2014. CPM staff review and public comment period took place on 04/22/2014, CEC approved air quality permit revision. CEC issued revised air quality permits on 04/28/2014, please see attachment.**

**HAZ-1 [ASI and A/T]**

**The project owner shall not use any hazardous materials not listed in Appendix A (Hazardous Materials Proposed for Use at AMS During Operations), below, or in greater quantities or strengths than those identified by chemical name in Appendix A (Hazardous Materials Proposed for Use at AMS During Operations), below, unless approved in advance by the Compliance Project Manager (CPM). The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility. Revised plan submitted to CPM on 04/30/2014, please see attachment. HTF and diesel fuel were delivered during the month. The HTF delivery spreadsheets for March and April 2014 are included as well as this month's Beck Oil delivery tickets, please see attachments.**

**HAZ-2 [ASI and A/T]**

**At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan (HMBP), Spill Prevention, Control, and Countermeasure (SPCC) Plan, and a Process Safety Management (PSM) Plan to the CPM for approval.**
**The HMBP was submitted to the CPM and San Bernardino Fire Department on 07/23/2013. The CPM and SBCFD Haz Mat Division approved the HMBP on 08/01/2013 and 10/09/2013 respectively. The SPCC and PSM plans were submitted to the CPM on 10/29/2013, and SBCFD Haz Mat Division on 11/01/2013. The plans were approved by SBC Haz Mat Division as they stated that their only requirement is to have a copy of the SPCC on file at the site should a representative visit. The SPCC was approved by CPM on 11/25/2013. The PSM plan was returned with comments on 12/09/2013.**

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**Revised PSM plan, PHA, LOPA and O&M Manuals were resubmitted to the CPM on 01/29/2014, CEC approved on 02/10/2014. The HTF End Loop Testing procedure was submitted to the CPM on 01/17/2014, CPM approved on 01/27/2014. SBCFD provided comments to the SPCC on 02/13/2014. Comments were addressed and submitted to CPM on 02/28/2014, please see attachment. CPM comments for the PSM plan were addressed and submitted to CPM on 01/27/2014. CPM approved PSM plan on 02/10/2014, please see attachment. HMBP was resubmitted on 03/26/2014 to include the hydrogen and CO2 for the turbine cooling system, CEC approved on 04/16/2014, please see attachments. Submittal for steam generator chemical pipe cleaning procedure submitted to CPM on 04/23/2014. Location map showing storage locations of chemical pipe cleaning chemicals submitted to CPM on 04/25/2014, please see attachments. Conditional approval of Chemical Pipe Cleaning process approved by CEC on 04/29/2014, please see attachment. SBC permit to place baker tanks in Harper Lake Road right-of-way for the chemical pipe cleaning submitted to SBC on 03/17/2014, SBC approval on 03/20/2014, please see attachments.**

**WASTE-2 [ASI and A/T]**

Project owner shall keep a copy of the identification number on file at the project site and provide documentation of the hazardous waste generation notification and receipt of the number to the CPM after receipt of the number. Waste generator number issued by California EPA on September 28, 2012. CEC reviewed and approved submittal on November 27, 2012. The application for the USEPA hazardous waste generation notification number was submitted on July 9. 2013. EPA approval issued on 10/02/2013.

**WASTE-10 [ASI and A/T]**

**The project owner shall document all releases and spills of HTF as described in Condition of Certification WASTE-9 and as required in the Soil & Water Resources section of this Decision. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of WASTE-6. The project owner shall sample HTF-contaminated soil in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 1625B or other method to be reviewed and approved by DTSC and the CPM. Within 28 days of an HTF spill the project owner shall provide the results of the analyses and their assessment of whether the HTF-contaminated soil is considered hazardous or non-hazardous to DTSC and the CPM for review and approval. If DTSC and the CPM determine the HTF-contaminated soil is considered hazardous it shall be disposed of in accordance with California Health and Safety Code (HSC) Section 25203 and procedures outlined in the approved Operation Waste Management Plan required in Condition of**

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**Certification WASTE-9 and reported to the CPM in accordance with Condition of Certification WASTE-12. If DTSC and the CPM determine the HTF-contaminated soil is considered nonhazardous it shall be retained in the land farm and treated on-site in accordance with the Waste Discharge Requirements contained in the Soil & Water Resources section of this Decision.**
**The HTF contaminated soil samples have been submitted to a testing lab. Lab results submitted to the CPM on 04/25/2014, please see attachment. Submittal to DTSC on 05/08/2014.**

**WORKER SAFETY-2**

At least 30 days prior to the start of commissioning, the project owner shall submit to the SBCFD the final Operations Fire Prevention Plan and Emergency Action for review and the final Project Operations and Maintenance Safety and Health Program to the CPM for approval.
Health & Safety, Fire Prevention and Emergency Response plans for operations submitted to SBCFD and CPM on 02/14/2014, please see attachments. SBCFD issued comments on 02/26/2014, comments addressed and resubmitted to CPM on 02/26/2014. CPM issued comments on 03/03/2014, package resubmitted on 03/05/2014, please see attachment. CPM approved package on 03/10/2014, please see attachment. CPM clarified its approval of this compliance on 03/25/2014.

**SOIL&WATER-1**

Provide an analysis on the effectiveness of the drainage, erosion, and sediment control measures and the results of monitoring and maintenance activities.
**Please see the attached Construction Site Stormwater Runoff Control Inspection forms. Light rain occurred on April 26, 2014. All site BMP's functioned accordingly and there was no runoff from the site. The contractor reports as of April 30, 2014 that 0 lf (24,730 lf total for project) of straw rolls and 0 lf (16,219 lf total for project) of new swale have been installed for this month, no maintenance required for this month. The existing fiber rolls and swales continued being monitored, maintained, and replaced as needed. The contractor reported that 15 lf of fiber roll repair took place in the east side of Alpha East. The QSP reports that no sand build-up is prevalent on the straw waddles. These BMP's were effective in preventing sediment run off from the site. There are nine concrete washout stations (4 in Alpha and 5 in Beta). Additionally, the steel rumble strips remain in place at the Alpha east main entrance (north), Alpha east (south) entrance, Alpha west entrance, and on Lockhart Road adjacent to the TAB main entrance. They were effective in preventing dirt and mud from being tracked from the site onto Harper Lake Road and Lockhart Road as well as an effective deterrent against the spreading of noxious weeds. The steel beams are continuously maintained to prevent clogging. Street sweeping of the construction entrances and Harper Lake Road and Lockhart Road is occurring on an as needed basis as a means of good housekeeping; it has improved and will continue to be the main activity to keep the streets free of dirt and mud, especially when high winds and storm events**

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**occur. Soil stabilizer wasn't used for this month on traffic areas as daily watering was an effective means for dust control. Project site areas for the month that have been stabilized are 0 acres for Alpha East (279.50 acres total), 0 acres in Alpha West (369 acres total), 0 acres in Beta East (502 acres total), and 0 acres in Beta West (102.50 acres total). No sand build-up was reported in the retention basins between collectors. Trash collection was taken care of daily, as AEPC has 12 full time workers dedicated to trash duty. Due to the increase in on site contractors trash has escalated and became a major concern. Notification to the subcontractors to clean up their own trash, especially any accumulating in the trenches, pipes and power block areas has reduced the problem. Sand removal along tortoise fences was done daily. Since the new crews have been on site and new trash policies have been followed, the site has shown vast improvement and is caught up with handling the influx of new workers. Please see attachments, which include the weekly Construction Site Stormwater Runoff Control Inspection forms signed by the project QSP and the Bureau Veritas site inspector.**

**SOIL&WATER-2**

The project owner shall comply with the Waste Discharge Requirements (WDRs) established in Soil and Water Resources Appendices C, D, and E for the construction and operation of the surface impoundments (evaporation ponds), land treatment units, and storm water management system. These requirements relate to discharges, or potential discharges, of waste that could affect the quality of waters of the state, and were developed in consultation with staff of the State Water Resources Control Board and/or the applicable California Regional Water Quality Control Board (hereafter "Water Boards"). It is the Commission's intent that these requirements be enforceable by both the Commission and the Water Boards. In furtherance of that objective, the Commission hereby delegates the enforcement of these requirements, and associated monitoring, inspection and annual fee collection authority, to the Water Boards. Accordingly, the Commission and the Water Board shall confer with each other and coordinate, as needed, in the enforcement of the requirements. The project owner shall pay the annual waste discharge permit fee associated with this facility to the Water Boards. In addition, the Water Boards may "prescribe" these requirements as waste discharge requirements pursuant to Water Code Section 13263 solely for the purposes of enforcement, monitoring, inspection, and the assessment of annual fees, consistent with Public Resources Code Section 25531, subdivision (c). No later than sixty (60) days prior to any wastewater or storm water discharge or use of land treatment units, the AMS project shall provide documentation to the CPM, with copies to the Lahontan RWQCB, demonstrating compliance with the WDRs established in Appendices C, D, and E. Any changes to the design, construction, or operation of the ponds, treatment units, or storm water system shall be requested in writing to the CPM, with copies to the Lahontan RWQCB, and approved by the CPM, in consultation with the Lahontan RWQCB, prior to initiation of any changes. The AMS project shall provide to the CPM, with copies to the Lahontan RWQCB, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the ponds, treatment units, or storm water system. SWAT2-01-00, construction plans for the Evaporation ponds and LTU's were submitted to the CEC, Lahontan and CBO on June 6, 2013 and approved by all agencies on June 11, 2013. SWAT2-02-00, a modification to the LTU plans was submitted to the CEC and Lahontan on August 5, 2013, and an approval was issued on August 8, 2013. SWAT2-04-00 for a change in verification was requested by the CEC but AEPC suggested that any change will be covered by the closure compliances, COMPLIANCE-12, -13 and -14. The CEC responded

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on September 12, 2013 that they were in agreement. SWAT2-03-00, for the monitoring well system was submitted to the CEC and Lahontan the week of 10/28. Abeinsa EPC engineering staff is still coordinating with the CEC and Lahontan on the final design. Abeinsa EPC submitted a well plan for CEC review on 11/27/2013. CEC provided comments to the well plan on 12/17/2013. Revised well plan submitted to the CEC on 12/23/2013, CPM approved on 01/14/2014.

**SOIL&WATER-4**

Well abandonment status for remaining abandonments submitted to CPM on 09.06.12, As of 09.06.12, the CEC has approved all well abandonments with the exception of wells 11 and 14 (stuck pump wells). They require a wildlife survey in the area of the two wells to ensure that their habitats won't be disrupted with the use of explosives for the stuck pump wells. As of 10.13.2012, the well contractor was able to remove the pump from Well #11 by conventional means. However, Well #2 has now been determined as having a stuck pump and needing explosives to remove. The abandonment package was revised and resubmitted to the CEC on 10.22.2012. CEC has approved the use of explosives on Wells #2 and #14 as of October 31, 2012. As of March 5, 2013, the remaining wells to be abandoned are: Ryken and Wetlands. Wells #2 and #14 (by explosives) and 8, 10, 19, were abandoned during January 2013 but their well completion reports were finalized this month, please see attachments. Ryken and Wetlands wells were approved to be abandoned by SBC on May 7, 2013. Final abandonment was completed on May 17, 2013 and well completion reports were submitted to the CEC for approval. ASI and Abeinsa EPC have agreed on a new location of the Beta #4. An exhibit indicating final production well locations (including Beta #4) was provided to CPM on 11/27/2013. CPM responded asking for the well design by well contractor that will show a sealed upper layer which prevents any infiltration of the perched layer into the lower aquifer. Well contractor submitted a permit to SBC on 12/07/2013 but decision was made to go with a different contractor. New contractor submitted a permit for the Beta #4 well on 01/14/2014, SBC approved on 01/31/2014 based on the condition that Beta #1 be retrofitted as a monitoring well and the Beta #2 conductor casing be destroyed. The CPM further approved the use of Beta #1 for construction water while Beta #3 construction was completed. CPM approved the Beta #4 permit on 02/04/2014. A request to extend the discharge permit for well test water to the BLM marsh was submitted to CPM on 02/10/2014, CPM approved on 02/12/2014. **Beta #4 continued to be developed during the month, please see attached Beta #4 water usage.**

**SOIL&WATER-5**

Beginning six (6) months after the start of construction, the project owner shall prepare a semi-annual summary report of the amount of water used for construction purposes. The summary shall include the monthly range and monthly average of daily water usage in gallons per day.

**For April 2014, 1,757,400 gallons were pumped from Beta #3 and 7,346,400 gallons were extracted from Beta #4. All of Beta #4 was for well development and the entire amount was discharged to the BLM wetlands. Also taken from the overall total was a first quarter amount of 784,000 gallons (3 months) by SBC for off-site road maintenance. The running total of water usage for construction/testing purposes from January 1, 2014 to April 30, 2014 is 16,386,850 gallons. To date,**

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**there have been 88 working days for 2014 which equates to 186,214 gal/day. This equates to 4,096,713 gal/month, please see attachments.**

**SOIL&WATER-6**

**The project owner shall do all of the following:**
**1. At least sixty (60) days prior to project construction, the project owner shall submit to the CPM, for review and approval, a comprehensive plan (Groundwater Level Monitoring and Reporting Plan) presenting all the data and information required in Item A above. The project owner shall submit to the both the CPM all calculations and assumptions made in development of the plan.**
**2. During project construction, the project owner shall submit to the CPM quarterly reports presenting all the data and information required in Item B above. The project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations.**
**3. No later than sixty (60) days after commencing project operation, the project owner shall provide to the CPM, for review and approval, documentation showing that any mitigation to private well owners during project construction was satisfied, based on the requirements of the property owner as determined by the CPM.**
**4. During project operation, the project owner shall submit to CPM, applicable quarterly, semi-annual, and annual reports presenting all the data and information required in Item C above. The project owner shall submit to the CPM all calculations and assumptions made in development of report data and interpretations, calculations, and assumptions used in development of any reports.**
**5. The project owner shall provide mitigation as described in Item D above, if the CPM's inspection of the monitoring information confirms project-induced changes to water levels and water level trends relative to measured preproject water levels, and well yield has been lowered by project pumping. The type and extent of mitigation shall be determined by the amount of water level decline and site-specific well construction and water use characteristics. The mitigation of impacts will be determined as set forth in Item D above.**
**6. No later than 30 days after CPM approval of the well drawdown analysis, the project owner shall submit to the CPM for review and approval all documentation and calculations describing necessary compensation for energy costs associated with additional lift requirements.**
**7. The project owner shall submit to the CPM all calculations, along with any letters signed by the well owners indicating agreement with the calculations, and the name and phone numbers of those well owners that do not agree with the calculations.**
**8. If mitigation includes monetary compensation, the project owner shall provide documentation to the CPM that compensation payments have been made by March 31 of each year of project operation or, if a lump-sum payment is made, payment shall be made by March 31 of the following year. Within 30 days after compensation is paid, the project owner shall submit to the CPM a compliance report describing compensation for increased energy costs necessary to comply with the provisions of this condition.**
**9. After the first 5-year operational and monitoring period, and every subsequent 5-year period, the project owner shall submit a 5-year monitoring report to the**

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**CPM for review and approval. This report shall contain all monitoring data collected and provide a summary of the findings and a recommendation about whether the frequency of water level measurements should be revised or eliminated.**
**10. During the life of the project, the project owner shall provide to the CPM all monitoring reports, complaints, studies, and other relevant data within 10 days of being received by the project owner.**

**Fourth quarter water quality report submitted to CPM on 03/28/2014, comments received on 04/22/2014.**

**SOIL&WATER-9**

Prior to the start of construction of the sanitary waste system, the project owner shall submit to the County of San Bernardino for review and comment, and to the CPM for review and approval, plans for the construction and operation of the project's proposed sanitary waste septic system and leach field. These plans shall comply with the requirements set forth in County of San Bernardino Code Title 3, Division 3, Chapter 8 Waste Management, Article 5, Liquid Waste Disposal and Title 6, Division 3, Chapter 3, and the Uniform Plumbing Code. Project construction shall not proceed until the CPM has approved the plans. The project owner shall remain in compliance with the San Bernardino County code requirements for the life of the project.

The septic plans were submitted to CEC on 04/03/2012 for review and approval. CEC approved on 04/23/2012. **Plans were resubmitted to SBC on 12/16/2013 to include the addition of the sanitary lift station, comments received regarding the addition and reason for the sanitary lift station, package resubmitted to SBC on 02/19/2014, SBC approved on 02/20/2014, please see attachment. Plans were submitted to CPM on 02/28/2014, CPM approved on 04/23/2014, please see attachment.**

**SOIL&WATER-10**

The project owner shall obtain a permit to operate a nontransient, non-community water system with the County of San Bernardino at least sixty (60) days prior to commencement of construction at the site. The project owner shall supply updates annually for all monitoring requirements and submittals to County of San Bernardino related to the permit, and proof of annual renewal of the operating permit. To date, potable water system is not installed, thus no monitoring requirements are in effect.
Alpha #1 well permit issued by San Bernardino County on 01/10/2012.
Alpha #2 well permit issued by San Bernardino County on 01/10/2012.
Beta #3 well permit issued by San Bernardino County on 06/04/2012.

**GEN-2**

Provide schedule updates in the monthly compliance report.

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**All engineering disciplines have submitted updated master drawing/spec lists. In addition, the latest construction schedule has been provided. Please see attached copies.**

**CIVIL-1**

At least 15 days (or project owner and CBO approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

**STRUC-1**

Submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.

**Struc-1-11.00: Control and Administration Building plans submitted to CBO on 03/27/2014, CBO conditional approval for elevators and foundations on 04/04/2014, please see attachment.**
**Struc-1-44.02: Alpha & Beta Cable Tray Support Peer Review submitted to CBO on 01/27/2014, CBO approved on 04/24/2014, please see attachment.**
**Struc-1-45.01: Alpha & Beta Water Treatment Building Motor Control Center Room submitted to CBO on 01/31/2014, CBO approval on 04/01/2014, please see attachment.**
**Struc-1-63.00: Alpha & Beta WTP CO2 System Access submitted to CBO on 04/04/2014, CBO approval on 04/11/2014, please see attachment.**
**Struc-1-76.00: Alpha & Beta MP-310 Pumps Foundation plans submitted to CBO on 03/28/2014, CBO approved on 04/29/2014, please see attachment.**

**MECH-1**

Send the CPM a copy of the transmittal letter.

**Mech-1-45.00: Alpha & Beta Water Treatment Building Motor Control Center Room HVAC plans submitted to CBO on 04/03/2014, CBO approval on 04/09/2014, please see attachment.**
**Mech-1-46.00: Alpha & Beta Turbine Building- Lube Oil Piping-Area Fire Protection plans submitted to CBO on 04/07/2014, CBO approved on 04/15/2014, please see attachment.**
**Mech-1-47.00: Alpha & Beta Administration and Control Building Temporary Water Supply submitted to CBO on 04/21/2014, CBO approved on 04/25/2014, please see attachment.**

**ECN-1**

Send the CPM a copy of the transmittal letter in the next monthly compliance report.

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**ECN-1-24.00: Alpha & Beta By-Passing Auxiliary Cooling Water System submitted to CBO on 04/07/2014, CBO approval on 04/09/2014, please see attachment.**

**ELEC-1**

Send the CPM a copy of the transmittal letter in the next monthly compliance report.

**Elec-1-0.02: Electrical Specifications submitted to CBO on 04/01/2014, CBO approval on 04/08/2014, please see attachment.**
**Elec-1-4.01x1: HTF Tanks Grounding plans submitted to CBO on 04/01/2014, CBO approval on 04/07/2014.**
**Elec-1-4.07x4: Turbine Generator Condenser Grounding plans submitted to CBO on 04/01/2014, CBO approval on 04/07/2014, please see attachment.**
**Elec-1-5.00x1: LV, MV, FO Solar Field Trenching plans submitted to CBO on 03/28/2014, CBO approval on 04/02/2014, please see attachment.**
**Elec-1-6.01x1: Steam Generation Area Grounding plans submitted to CBO on 04/01/2014, CBO approval on 04/07/2014, please see attachment.**
**Elec-1-6.02x2: Grounding HTF Underground Crossing Tunnel submitted to CBO on 04/01/2014, CBO approval on 04/07/2014, please see attachment.**
**Elec-1-6.06: Alpha & Beta Grounding Resistor Connection Detailed plan submitted to CBO on 04/01/2014, CBO approved on 04/15/2014, please see attachment.**
**Elec-1-10.00x1: Alpha & Beta Water Treatment Plant Grounding plans submitted to CBO on 04/01/2014, CBO approval on 04/07/2014, please see attachment.**
**Elec-1-12.00x1: Alpha & Beta Transmission Line Lightning Protection submitted to CBO on 04/01/2014, CBO approved on 04/08/2014, please see attachment.**
**Elec-1-14.03: Alpha & Beta Electrical Panel UPSP-1308620 Building #22 submitted to CBO on 03/28/2014, CBO approval on 04/03/2014, please see attachment.**
**Elec-1-18.08: Solar Field Lighting Calculation submitted to CBO on 04/23/2014, CBO approval on 04/30/2014, please see attachment.**
**Elec-1-18.04x1: Water Treatment Plant Lighting System submitted to CBO on 03/28/2014, CBO approved on 04/15/2014, please see attachment.**
**Elec-1-20.00x1: Alpha & Beta CP Cable Tray Systems submitted to CBO on 03/21/2014, CBO approval on 04/21/2014, please see attachment.**
**Elec-1-21.00x1: Solar Field Bridge Crossing, Corner and Building Trenches submitted to CBO on 04/01/2014, CBO approval on 04/15/2014, please see attachment.**
**Elec-1-21.01x1: Solar Field Bridge Crossing Corner and Building Trenches submitted to CBO on 04/23/2014, CBO approval on 04/30/2014, please see attachment.**
**Elec-1-29.00x1: Alpha & Beta Electrical Layout for Bldgs 22, 26 & 27 submitted to CBO on 04/01/2014, CBO approval on 04/08/2014, please see attachment.**
**Elec-1-42.05: Temporary Power for Well Pumps submitted to CBO on 04/14/2014, CBO approval on 04/23/2014, please see attachment.**
**Elec-1-44.00: Alpha & Beta Aerial Grounding Conductor Cable Tray System submitted to CBO on 03/11/2014, CBO approved on 04/15/2014, please see attachment.**
**Elec-1-45.00x1: Alpha & Beta Electrical Layout for the MCC Room WTP Building #11 submitted to CBO on 04/01/2014, CBO approval on 04/08/2014, please see attachment.**

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**Elec-1-46.00: Alpha & Beta Electrical plans and calculations for the Water Treatment Bldg #11 submitted to CBO on 03/28/2014, CBO approved on 04/29/2014, please see attachment.**

**TRANS-5 [A/T]**

The project owner shall not allow hazardous materials deliveries during non-daylight periods (during both construction and operation) to enhance safety at the rail crossing. A record of hazardous materials deliveries shall be provided to the CPM as required in HAZ-3.
**Please see attached Beck Oil delivery lists and HTF delivery list.**

**TSE-1**

Provide schedule updates in the MCR.
**Please see attached Electrical Master List.**

**TSE-4**

At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report. The following activities shall be reported in the Monthly Compliance Report:
A. Receipt or delay of major electrical equipment;
Please see attached list of receipt of major electrical equipment.
B. Testing or energization of major electrical equipment;
Please see attachments for electrical tests to date.
C. The number of electrical drawings approved, submitted for approval, and still to be submitted.
**Please see attached Electrical Master List.**

**TSE-5**

At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agreed to by the project owner and CBO), the project owner shall submit to the CBO for approval:

A. Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.

B. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"7

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and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, applicable interconnection standards, and related industry standards.

C. Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements TSE-5 a) through f) above. 7 Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

D. The Special Protection System (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM.

E. A letter stating the mitigation measures or projects selected by the transmission owners for each reliability criteria violation are acceptable,
F. An Operational study report based on the expected or current COD from the California ISO and/or SCE, and
G. A copy of the executed LGIA signed by the California ISO and the project owner.

Submittal of project LGIA sent to CPM on 11/08/2013, CPM approved on 12/02/2013.

**TLSN-5**

The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership.
At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this Condition.
Confirmation letter sent to the CPM on 11/06/2013, CPM approved on 11/07/2013.

Should you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

Steven Pochmara
ABEINSA EPC
13911 Park Avenue, Suite 208
Victorville, CA 92392
Cell: (480) 287-1419

# KEY EVENTS LIST

PROJECT: MOJAVE SOLAR PROJECT

DOCKET #: 09-AFC-5

COMPLIANCE PROJECT MANAGER: DALE RUNDQUIST

| EVENT DESCRIPTION | DATE |
|---|---|
| Certification Date | 09/2010 |
| Obtain Site Control | |
| Online Date | |
| **POWER PLANT SITE ACTIVITIES** | |
| Start Site Mobilization | 08/2011 |
| Start Ground Disturbance | 08/2011 |
| Start Grading | 08/2011 |
| Start Construction | 08/2011 |
| Begin Pouring Major Foundation Concrete | 09/2011 |
| Begin Installation of Major Equipment | 07/2012 |
| Completion of Installation of Major Equipment | |
| First Combustion of Gas Turbine | N/A |
| Obtain Building Occupation Permit | |
| Start Commercial Operation | |
| Complete All Construction | |
| **TRANSMISSION LINE ACTIVITIES** | |
| Start T/L Construction | 11/2012 |
| Synchronization with Grid and Interconnection | 05/2014 |
| Complete T/L Construction | 02/2013 |
| **FUEL SUPPLY LINE ACTIVITIES** | |
| Start Gas Pipeline Construction and Interconnection | N/A |
| Complete Gas Pipeline Construction | N/A |
| **WATER SUPPLY LINE ACTIVITIES** | |
| Start Water Supply Line Construction | 01/2013 |
| Complete Water Supply Line Construction | |

# DOCKETED

| | |
|---|---|
| **Docket Number:** | 09-AFC-05C |
| **Project Title:** | Abengoa Mojave Compliance |
| **TN #:** | 202259 |
| **Document Title:** | Commission Order 14-0422-4 |
| **Description:** | Commission Order 14-0422-4 approving changes to Power Block General Arrangement and changes, additions and deletions to several Air Quality Conditions of Certification |
| **Filer:** | Dale Rundquist |
| **Organization:** | California Energy Commission |
| **Submitter Role:** | Commission Staff |
| **Submission Date:** | 4/28/2014 3:14:34 PM |
| **Docketed Date:** | 4/28/2014 |

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

**STATE OF CALIFORNIA**
**ENERGY RESOURCES CONSERVATION**
**AND DEVELOPMENT COMMISSION**

| | |
|---|---|
| **In the Matter of:** | |
| **ABENGOA MOJAVE SOLAR** | **Docket No. 09-AFC-5C** |
| | **Order No. 14-0422-4** |
| **ABENGOA MOJAVE SOLAR, LLC** | **ORDER APPROVING a Petition to Amend Air Quality Conditions of Certification and Power Block General Arrangement in the Final Decision** |

On October 29, 2013, Mojave Solar, L.L.C. (MSLLC) the owner of the Abengoa Mojave Solar (AMS) Project filed a revised petition to amend with the California Energy Commission (Energy Commission) requesting to amend the Final Decision.

The modifications proposed in the revised petition to amend would:

- Update the Alpha and Beta Power Blocks' general arrangements to incorporate changes to equipment and building or process area locations;
- Remove the existing low boilers and high boilers cleaning distillation Volatile Organic Compounds (VOC) control system and utilize a scrubbing and carbon adsorption VOC control system;
- Update the two vertical Heat Transfer Fluid storage tank condensers on the vent stacks with a scrubber on the vent stream for each plant;
- Update the facility component counts with revision to the fugitive emissions inventory;
- Reduce from five to four the vertical ASME-rated expansion vessels (based on a reduction of HTF quantity) per plant;
- Replace the two Tier 2 4,190-bhp (3,125-kW) emergency generators with two Tier 2 2,280-kW units;
- Reduce the minimum Tier 2 emergency generators stack height to 30 feet above ground level;
- Reduce the currently permitted fire pump's stack height to 20 feet above ground level;

- Remove the operational testing restriction of one emergency engine per hour to allow the simultaneous testing of all emergency equipment; and
- Replace the two 346-bhp Tier 3 fire pump engines with two larger 575-617 bhp-Tier 3 engines.

The revised petition also requests the deletion of Air Quality Conditions of Certification **AQ-1** through **AQ-8**. Previously, on July 24, 2013, Mojave Solar petitioned the Energy Commission to allow removal from the project description two 21.5-MMBTU/hr natural gas-fired auxiliary boilers, which are no longer necessary and to which Air Quality Conditions of Certification **AQ-1** through **AQ-8** apply.

On April 7, 2014, staff received information from the Mojave Desert Air Quality Management District (MDAQMD) stating they had received a request from Abengoa to revise the manufacturer of the aboveground fuel tank to be installed at the AMS project. Due to this request, Energy Commission Staff has made minor corrections to Air Quality Conditions of Certification **AQ-51, AQ-53, AQ-54, AQ-55, AQ-56, AQ-57,** and **AQ-59** for consistency with the conditions in the Final Determination of Compliance issued by the MDAQMD on February 24, 2014. These changes are administrative in nature and will not affect emissions nor will they cause the facility to operate contrary to any District, state, or Federal rules and regulations.

## STAFF RECOMMENDATION

Energy Commission staff reviewed the petition, finds that it complies with the requirements of Title 20, section 1769 (a) of the California Code of Regulations, and recommends approval of MSLLC's petition to amend, add or delete the specified COCs.

## ENERGY COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission concludes that the proposed modifications will not result in any significant impacts to public health and safety, or to the environment. The Energy Commission finds that:

- The petition meets all the filing criteria of Title 20, section 1769 (a), of the California Code of Regulations, concerning post-certification project modifications;
- The modification will not change the findings in the Energy Commission's Final Decision, pursuant to Title 20, section 1755, of the California Code of Regulations;
- The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code, section 25525;
- The modifications would be beneficial to the public because overall potential emissions from AMS as analyzed in the Energy Commission's Final Decision will decrease; and

- The proposed modifications are based on information not known by MSLLC during the certification proceeding as the decision to modify the general arrangement and project equipment occurred subsequent to approval of the project by the Energy Commission.

**CONCLUSION AND ORDER**

The California Energy Commission hereby adopts staff's recommendations and approves the following changes to the Commission Decision for the Abengoa Mojave Solar Project. New language is shown as **bold and underlined**, and deleted language is shown in ~~strikethrough~~.

**CONDITIONS OF CERTIFICATION**

**DISTRICT CONDITIONS**

**District Preliminary Decision Conditions (MDAQMD 2014)**

## ~~Application No. 00010710 and 00010711 (Two - 21.5 MMBtu/hr Natural Gas Fired Auxiliary Boilers)~~

### ~~EQUIPMENT DESCRIPTION~~

~~Two 21.5 MMBtu/hr natural gas fired auxiliary boilers with low NOx burner systems.~~

~~**AQ-1** Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.~~

~~**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-2** This equipment shall be exclusively fueled with pipeline quality natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.~~

~~**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-3** Emissions from this equipment shall not exceed the following hourly emission limits, verified by fuel use and an initial or annual compliance tests as applicable for each pollutant:~~

~~a. NOx as $NO_2$:~~

~~0.237 lb/hr operating at 100% load (based on 9.0 ppmvd corrected to 3% O2 and averaged over one hour)~~

~~b. CO:~~

~~0.817 lb/hr operating at 100% load (based on 50 ppmvd corrected to 3% O2 and averaged over one hour)~~

~~c. VOC as $CH_4$:~~

~~0.231 lb/hr operating at 100% load~~

~~d. SOx as $SO_2$:~~

~~0.0126 lb/hr operating at 100% load~~

~~e. PM10/2.5:~~

~~0.159 lb/hr operating at 100% load~~

~~**Verification:** As part of the Annual Compliance Report, the project owner shall include information demonstrating compliance with boiler operating emission rates.~~

~~**AQ-4** Prior to the expiration date each year, after the completion of construction the project owner shall have this equipment tuned, as specified by Rule 1157(I), Tuning Procedure.~~

~~**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-5** The project owner shall maintain an operations log for this equipment on-site and current for a minimum of five (5) years, and said log shall be provided to District personnel on request. The operations log shall include the following information at a minimum:~~

~~a. Cumulative annual fuel use in cubic feet or operation in hours;~~

~~b. Annual tune-up verification;~~

~~c. Results of annual compliance testing;~~

~~d. Any permanent changes made to the equipment that would affect air pollutant emissions, and indicate when changes were made.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-6** The project owner shall perform initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of initial start up:~~

~~a. NOx as $NO_2$ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).~~

~~b. VOC as $CH_4$ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).~~

c. ~~CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).~~

d. ~~PM10/2.5 in $mg/m^3$ at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).~~

e. ~~Flue gas flow rate in dscf per minute.~~

f. ~~Opacity (measured per USEPA reference Method 9).~~

**Verification:** ~~The project owner shall notify the District and the CPM within fifteen (15) working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM within 180 days of initial start up.~~

**AQ-7** ~~The project owner shall perform annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:~~

a. ~~NOx as $NO_2$ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).~~

b. ~~CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).~~

**Verification:** ~~The project owner shall notify the District and the CPM within fifteen (15) working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM within the timeframe required by this condition.~~

**AQ-8** ~~Annual fuel usage shall not exceed 45.9 MMscf verified by annual fuel usage records.~~

**Verification:** ~~As part of the Annual Compliance Report, the project owner shall include information demonstrating compliance with boiler annual fuel use limit.~~

**AQ-1 (Deleted)**

**AQ-2 (Deleted)**

**AQ-3 (Deleted)**

**AQ-4 (Deleted)**

**AQ-5 (Deleted)**

**AQ-6 (Deleted)**

**AQ-7 (Deleted)**

**AQ-8 (Deleted)**

## Application No. ~~00010906~~ MD1000001202 and ~~00010907~~ MD1000001204 (Two - HTF Ullage/Expansion System)

## EQUIPMENT DESCRIPTION

Two HTF ullage/expansion systems.

**AQ-10** This system shall store only HTF, ~~specially the condensable fraction of the vapors vented from the ullage system.~~ **in liquid and/or vapor phase (including low boilers and high boilers), and nitrogen for blanketing.**

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-11** The ~~expansion tanks (5)~~, ~~nitrogen condensing tank~~ **four (4) vertical expansion vessels, low boiler condensate receiver vessel,** and two **(2)** vertical HTF ~~storage~~ **overflow** tanks shall be operated at all times under a nitrogen blanket.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-12** The ullage/expansion system nitrogen venting shall be carried out only through ~~vents which have vapor condensing coolers which shall be maintained at or below 120 degrees Fahrenheit.~~ **District permit numbers C012015 and C012016.**

**Verification:** The project owner shall provide the District and CPM manufacturer design specifications showing compliance with this condition at least 30 days prior to the installation of the ullage/expansion vent system. ~~The project owner shall have active temperature gauges that can be inspected to show compliance with this condition.~~

~~**AQ-13** The HTF storage tank shall have in place a properly operating liquid HTF air cooler which shall maintain the tank at or below 165 degrees Fahrenheit.~~

~~**Verification:** The project owner shall provide the District and CPM manufacturer design specifications showing compliance with this condition at least 30 days prior to the installation of the HTF storage tanks. The project owner shall have active temperature gauges that can be inspected to show ongoing compliance with this condition.~~

~~**AQ-14** The nitrogen condensing tanks shall be maintained at or below 176 degrees Fahrenheit.~~

~~**Verification:** The project owner shall provide the District and CPM manufacturer design specifications showing compliance with this condition at least 30 days prior to~~

~~the installation of the nitrogen condensing tanks. The project owner shall have active temperature gauges that can be inspected to show ongoing compliance with this condition.~~

~~**AQ-15** Vent release and HTF storage tank temperatures shall be monitored in accordance with a District approved Inspection, Monitoring and Maintenance plan.~~

~~**Verification:** The project owner shall provide the District for review and approval and the CPM for review the required Inspection, Monitoring and Maintenance plan at least 30 days prior to the installation of the HTF storage tanks and vent systems.~~

**AQ-13 (Reserved)**

**AQ-14 (Reserved)**

**AQ-15 (Reserved)**

~~**AQ-17** The project owner shall submit to the District a compliance test protocol within sixty (60) days of start-up and shall conduct all required compliance/certification tests in accordance with a District approved test plan. Thirty (30) days prior to the compliance/certification tests the project owner shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.~~

~~**Verification:** The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least no later than sixty (60) days after start-up and submit a test plan to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance tests required in **AQ-18** and **AQ-19**, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.~~

~~**AQ-18** The project owner shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of initial start up. The following compliance tests are required:~~

~~a. VOC as $CH_4$ in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).~~

~~b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).~~

~~**Verification:** The project owner shall submit the test results to the District and to the CPM within 180 days after initial start up.~~

~~**AQ-19** The project owner shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:~~

~~a. VOC as $CH_4$ in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).~~

~~b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).~~

~~Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.~~

~~**Verification:** As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.~~

~~**AQ-20** Emissions from this equipment may not exceed the following emission limits, based on a calendar day summary:~~

~~a. VOC as $CH_4$ – 4.55 lb/day, verified by compliance test.~~

~~b. Benzene – 1.9 lb/day, verified by compliance test.~~

~~**Verification:** As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.~~

**AQ-17 (Reserved)**

**AQ-18 (Reserved)**

**AQ-19 (Reserved)**

**AQ-20 (Reserved)**

## Application No. ~~00010712~~ MD1000001206 and ~~00010713~~ MD1000001207 (Two - ~~4,190 HP~~ 2,280kW Emergency IC Engine)

## EQUIPMENT DESCRIPTION

Two - ~~190 HP~~ **2,280kW** diesel fueled emergency generator engines, each driving a generator.

**AQ-29a** **This engine shall be a US EPA Tier 2 certified, non-road compression-ignition engine, as evidenced by the manufacturer's engine tag.**

**Verification:** **The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.**

**AQ-33** This unit shall be limited to use for emergency power, defined as in response to a fire or when utility back-feed power is not available. In addition, this unit shall be operated no more than 0.5 hours per day and 50 hours per year for testing and maintenance, excluding compliance source testing. ~~Time required for source testing will not be counted toward the 50 hour per year limit.~~ **There is no limit on engine operation for emergency use.**

**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

~~**AQ-37** No two permitted stationary emergency engines (emergency generators or emergency fire pump engines) Equipment with valid District permit numbers E0XXXX, E0XXXX, E0XXXX and E0XXXX shall not be readiness tested on the same calendar day.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

**AQ-37 (Reserved)**

**AQ-38** This engine shall exhaust through a stack at a minimum height of ~~60~~ **30** feet.

**Verification:** The project owner shall make the site available for inspection of equipment by representatives of the District, ARB, and the Energy Commission.

## Application No. ~~00010714~~ MD1000001203 and ~~00010715~~ MD1000001205 (Two – ~~346~~ 575-617 HP Emergency IC Engine)

## EQUIPMENT DESCRIPTION

Two - ~~346~~ **575-617** BHP diesel fueled emergency generator engines, each driving a fire suppression water pump.

**AQ-40a** **This engine shall be a US EPA Tier 3 certified, non-road compression-ignition engine, as evidenced by the manufacturer's engine tag.**

**Verification:** **The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.**

**AQ-44** This ~~unit~~ **new direct-drive fire pump engine** shall be limited to use for emergency fire suppression, defined as in response to a fire or due to low fire

water pressure. In addition, this ~~unit~~ **engine** shall be operated no more than ~~50 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 50 hour per year limit. The 50 hour limit can be exceeded when the emergency fire pump assembly is driven directly by a stationary diesel fueled CI engine operated per and in accord with the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 1998 edition. This requirement includes usage during emergencies. {Title 17 CCR 93115.3(n)}~~ **30 minutes in any one hour and no more than 10 hours per year for initial start-up testing and compliance demonstrations. Additionally, this engine shall not operate more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," (current edition). The hours of operation for source testing or to perform testing on an engine that has experienced a breakdown or failure during testing will not be counted towards either of the allowable annual limits above. There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]**

**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

~~**AQ-46** No two permitted stationary emergency engines (emergency generators or emergency fire pump engines) Equipment with valid District permit numbers E0XXXX, E0XXXX, E0XXXX and E0XXXX shall not be readiness tested on the same calendar day.~~

~~**Verification:** The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.~~

**AQ-46 (Reserved)**

**AQ-47** This engine shall exhaust through a stack at a minimum height of ~~60~~ **20** feet.

**Verification:** The project owner shall make the site available for inspection of equipment by representatives of the District, ARB, and the Energy Commission.

## Application No. 00010995 (One – Gasoline Storage Tank)

## EQUIPMENT DESCRIPTION

One – Above ground gasoline storage tank and fuel receiving and dispensing equipment.

**AQ-50** The toll-free telephone number that must be posted is 1-800-635-4617 ~~or 1-877-723-8070~~ **[Rule 461]**.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-51** The project owner shall maintain a log of all inspections, repairs, and maintenance on equipment subject to Rule 461. Such logs or records shall be maintained at the facility for at least two (2) years and available to the District upon request. Records of Maintenance, Tests, Inspections, and Test Failures shall be maintained and available to District personal upon request; record form shall be similar to the Maintenance Record form indicated in ~~EO VR-401-A, Figure 2N~~ **current ARB Executive Orders [~~EO VR-401;~~ Rule 461]**.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-52** Any modifications or changes to the piping or control fitting of the vapor recovery system require prior approval from the District. **[Rule 204]**.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-53** Pursuant to ~~EO VR-401-A~~ **current ARB Executive Orders (EOs)**, vapor vent pipes are to be equipped with ~~Husky 5885~~ pressure relief valves ~~**or as otherwise**~~ **allowed by current EOs [~~EO VR-401;~~ Rule 204]**.

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-54** The project owner shall perform the following tests within 60 days of construction completion and annually thereafter in accord with the following test procedures:

a. Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks shall be conducted per **current ARB Executive Orders** ~~EO VR-401-A Exhibit 4~~. and,

b. Phase I Adapters, Emergency Vents, Spill Container Drain Valve, Dedicated gauging port with drop tube and tank components, all connections, and fittings shall NOT have any detectable leaks; test methods shall be per **current ARB Executive Orders** ~~EO VR-401-A Table 2-1~~, and

c. Liquid Removal Test (if applicable) per TP-201.6, and

Summary of Test Data shall be documented on a Form similar to ~~EO VR-401-A Form 1~~ **the form in current ARB Executive Orders**.

The District shall be notified a minimum of 10 days prior to performing the required tests with the final results submitted to the District within 30 days of completion of the tests.

The District shall receive passing test reports no later than six (6) weeks prior to the expiration date of this permit. **[Rule 204]**

**Verification:** The project owner shall notify the District at least 10 days prior to performing the required tests. The test results shall be submitted to the District within 30 days of completion of the tests and shall be made available to the CPM if requested.

**AQ-55** Pursuant to California Health and Safety Code sections 39600, 39601 and 41954, this aboveground tank shall be installed and maintained in accordance with ~~Executive Order (EO) VR-401-A~~ **current ARB Executive Orders** for EVR Phase I, and Standing Loss requirements~~:~~ ~~http://www.arb.ca.gov/vapor/eos/eo-vr401/eo-vr401a/eo-401a.pdf~~**eo-401.htm**~~.~~

Additionally, Phase II Vapor Recovery System shall be installed and maintained per **current ARB Executive Orders** ~~G-70-116-F~~**132-A** with the exception that hanging hardware shall be EVR Balance Phase II type hanging hardware (VST or other ~~G~~ARB Approved EVR Phase II Hardware). **[Rule 204]**

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-56** Pursuant to ~~EO VR-401-A~~ **current ARB Executive Orders**: Maintenance and repair of ~~**EVR Phase I OPW**~~ system components, including removal and installation of such components in the course of any required tests, shall be performed by ~~OPW~~ **Vendor** Certified Technicians. ~~**[EO VR-401]**~~

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-57** Pursuant to ~~EO VR-401-A~~ **current ARB Executive Orders**, Maintenance Intervals for ~~OPW~~ **ARB approved phase I EVR vendors**; Tank Gauge Components; Dust Caps Emergency Vents; Phase I Product and Vapor Adapters, and Spill Container Drain Valve, shall be conducted by ~~an OPW~~ **Vendor** trained technician annually. ~~**[EO VR-401]**~~

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-58** The annual throughput of gasoline shall not exceed 600,000 gallons per year. Throughput Records shall be kept on site and available to District personnel upon request. Before this annual throughput can be increased the facility may be required to submit to the District a site specific Health Risk Assessment in accord with a District approved plan. In addition public notice and/or comment period may be required. **[Regulation XIII; Rule 204]**

**Verification:** The project owner shall submit to the CPM gasoline throughput records demonstrating compliance with this condition as part of the Annual Compliance Report. The project owner shall maintain on site the annual gasoline throughput records and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-59** The project owner shall install, maintain, and operate **Enhanced Vapor Recovery (**EVR**)** Phase I **and Phase II** in compliance with ~~CARB Executive Order VR-401-A, and Phase II vapor recovery in accordance with G-70-116-F~~**132-A current ARB Executive Orders with the exception that hanging hardware shall be EVR Balance Phase II type hanging hardware (Vapor Systems Technologies [VST] or other ARB Approved EVR Phase II Hardware)**. In the event of conflict between these permit conditions and/or the referenced EO's the more stringent requirements shall govern. **[Rule 204]**

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-60 The project owner shall install, maintain, and operate this equipment in compliance with these permit conditions and 40 CFR Part 63 Subpart CCCCC; in the event of conflict the more stringent requirements shall govern. [Rule 204]**

**Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.**

**Application No. MD100000tbd and MD100000tbd (Two Air Pollution Control Devices- Carbon Adsorption System for the HTF Ullage/Expansion system)**

## EQUIPMENT DESCRIPTION

**Two Air Pollution Control Devices- Carbon Adsorption System for the HTF Ullage/Expansion system**

**AQ-61 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.**

**Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.**

**AQ-62 This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit numbers B011046 and B011047 is venting.**

**Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.**

AQ-63 This carbon adsorption system shall provide at a minimum 95% control efficiency of VOC emissions vented from the HTF ullage/expansion system under valid District Permit numbers B011046 and B011047. Control efficiency shall be demonstrated by sampling VOC emissions per US EPA Method 25 at the inlet and outlet of the carbon beds during initial and annual compliance tests.

Verification: The project owner shall notify the District and the CPM within fifteen (15) working days before the execution of the compliance test required in this condition. The initial test results shall be submitted to the District and to the CPM within 180 days of initial start up. As part of the Annual Compliance Report, the project owner shall include information demonstrating compliance with control efficiency.

AQ-64 The project owner shall prepare and submit a monitoring and change-out plan for the carbon adsorption system which ensures that the system is operating at optimal control efficiency at all times for District approval 60 days prior to commercial operation date (COD). Once approved, any subsequent changes to the monitoring and change-out plan must be submitted in writing to the District for approval prior to implementation.

Verification: The project owner shall provide the District for review and approval and the CPM for review the required monitoring and change-out plan within the timeframe required by this condition.

AQ-65 Total emissions of volatile organic compounds (VOC) to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.

Verification: As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-66 Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.

Verification: As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-67 During operation, the project owner shall monitor VOC (as hexane) measured at outlet from the carbon beds. Sampling is to be performed at a minimum on a weekly basis. Samples shall be analyzed using a District approved photo ionization detector (PID).

Verification: The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

AQ-68 The photo Ionization detector shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.

Verification: The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

AQ-69 The project owner shall maintain an operations log (in electronic or hardcopy format) current and onsite for a period of five (5) years. The log shall contain at a minimum the following information and shall be provided to District personnel upon request.

a. Date and time of VOC monitoring;

b. Results of VOC monitoring; and

c. Date and description of all maintenance, malfunctions, repairs, and carbon change out(s).

Verification: The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

AQ-70 Prior to January 31 of each new year, the project owner of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).

Verification: As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-71 The project owner shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-72 The project owner shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a

written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing is completed.

Verification: The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance tests required in AQ-73 and AQ-74, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.

AQ-73 The project owner shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of the commercial operation date (COD). The following compliance tests are required:

a. VOC as hexane in ppmvd and lb/hr (measured per USEPA Reference Methods 25 and 18 or equivalent).

b. Benzene in ppmvd and lb/hr (measured per ARB Method 410 or equivalent).

Verification: The project owner shall notify the District and the CPM within thirty (30) working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM within 180 days of initial start up.

AQ-74 The project owner shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:

a. VOC as hexane in ppmvd and lb/hr (measured per US EPA Reference Methods 25A and 18 or equivalent).

b. Benzene in ppmvd and lb/hr (measured per ARB Method 410 or equivalent).

Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon request.

**Verification:** **As part of the Annual Compliance Report, the project owner shall include information demonstrating compliance with operating emission rates.**

**IT IS SO ORDERED.**

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the California Energy Commission held on April 22, 2014.

AYE: Weisenmiller, Douglas, Hochschild, Scott
NAY: None
ABSENT: McAllister
ABSTAIN: None

Harriet Kallemeyn,
Secretariat

# ABENER TEYMA MOJAVE

## LETTER OF TRANSMITTAL

**Date:** April 30, 2014
**Subject:** Mojave Solar Project
**Condition Number:** HAZ-1
**Reference:** Mojave Solar Project Hazardous Materials List
**To:** Mr. Dale Rundquist, CPM
California Energy Commission

WE ARE SENDING YOU

☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of Letter ☐ Change Order ☐

| COPIES | DATE | NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 04/30/14 | 1 | Technical Memo to CEC |
| 1 | 04/30/14 | 1 | Original Hazardous Materials Appendix A |
| 1 | 04/30/14 | 1 | Hazardous Materials Additions to Appendix A |

THESE ARE TRANSMITTED as checked below:

☒ For Approval
☐ For your use
☐ As requested
☐ For review
☐ Approved as submitted
☐ Approved as noted
☐ Returned for corrections
☐ For review and comment

REMARKS _____

COPY TO: File SIGNED BY: Steven Pochmara

Steven Pochmara
ABEINSA EPC

ABENER TEYMA MOJAVE

13911 Park Ave., Suite 208
Victorville, CA 92392
Phone: 480-287-1419

# TECHNICAL MEMO

**Subject:** Mojave Solar Project (09-AFC-5C)
**Condition No.:** HAZ-1
**Description:** Site Security and Hazardous Materials Storage Plan
**Submittal No.:** HAZ1-01-00

April 30, 2014

Mr. Dale Rundquist, CPM
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814
drundqui@energy.state.ca.us

Dear Mr. Rundquist,

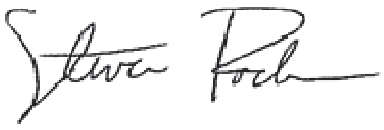
In accordance to the CEC Commission decision HAZ-1 compliance, we are submitting to your office the amended Hazardous Materials Appendix A for the Mojave Solar Project, for your review and consideration. The revised Appendix A lists the six chemicals included in the chemical pipe cleaning process for the steam generator equipment and tanks.

For your convenience, referenced below is the HAZ-1 CEC Compliance Condition:

**HAZ-1** The project owner shall not use any hazardous materials not listed in Appendix A, below, or in greater quantities or strengths than those identified by chemical name in Appendix A, below, unless approved in advance by the Compliance Project Manager (CPM).
**Verification:** The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility.

Should you have any questions or comments, please don't hesitate to contact me.

Sincerely,



Steven Pochmara
ABEINSA EPC
13911 Park Ave., Suite 208
Victorville, CA 92392
Cell: (480) 287-1419

# HAZARDOUS MATERIALS
# APPENDIX A

## Hazardous Materials Proposed for Use at AMS

## During Operations

## Hazardous Materials Management Appendix A
## Hazardous Materials Proposed for Use at AMS During Operations

| Material | CAS No. | Application | Hazardous Characteristics | Maximum Quantity On Site | CERCLA SARA RQ[a] |
|---|---|---|---|---|---|
| Acetylene | 74-86-2 | Welding gas | Health: hazardous if inhaled<br>Physical: combustible, flammable | 1,600 cubic feet | N/A |
| Air Conditioning Fluids | None | | | 40 pounds | N/A |
| Argon | 7440-37-1 | Welding gas | Health: low toxicity<br>Physical: non reactive | 1,600 cubic feet | N/A |
| Bathroom Supplies – Liquid Soap | None | | | 25 gallons | N/A |
| Chem Treat, Inc. BL-1260 or similar<br>Carbohydrazide | 497-18-7 | | Health: moderate toxicity | Totes, 4 x 300 gallons | N/A |
| ChemTreat, Inc. BL-1558 or similar<br>3-Methoxyproplyamine<br>Cyclohexlyamine<br>Diethydroxylamine | <br><br>5332-73-0<br>108-91-8<br>3710-84-7 | | Health: high toxicity<br><br>Physical: corrosive, combustible | Totes, 4 x 300 gallons | <br><br>N/A<br>10,000 pounds<br>N/A |
| ChemTreat, Inc. BL-180 or similar<br>Nitrous Acid, Sodium Salt<br>Sodium Tetraborate Pentahydrate | <br>7632-00-0<br>12179-04-3 | | Health: moderate toxicity | Totes, 2 x 300 gallons | <br>100 pounds<br>N/A |

| Material | CAS No. | Application | Hazardous Characteristics | Maximum Quantity On Site | CERCLA SARA RQ[a] |
|---|---|---|---|---|---|
| ChemTreat, Inc. CL-1432 or similar<br>Potassium Phosphate, Tribasic<br>1-Hydroxyethylidene-1, 1-Diphosphonic Acid, Tetrapotassium Salt<br>Tetrapotassium Pyrophosphate<br>Potassium Hydroxide<br>Tolytriazole, Sodium Salt | <br><br>7778-53-2<br>14860-53-8<br>7320-34-5<br><br><br>1310-58-3<br>64665-57-2 | | Health: high toxicity<br>Physical: corrosive | Totes, 2 x 1,000 gallons | <br><br>N/A<br>N/A<br>N/A<br><br><br>1,000 pounds<br>N/A |
| ChemTreat, Inc. BL-124 or similar<br>Sodium Bisulfite | 7631-90-5 | | Health: low toxicity, irritant | Totes, 2 x 300 gallons | 5,000 pounds |
| ChemTreat, Inc. BL-1794 or similar<br>Trisodium Phosphate | 7601-54-9 | | Health: high toxicity<br>Physical: corrosive | Plastic Totes, 2 x 300 gallons | N/A |
| Cleaning Chemicals (Janitorial Supplies) | None | Periodic cleaning of combustion turbine | Health: various<br>Physical: various | 20 gallons | NA |
| Diesel Fuel | | | Health: low toxicity<br>Physical: combustible | 14,200 gallons | N/A |
| Fertilizer (Bioremediation)<br>Urea | 57-13-6<br>1317-25-5 | | Health: low toxicity | 300 pounds | N/A |
| Fertilizer (Bioremediation) | 7778-77-0 | | Health: low toxicity | 2,000 pounds | N/A |

| Material | CAS No. | Application | Hazardous Characteristics | Maximum Quantity On Site | CERCLA SARA RQ[a] |
|---|---|---|---|---|---|
| Monopotassium Phosphate | | | Physical: combustible | | |
| Gasoline | 86290-81-5 | | | 1,000 – 2,000 gallons | N/A |
| Heat Transfer Fluid: Diphenyl Ether (73.5%) Biphenyl (26.5%) | 101-84-8<br>92-52-4 | Heat transfer from solar array to steam generator | Health: moderately toxic, skin irritant<br>Physical: combustible | 2,292,000 gallons | 100 pounds |
| Herbicide<br><br>Roundup® or equivalent (Glyphosate, Isopropylamine Salt) | 38641-94-0 | | Health: low toxicity, irritant | No onsite storage, brought on site by licensed contractor, used immediately | N/A |
| Herbicides and Pesticides | None | | | 5 gallons | N/A |
| Lab Gases | None | | | 150 cubic feet | N/A |
| Lab Reagents | None | | | 10 gallons | N/A |
| Lube Oil | 64742-55-8 | Lubricate rotating equipment | Health: hazardous if ingested<br>Physical: may be flammable/combustible | 5,00 gallons in equipment and piping, additional maintenance inventory of up to 550 gallons in 55-gallon steel drums | N/A |
| Mineral Insulating Oil | 64742-53-6<br>68037-01-4 | Transformers/switchyard | Health: hazardous if ingested<br>Physical: may be flammable/combustible | 64,000 gallons | N/A |
| Natural Gas (Methane) | 74-82-8 | Auxiliary boiler and domestic use (space heating) | Health: low toxicity<br>Physical: flammable | No on-site storage, natural gas in equipment and piping; pressurized carbon steel pipeline for delivery to site | N/A |
| Nitrogen | 7727-37-9 | | | 37,200 gallons | N/A |
| Office Supplies (Batteries, etc) | None | | | 1 cubic foot | N/A |
| Oxygen | 7782-44-7 | Welding gas | Health: low toxicity, skin irritant<br>Physical: flammable | 3,200 cubic feet | NA |

| Material | CAS No. | Application | Hazardous Characteristics | Maximum Quantity On Site | CERCLA SARA RQ[a] |
|---|---|---|---|---|---|
| Paint and Paint Thinners | Various | Touchup of painted surfaces | Health: various<br>Physical: various | 50 gallons | NA |
| Propane | 74-98-6 | Torch gas | Health: low toxicity, causes frostbites<br>Physical: flammable, oxidizing | 5,000 gallons | NA |
| Sodium Hydroxide | 1310-73-2 | Water treatment | Health: high toxicity<br>Physical: corrosive | 2,000 gallons | 1,000 pounds |
| Sodium Hypochlorite | 7681-52-9<br>10022-70-5 | Water treatment | Health: low toxicity<br>Physical: corrosive, flammable | 12,000 gallons | 100 pounds |
| Soil Stabilizer<br>Coherex or similar | 64742-11-6 | | None | No onsite storage, supplied in 400-gallon totes, used immediately | N/A |
| Sulfuric Acid (29.5%) | 7664-93-9<br>8014-95-7 | Water treatment | Health: high toxicity<br>Physical: corrosive and water reactive | 2,000 gallons | 1,000 pounds |
| Sulfuric Acid (93%) | 7664-93-9<br>8014-95-7 | Water treatment | Health: high toxicity<br>Physical: corrosive and water reactive | 1,600 gallons | 1,000 pounds |
| Water Treatment Chemical<br>ChemTreat, Inc. CT-9004 or similar 1-Hydroxyethylidene-1, 1-Diphosphonic Acid | 2809-21-4 | | | Totes, 2 x 300 gallons | N/A |
| Water Treatment Chemical<br>ChemTreat, Inc. P-813 E or similar<br>Petroleum Distillate Hydrotreated | 64742-47-8 | | None | Totes, 2 x 275 gallons | N/A |

| Material | CAS No. | Application | Hazardous Characteristics | Maximum Quantity On Site | CERCLA SARA RQ[a] |
|---|---|---|---|---|---|
| Light | | | | | |
| Water Treatment Chemical<br>ChemTreat, Inc. CL-2156 or similar | | | Physical: corrosive | Totes, 2 x 300 gallons | |
| 5-Chloro-2-Methyl-4-Isothiazolin-3-One | 26172-55-4 | | | | N/A |
| 2-Methyl-4-Isothiazolin-3-One | 2682-20-4 | | | | N/A |
| Magnesium Nitrate | 10377-60-3 | | | | N/A |
| Magnesium Chloride | 7786-30-3 | | | | N/A |
| Welding Rods | 7439-89-6 | | | 100 pounds | N/A |

Source: ESH 2009c Tables 9 and 10 and AS 2009a Table 5.6-3

a. Reportable quantities for a pure chemical, per the Comprehensive Environmental Response, Compensation, and Liability Act.

# Hazardous Materials Management Appendix A
# Hazardous Materials Proposed for Use at AMS During Operations
# Revision - 04-30-14

| Material | CAS No. | Application | Hazardous Characteristics | Maximum Quantity on Site | CERCLA SARA RQ |
|---|---|---|---|---|---|
| | | | | | |
| CO2 Gas | 124-38-9 | Generator Purging | Asphyxiant | 3136 Cu ft | NA |
| Liquid CO2 | 124-38-9 | Water Treatment | Cryogenic | 13000 gallons | NA |
| Citric Acid | 77-92-9 | System Cleaning | Irritant | 9420 gallons | NA |
| Sodium Nitrite | 7632-00-0 | System Cleaning | Oxidizer | 8200 lbs | Yes |
| Surfactant | 9016-45-9 | System Cleaning | Irritant | 440 gallons | NA |
| Ammonium Hydroxide | 1336-21-6 | System Cleaning | Corrosive | 8840 gallons | NA |
| Sodium Hydroxide | 1310-73-2 | System Cleaning | Corrosive | 2360 gallons | Yes |
| Bonderite Inhibitor | 107-21-1 | System Cleaning | Irritant | 240 gallons | NA |
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# Hazardous Materials Management Appendix A
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# ABENER TEYMA MOJAVE

## LETTER OF TRANSMITTAL

**Date:** March 25, 2014
**Subject:** Mojave Solar Project
**Condition Number:** HAZ-2
**Reference:** Mojave Hazardous Materials Business Plan (HMBP)
**To:** Mr. Dale Rundquist, CPM
California Energy Commission

WE ARE SENDING YOU

☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of Letter ☐ Change Order ☐

| COPIES | DATE | NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 3/25/14 | 1 | Cover Letter to CEC |
| 1 | 3/25/14 | 1 | Technical Memo to CEC |
| 1 | 3/25/14 | 1 | Revised Hazardous Materials Business Plan |
| 1 | 3/25/14 | 1 | Annex 1 Inventory Forms and Maps |
| 1 | 3/25/14 | 1 | Annex 2 MSDS Forms |
| 1 | 2/26/14 | 1 | Annex 3 Mojave Emergency Response Plan |

THESE ARE TRANSMITTED as checked below:

☒ For Approval
☐ For your use
☐ As requested
☐ For review
☐ Approved as submitted
☐ Approved as noted
☐ Returned for corrections
☐ For review and comment

REMARKS _____

COPY TO: File

SIGNED BY: Steven Pochmara
ABEINSA EPC

ABENER TEYMA MOJAVE

13911 Park Ave, Suite 208
Victorville, CA 92392
Phone: 480-287-1419

| | |
|---|---|
| **Subject:** | Mojave Solar Project (09-AFC-5C) |
| **Condition No.:** | HAZ-2 |
| **Description:** | Safety Management Plan for Commissioning |
| **Submittal No.:** | HAZ2-03-00 |

March 25, 2014

Mr. Dale Rundquist, CPM
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814
drundqui@energy.state.ca.us

Dear Mr. Rundquist,

As required by the California Energy Commission and more specifically by Condition of Certification HAZ-2, attached please find the revised Hazardous Materials Business plan for your review and comment. The revised plan provides an update to the hazardous chemicals that will be on site during commissioning/operations.

Should you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

Steven Pochmara
ABEINSA EPC
13911 Park Ave, Suite 208
Victorville, CA 92392
Cell: (480) 287-1419

ABENER TEYMA MOJAVE

13911 Park Ave., Suite 208
Victorville, CA 92392
Phone: 480-287-1419

# TECHNICAL MEMO

**Subject:** Mojave Solar Project (09-AFC-5C)
**Condition No.:** HAZ-2
**Description:** Hazardous Materials Business Plan
**Submittal No.:** HAZ2-03-00

March 25, 2014

Mr. Dale Rundquist, CPM
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814
drundqui@energy.state.ca.us

Dear Mr. Rundquist,

In accordance to the CEC Commission decision report HAZ-2 compliance, we are submitting to your office the revised Hazardous Materials Business plan (HMBP) for the Mojave Solar Project, for your review and consideration. This revised plan provides an update for the chemicals that will be on site for commissioning/operations.

For your convenience, referenced below is the HAZ-2 CEC Compliance Condition:

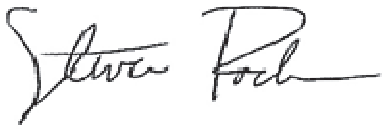
HAZ-2
The project owner shall provide a Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control, and Countermeasure Plan (SPCC), and a Process Safety Management Plan (PSMP) to the San Bernardino County Fire Department and the CPM for review. After receiving comments from the San Bernardino County Fire Department and the CPM, the project owner shall reflect all final recommendations in the final documents. Copies of the final HMBP, SPCC, and PSMP shall then be provided to the San Bernardino County Fire Department for information and to the CPM for approval.
Verification: At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan, Spill Prevention, Control, and Countermeasure Plan, and a Process Safety Management Plan to the CPM for approval.

Should you have any questions or comments, please don't hesitate to contact me.

**ABENER TEYMA MOJAVE**

13911 Park Ave., Suite 208
Victorville, CA 92392
Phone: 480-287-1419

Sincerely,



Steven Pochmara
**ABEINSA EPC**
13911 Park Ave., Suite 208
Victorville, CA 92392
Cell: (480) 287-1419

ABEINSA EPC
MOJAVE

# Emergency Plan - HMBP

| **Title: Business Emergency Contingency Plan** |
|---|
| **Process:** Hazardous Material Business Plan |
| **Project: Mojave Solar Project** |

| | |
|---|---|
| **Document No:** | PEM-0002-01 |
| **Revision:** | 01 |
| **Date:** | 3/25/14 |

| **Prepared by:** | |
|---|---|
| Kirk Anderson – Environmental Engineer | Electronic Signature |

| **Reviewed by:** | |
|---|---|
| Efrain Perez – Quality Manager | Electronic Signature |
| Steven Pochmara – Permitting Manager | Electronic Signature |

| **Approved by:** | |
|---|---|
| Nicolas Gallo – Project Sub Director | Electronic Signature |
| Rafael Sanchez Mendoza – Project Director | Electronic Signature |

## Revisions Control Sheet

| Revision | Date | Cause for revision | Prepared | Reviewed | Approved |
|---|---|---|---|---|---|
| 00 | 6/21 | Document Created | KIA | | |
| 01 | 03/15/14 | Inventory Update | KIA | | |
| | | | | | |

**Table of Contents**

## 1 Objective

The primary purpose of this plan is to provide readily available information regarding the location, type, and health risks associated with hazardous materials at the Mojave Solar Project. Each business in San Bernardino County that handles, uses, generates or stores hazardous materials is required to comply with State and Federal community right to know laws, and to submit a Hazardous Materials Business Plan (HMBP). The Hazardous Materials Division of the San Bernardino County Fire Department is the Administering Agency and the Certified Unified Program Agency (CUPA) for San Bernardino County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances.

## 2 Definitions

N/A

## 3 Application Field

This plan applies to the entire Mojave Solar Project site for the construction and commissioning phases, which will overlap. The final phase, operations, will differ slightly from the commissioning phase, as there will be different staff operating the plant. Prior to operations, this plan will be updated with current personnel and emergency contacts.

## 4 Applicable Documentation

- California Health & Safety Code (CHSC), Division 20, Chapter 6.95
- California Code of Regulations (CCR), Title 19, Division 2
- Title 40, Code of Federal Regulations (CFR)
- California Energy Commission Decision – Hazardous Materials (HAZ 2)
- EPA (SARA, Title III)

## 5 Development

- **General Facility Information**

Mojave Solar LLC is a wholly owned subsidiary of Abengoa Solar Inc. The project will use established parabolic trough solar thermal technology to produce electrical power using a steam turbine generator fed from a solar steam generator. The solar steam generator receives heated heat transfer fluid (HTF) from solar thermal equipment comprised of arrays

of parabolic mirrors that collect energy from the sun. The California Energy Commission (CEC) has exclusive jurisdiction to license this project. The Mojave Solar site will occupy a 1,765-acre site in an unincorporated area of San Bernardino County near the community of Hinkley, California. The project site is accessed by Harper Lake Road, which is located approximately 20 miles west of Barstow along the Highway 58 corridor. The project site is approximately six miles north of where Harper Lake Road intersects with Highway 58. The existing Solar Generating Stations (SEGS) VIII and IX facilities owned by NextEra Energy Resources are immediately northwest of the project site.

The project will have a combined nominal electric output of 250 MW from twin, independently operable solar fields. Each field will feed a 125 MW power island. One site, known as the Alpha site, is in the northwest portion of the project site and will occupy 884 acres. The Beta site is in the southwest portion of the project site and will occupy 800 acres. The Alpha and Beta sites will share the remaining 81 acres of the project site for activities that include receiving and discharging offsite drainage improvements. The collector fields are comprised of single-axis-tracking parabolic trough solar collectors. These collectors are arranged to form many parallel rows aligned on a north-south axis. Each solar collector has a linear, parabolic-shaped reflector that focuses the sun's radiation on a specially designed linear receiver known as a heat collection element (HCE). The collectors track the sun from east to west to ensure that the maximum amount of the sun's radiation is continuously focused on the HCE. The HTF is heated to approximately 740° F as it circulates through the HCEs and returns to a series of heat exchangers where the fluid is used to generate steam in the solar steam generator system at the power island, thereby providing steam to the steam turbine generator.

The project will use a wet cooling tower for power plant cooling. Water for cooling and other plant purposes will come from Harper Valley Ground Basin groundwater obtained from onsite wells. A single treatment facility will be installed for each pair of wells to treat the groundwater to meet potable standards for employee use. A septic system and onsite leach field will be used to dispose of sanitary wastewater. The sun will provide 100 percent of the power supplied to the project through solar thermal collectors. No supplementary fossil-based energy source such as natural gas is proposed for electrical power production. However, each power island will have a natural-gas-fired auxiliary boiler to provide equipment freeze protection and HTF freeze protection.

The auxiliary boiler will supply steam to HTF heat exchangers as needed during offline hours to keep the HTF in a liquid state when ambient temperatures fall below its freezing point of 54° F. Each power island will also have a diesel engine-driven firewater pump for fire

protection and a diesel engine-driven backup generator for power plant essentials. The Mojave Solar electrical transmission lines will interconnect with the Southern California Edison (SCE) 230-kV Kramer-Cool Water #1 transmission, which is located adjacent to the southern border of the site. SCE is constructing the new Lockhart Substation and associated facilities (including fiber optic cable routes located outside the site), to interconnect the project to the Kramer–Coolwater 220-kV line.

## 6 Records

## 7 Annex

6007-INS-ATM-77-13-0003 Annex 01 HMBP Forms and Maps

6007-INS-ATM-77-13-0003 Annex 02 MSDS Forms

6007-INS-ATM-77-13-0003 Annex 03 Mojave Emergency Response Plan

# San Bernardino County Fire Department • Hazardous Materials Division

## INVENTORY SUMMARY FORM

### I. FACILITY IDENTIFICATION

FACILITY ID # F A (This number is on your CUPA permit.)

BUSINESS NAME (Same as FACILITY NAME or DBA)

**Mojave Solar Project LLC – Chemical Inventory – (page 1)**

| Item # | Name of Hazardous Material or Waste | Maximum Quantity | Size of Largest Container | Unit of Measure |
|---|---|---|---|---|
| *3.* | *Lubricating Oil (Example Only)* | *555* | *500* | *Gallon* |
| 1 | Diesel Fuel | 9700 | 4000 | gallon |
| 2 | Gasoline | 2000 | 2000 | gallon |
| 3 | Hydraulic Oil | 5280 | 330 | gallon |
| 4 | Paints/Solvents | 550 | 55 | gallon |
| 5 | Motor Oil | 110 | 55 | gallon |
| 6 | Propane Fuel | 300 | 50 | gallon |
| 7 | Acetylene Gas – (Welding) | 3600 | 300 | Cu ft |
| 8 | Oxygen Gas – (Welding) | 3500 | 282 | Cu ft |
| 9 | Aqueous Ammonia – 12.5% | 660 | 330 | Gallon |
| 10 | Carbohydrazide | 1200 | 300 | gallon |
| 11 | Tri-Sodium Phosphate Solution | 250 | 200 | gallon |
| 12 | Phosphoric Acid – 60 – 70% | 660 | 330 | gallon |

Summarize the Business Plan inventory on this page. Place this summary in front of the inventory section of the Business Plan. Make copies of this sheet as necessary. Reminder: You need not report hazardous materials with a maximum quantity of less than 55 gallons, 500/5000 pounds, 200/1000 cubic feet, or the threshold planning quantity of an extremely hazardous substance. However, hazardous wastes, Category 1 and 2 pesticides, and explosives are reportable at any quantity.

**III. SIGNATURE- EPCRA Facilities MUST sign the bottom of each individual attached inventory form.**

| SIGNATURE OF OWNER/OPERATOR | NAME OF SIGNER *(print)* 136 | DATE 134 |
|---|---|---|
| | Kirk Anderson | 03/15/2014 |

## San Bernardino County Fire Department • Hazardous Materials Division

## INVENTORY SUMMARY FORM

*I. FACILITY IDENTIFICATION*

| FACILITY ID # | F | A | | | | | | | | 1 (This number is on your CUPA permit.) |
|---|---|---|---|---|---|---|---|---|---|---|

BUSINESS NAME (Same as FACILITY NAME or DBA) 3

**Mojave Solar Project LLC – Chemical Inventory – (page 2)**

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