

**DOCKETED**

<b>Docket Number:</b>	09-AFC-05C
<b>Project Title:</b>	Abengoa Mojave Compliance
<b>TN #:</b>	232293
<b>Document Title:</b>	COMPLIANCE7-03-00, Mojave Solar Project 2019 Annual Compliance Report (09-AFC-5C) part 2
<b>Description:</b>	COMPLIANCE7-03-00, Mojave Solar Project 2019 Annual Compliance Report (09-AFC-5C) part 2
<b>Filer:</b>	Jose Manuel Bravo Romero
<b>Organization:</b>	Mojave Solar Project
<b>Submitter Role:</b>	Applicant
<b>Submission Date:</b>	3/4/2020 7:46:58 AM
<b>Docketed Date:</b>	3/4/2020

# Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## SUBMITTED ELECTRONICALLY

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**Subject:** 09-AFC-5C  
**Condition Number:** Compliance 7  
**Description:** Mojave Solar Project 2019 Annual Compliance Report  
**Submittal Number:** COMPLIANCE7-03-00  
**Distribution:** Keith Winstead, CEC; Kara Harris, US DOE; Dr. Sharma Shankar CDFW; Ray Bransfield, USFWS; Thomas Dietsch, USFWS

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February 27, 2020

Keith Winstead  
Compliance Project Manager  
California Energy Commission  
1516 Ninth Street, MS-2000  
Sacramento, CA 95814  
[keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov)

Dear Mr. Winstead,

The attached Mojave Solar Project 2019 Annual Compliance Report (09-AFC-5C) is submitted for your review as part of the ongoing reporting required by the California Energy Commission's Conditions of Certification for the Mojave Solar Project.

Sincerely,

Jose Manuel Bravo Romero  
Manager  
Compliance, Permitting, Quality and Environment Department  
ASI Operations LLC  
**Mojave Solar Project**  
42134 Harper Lake Rd  
Hinkley, CA 92347  
(303) 378-7302  
[jmanuel.bravo@atlanticayield.com](mailto:jmanuel.bravo@atlanticayield.com)

Attachment: 09-AFC-5C Mojave Solar Project 2019 Annual Compliance Report.

**09-AFC-5C Mojave Solar Project  
Annual Compliance Report  
2019 reporting period**



Prepared by:

**AS Industrial Operations LLC.**

for

**Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

# ABENGOA

Mojave Solar LLC

## Fire Pump Weekly Test Log

General Information	
Plant: Alpha <input type="checkbox"/> Beta <input checked="" type="checkbox"/>	Date: 1-13-19
Operator: <i>Caleb Saunders</i>	<i>*To be completed each time unit is operated.</i>
Reason for running pumps: Weekly test <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Emergency <input type="checkbox"/>	
Jockey Electric Pump	
Pre-start Inspection: Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>	
Check the jockey pump on pressure drop. Start up pressure: <i>155</i>	
Discharge Pressure: <i>167</i>	
Pump Suction Pressure: <i>20</i>	Pump Discharge pressure: <i>167</i>
Comments:	
Electric Pump	
Pre-start Inspection: Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>	
Start the pump on pressure drop. Start up pressure: <i>163</i>	
Start time: <i>0239</i>	
Pump Suction Pressure: <i>15</i>	Pump Discharge pressure: <i>163</i>
Stop time: <i>0249</i>	Total time running: <i>10 min</i>
Comments:	
Diesel Pump	
Pre-start Inspection: Coolant <input checked="" type="checkbox"/> Oil <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/> Water Jacket Heater <input checked="" type="checkbox"/>	
Fuel level > 2/3: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Monthly Fuel Consumption: <i>135</i>
Battery volt Crank 1: <i>26</i> Battery volt Crank 2: <i>26</i>	Battery Condition: <i>good</i>
Starting hour meter: <i>53.2</i>	Start time: <i>0258</i>
Oil pressure start: <i>70</i>	Oil Pressure finish: <i>-</i>
Pump Suction Pressure: <i>15</i>	Pump Discharge pressure: <i>155</i>
Coolant temperature after 30 minutes running: <i>175</i>	
Stop time: <i>0320</i> Stop hour meter: <i>53.7</i>	Total time running: <i>30 min</i>
Comments: <i>slow oil leak from timing chain cover</i>	
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).	
This 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 engine shall be operated no more than 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 be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25-"Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.	
Note: Fuel consumption 27 gal/h approximately.	
There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]	

**Automated Fire Systems Inspection Checklist**

Plant: ALPHA  BETA:  Date: 1/12/19 Operator: PLAZA

**Valve Shed # 1 by Condenser**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	SG Unit 1	B1.1	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
2	SG Unit 2	B1.2	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
3	Reheaters	B1.3	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
4	Rack 2 West HTF	B1.4	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
5	Rack 2 East HTF	B1.5	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
6	North Steel Pro	B1.6	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
7	HTF Pumps	B1.7	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
8	HTF Heaters	B1.8	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
9	South Steel Pro	B1.9	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
10	Lube Oil	B1.10	0	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
11	Turbine Hose Stations	B1.11	0	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
12	Turbine Bearings	B1.12	0	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

UNDER CLEARANCE  
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UNDER CLEARANCE

**Valve Shed # 2 by Overflow**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	B2.1	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
2	Ullage Area	B2.2	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
3	Ullage Structure	B2.3	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
4	Rack 1 Middle Area	B2.4	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
5	Overflow Tanks	B2.5	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
6	Rack 1 South Area	B2.6	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
7	Rack 1 West	B2.7	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
8	Rack 1 North Area	B2.8	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
9	Over flow AFFF	B2.9	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
10	Expansion Vessel AFFF	B2.10	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

**Valve Shed # 3 by Bldg 35 GE Electrical Bldg**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Transformer Aux	B3.1	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
2	Transformer Main	B3.2	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

**Valve Shed # 4 by Cooling Tower West Side**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Cooling Tower West Side	B4.1	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

**Valve Shed # 5 by Control Bldg 10**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Control Room	B4.5	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
2	Offices	B4.3	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>
3	Electrical Room	B4.4	165	OK	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

**Turbine Sprinkler Valves (These are to be locked in the open position)**

No.	System	Locked	Vlv. Pos.	Comments
1	Bearing 2	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
2	Bearing 3	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
3	Bearing 4	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
4	Bearing 5	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	

**HTF Deluge System Valves (to be Locked in the Open Position)**

No.	System	Locked	Vlv. Pos.	Comments
1	MP-201	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
2	MP-200A	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
3	MP-200B	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
4	MP-200C	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	
5	MP-200D	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	OK	

**Fire Pump House Deluge System**

No.	System	PSI	OK	Locked	Comments
1	Fire Pump House Deluge	165	0	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**PIV Checks**

No.	System	Position	Cycled	Date Cycled	Comments
1	Maintenance Shop Drive Way #7	OK			
2	Maintenance Shop Drive Way #8	OK			
3	West Side Power Block by VS-3 # 9	OK			
4	West Side Power Block by VS-1 # 10	OK			
5	West Side Cooling Tower by VS-4 # 11	OK			
6	West side Cooling Tower by VS-4 # 12	OK			
7	N.W. Corner Chemical Storage #1	OK			
8	N.E. Corner Chemical Storage # 2	OK			
9	East Side W.T. by Multimedia Filters # 3	OK			
10	East Side W.T. by Multimedia Filters # 5	OK			
11	North Side Bldg 10 # 6	OK			
12	Between MP-444's and Water Treat # 4	OK			
13	West side Power Block Valve Shed #1	OK			

**To Be Cycled First Saturday of Every Month**

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

# ABENGOA

Mojave Solar LLC

## Fire Pump Weekly Test Log

General Information		
Plant: Alpha <input type="checkbox"/>	Beta <input checked="" type="checkbox"/>	Date: 1-6-19
Operator: Shell		*To be completed each time unit is operated.
Reason for running pumps: Weekly test <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Emergency <input type="checkbox"/>		
Jockey Electric Pump		
Pre-start Inspection: Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>		
Check the jockey pump on pressure drop. Start up pressure: 146		
Discharge Pressure: 107		
Pump Suction Pressure: No Gauge		Pump Discharge pressure: 105
Comments:		
Electric Pump		
Pre-start Inspection: Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>		
Start the pump on pressure drop. Start up pressure: 25		
Start time: 20:35		
Pump Suction Pressure: 18		Pump Discharge pressure: 135
Stop time: 20:36		Total time running 1.5 min
Comments:		
Diesel Pump		
Pre-start Inspection: Coolant <input checked="" type="checkbox"/> Oil <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/> Water Jacket Heater <input checked="" type="checkbox"/>		
Fuel level > 2/3: Yes <input type="checkbox"/> No <input type="checkbox"/> 3/4		Monthly Fuel Consumption:
Battery volt Crank 1: 26.5		Battery Condition: Good
Starting hour meter: 52.7		Start time: 20:40
Oil pressure start:		Oil Pressure finish: 46
Pump Suction Pressure: 24		Pump Discharge pressure: 155
Coolant temperature after 30 minutes running: 180		
Stop time: 21:10		Stop hour meter: 53.2
Total time running: 30 min.		
Comments:		
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).		
This 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 engine shall be operated no more than 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 be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 "Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.		
Note: Fuel consumption 27 gal/h approximately.		
There is no limit on engine operation for emergency use. [Title 17 CCR 93115 6(a)(4)]		

**Automated Fire Systems Inspection Checklist**

Plant: ALPHA  BETA:  Date: 1/6/19 Operator: PLAZA

**Valve Shed # 1 by Condenser**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	SG Unit 1 B1.1	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
2	SG Unit 2 B1.2	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
3	Reheaters B1.3	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
4	Rack 2 West HTF B1.4	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
5	Rack 2 East HTF B1.5	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
6	North Steel Pro B1.6	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
7	HTF Pumps B1.7	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
8	HTF Heaters B1.8	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
9	South Steel Pro B1.9	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
10	Lube Oil B1.10	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
11	Turbine Hose Stations B1.11	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
12	Turbine Bearings B1.12	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**Valve Shed # 2 by Overflow**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Expansion Vessels B2.1	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
2	Ullage Area B2.2	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
3	Ullage Structure B2.11	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
4	Rack 1 Middle Area B2.5	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
5	Overflow Tanks B2.9	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
6	Rack 1 South Area B2.6	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
7	Rack 1 West B2.7	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
8	Rack 1 North Area B2.4	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
9	Over flow AFFF B2.8	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
10	Expansion Vessel AFFF B2.3	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**Valve Shed # 3 by Bldg 35 UE Electrical Bldg**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Transformer Aux	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
2	Transformer Main	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**Valve Shed # 4 by Cooling Tower West Side**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Cooling Tower West Side	160	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**Valve Shed # 5 by Control Bldg 10**

No.	System	PSI	Vlv. Pos.	Signage	Locked	Comments
1	Control Room B4.5	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
2	Offices B4.3	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
3	Electrical Room B4.2	165	LOC	Yes	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**Turbine Sprinkler Valves (these are to be locked in the open position)**

No.	System	Locked	Vlv. Pos.	Comments
1	Bearing 2	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
2	Bearing 3	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
3	Bearing 4	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
4	Bearing 5	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	

**HTF Deluge System Valves (to be Locked in the Open Position)**

No.	System	Locked	Vlv. Pos.	Comments
1	MP-201	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
2	MP-200A	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
3	MP-200B	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
4	MP-200C	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	
5	MP-200D	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	LOC	

**Fire Pump House Deluge System**

No.	System	PSI	O/C	Locked	Comments
1	Fire Pump House Deluge	165	LOC	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

**PIV Checks**

No.	System	Position	Cycled	Date Cycled	Comments
1	Maintenance Shop Drive Way #7	LOC	N		
2	Maintenance Shop Drive Way #8	LOC	N		
3	West Side Power Block by VS-3 # 9	LOC	N		
4	West Side Power Block by VS-1 # 10	LOC	N		
5	West Side Cooling Tower by VS-4 # 11	LOC	N		
6	West side Cooling Tower by VS-4 # 12	LOC	N		
7	N.W. Corner Chemical Storage #1	LOC	N		
8	N.E. Corner Chemical Storage # 2	LOC	N		
9	East Side W.T. by Multimedia Filters # 3	LOC	N		
10	East Side W.T. by Multimedia Filters # 5	LOC	N		
11	North Side Bldg 10 # 6	LOC	N		
12	Between MP-444's and Water Treat # 4	LOC	N		
13	West side Power Block Valve Shed #1	LOC	N		

**To Be Cycled First Saturday of Every Month**

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

# ABENGOA

Mojave Solar LLC

## Fire Pump Weekly Test Log

General Information		
Plant: Alpha <input type="checkbox"/>	Beta <input checked="" type="checkbox"/>	Date: 12/28/18
Operator: HAZA		*To be completed each time unit is operated.
Reason for running pumps: Weekly test <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Emergency <input type="checkbox"/>		
Jockey Electric Pump		
Pre-start Inspection: Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>		
Check the jockey pump on pressure drop. Start up pressure: 155		
Discharge Pressure: 165		
Pump Suction Pressure:		Pump Discharge pressure:
Comments:		
Electric Pump		
Pre-start Inspection: Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>		
Start the pump on pressure drop. Start up pressure: 144		
Start time: 2132		
Pump Suction Pressure: 15		Pump Discharge pressure: 155
Stop time: 2133		Total time running: 1 MINUTE
Comments:		
Diesel Pump		
Pre-start Inspection: Coolant <input checked="" type="checkbox"/> Oil <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/> Water Jacket Heater <input checked="" type="checkbox"/>		
Fuel level > 2/3: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Monthly Fuel Consumption:
Battery volt Crank 1: 27	Battery volt Crank 2: 27	Battery Condition: Good
Starting hour meter: 52.2		Start time: 2139
Oil pressure start: 60		Oil Pressure finish: 45
Pump Suction Pressure: 23		Pump Discharge pressure: 152
Coolant temperature after 30 minutes running: 181		
Stop time: 2214		Stop hour meter: 52.7
Total time running: 35 MINUTES		
Comments:		
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).		
This 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 engine shall be operated no more than 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 be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 "Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.		
Note: Fuel consumption 27 gal/h approximately.		
There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]		

## Automated Fire Systems Inspection Checklist

Plant: ALPHA  BETA:  Date: 12-28-19 Operator: Sheil

### Valve Shed # 1 by Condenser

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	SG Unit 1	B1-1	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
2	SG Unit 2	B1-2	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
3	Reheaters	B1-3	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
4	Rack 2 West HTF	B1-4	158	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
5	Rack 2 East HTF	B1-5	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
6	North Steel Pro	B1-6	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
7	HTF Pumps	B1-7	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
8	HTF Heaters	B1-8	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
9	South Steel Pro	B1-9	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
10	Lube Oil	B1-10	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
11	Turbine Hose Stations	B1-11	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
12	Turbine Bearings	B1-12	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>

### Valve Shed # 2 by Overflow

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Expansion Vessels	B2-1	150	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
2	Ullage Area	B2-2	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
3	Ullage Structure	B2-11	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
4	Rack 1 Middle Area	B2-5	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
5	Overflow Tanks	B2-9	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
6	Rack 1 South Area	B2-6	158	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
7	Rack 1 West	B2-7	158	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
8	Rack 1 North Area	B2-4	160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
9	Over flow AFFF	B2-8	158	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
10	Expansion Vessel AFFF	B2-3	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>

### Valve Shed # 3 by Bldg 35 GE Electrical Bldg

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Transformer Aux		160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
2	Transformer Main		165	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>

### Valve Shed # 4 by Cooling Tower West Side

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Cooling Tower West Side		160	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>

### Valve Shed # 5 by Control Bldg 10

No.	System	PSI	Viv. Pos.	Signage	Locked	Comments
1	Control Room	B4-5	159	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
2	Offices	B4-3	155	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>
3	Electrical Room	B4-1	158	OK	Yes	Yes <input type="checkbox"/> No <input type="checkbox"/>

### Turbine Sprinkler Valves (These are to be locked in the open position)

No.	System	Locked	Viv. Pos.	Comments
1	Bearing 2	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
2	Bearing 3	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
3	Bearing 4	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
4	Bearing 5	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	

### HTF Deluge System Valves (To be Locked in the Open Position)

No.	System	Locked	Viv. Pos.	Comments
1	MP-201	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
2	MP-200A	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
3	MP-200B	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
4	MP-200C	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	
5	MP-200D	Yes <input type="checkbox"/> No <input type="checkbox"/>	OK	

### Fire Pump House Deluge System

No.	System	PSI	OK	Locked	Comments
1	Fire Pump House Deluge	163	OK	Yes <input type="checkbox"/> No <input type="checkbox"/>	

### PIV Checks

No.	System	Position	Cycled	Date Cycled	Comments
1	Maintenance Shop Drive Way #7	OK	NO	11-3	
2	Maintenance Shop Drive Way #8	OK	NO	11-3	
3	West Side Power Block by VS-3 # 9	OK	NO	11-3	
4	West Side Power Block by VS-1 # 10	OK	NO	11-3	
5	West Side Cooling Tower by VS-4 # 11	OK	NO	11-3	
6	West side Cooling Tower by VS-4 # 12	OK	NO	11-3	
7	N.W. Corner Chemical Storage #1	OK	NO	11-3	
8	N.E. Corner Chemical Storage # 2	OK	NO	11-3	
9	East Side W.T. by Multimedia Filters # 3	OK	NO	11-3	
10	East Side W.T. by Multimedia Filters # 5	OK	NO	11-3	
11	North Side Bldg 10 # 6	OK	NO	11-3	
12	Between MP-444's and Water Treat # 4	OK	NO	11-3	
13	West side Power Block Valve Shed #1	OK	NO	11-3	

### To Be Cycled First Saturday of Every Month

No.	System	Debris	Comments / Actions
1	Transformer Yard Refuse Check	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: ALPHA		Date: 12-13-19					
Operator: PHIL TOURGENIS							
Main Generator Breaker		Comments					
Open	✓						
Closed							
Engine		Comments					
Start Time:	19:55						
Stop Time:	20:05						
Total Run Time:	10 MINS						
Starting Hour Meter Reading	202.7	END 202.9 HRS					
Monthly Fuel Consumption(gal)	N/A						
Oil Level	GOOD						
Coolant Level	GOOD	Coolant Temp. @ Start 63 °c	Finish=75 °c				
Belt Condition	GOOD						
Oil Pressure		Start = 7.8 bar	Finish=6.6 bar				
Battery Condition	GOOD						
Battery Voltage	26.9						
Engine RPMs	1800						
Generator		Comments					
Generator Volts	4.15						
Generator Amps	N/A						
Generator "KVA"	N/A						
Reason For Use		Comments					
Testing	WEEKLY						
Emergency	—						
Maintenance	—						
Generator		Comments					
Fuel Delivered	N/A						
Fuel Level	<table border="1"> <tr> <td>1/4</td> <td>1/2</td> <td>3/4</td> <td>F</td> </tr> </table>	1/4	1/2	3/4	F	01	
1/4	1/2	3/4	F				
Sulfur Concentrations <0.0015% (15ppm)							

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

\*Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Alpha

Date: 12/7/19

Operator: Rico

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:		<u>6:15 pm</u>	
Stop Time:		<u>6:25 pm</u>	
Total Run Time:		<u>10 min</u>	
Starting Hour Meter Reading		<u>202.6</u>	
Monthly Fuel Consumption(gal)			
Oil Level		<u>✓</u>	
Coolant Level		<u>✓</u>	
Belt Condition		<u>✓</u>	
Oil Pressure		<u>✓</u>	
Battery Condition		<u>✓</u>	
Battery Voltage		<u>27.0</u>	
Engine RPMs		<u>1800</u>	
Generator		Comments	
Generator Volts		<u>4.17</u>	
Generator Amps		<u><del>0.0448</del></u>	
Generator "KVA"		<u>4.14</u>	
Reason For Use		Comments	
Testing		<u>✓</u> <u>weekly</u>	
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4	1/2	3/4
			F
Sulfur Concentrations			
<0.0015% (15ppm)			

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Mojave Solar LLC

### Emergency Diesel Generator Weekly Test Log

Plant: Alpha

Date: 11/29/19

Operator: Rico

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:		<u>6:37 pm</u>	
Stop Time:		<u>6:47 pm</u>	
Total Run Time:		<u>10 min</u>	
Starting Hour Meter Reading		<u>202.4</u>	
Monthly Fuel Consumption(gal)			
Oil Level		<input checked="" type="checkbox"/>	
Coolant Level		<input checked="" type="checkbox"/>	
Belt Condition		<input checked="" type="checkbox"/>	
Oil Pressure		<input checked="" type="checkbox"/>	
Battery Condition		<input checked="" type="checkbox"/>	
Battery Voltage		<u>27.4</u>	
Engine RPMs		<u>1800</u>	
Generator		Comments	
Generator Volts		<u>4.18</u>	
Generator Amps		<u>0040</u>	
Generator "KVA"		<u>1503</u>	
Reason For Use		Comments	
Testing		<input checked="" type="checkbox"/>	
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4	1/2	3/4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfur Concentrations			
<0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

e. Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Mojave Solar LLC

### Emergency Diesel Generator Weekly Test Log

Plant: <i>Alpha</i>		Date: <i>11-22-19</i>	
Operator: <i>Mike Hinton</i>			
Main Generator Breaker		Comments	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Engine		Comments	
Start Time:	<i>1800</i>		
Stop Time:	<i>1810</i>		
Total Run Time:	<i>10 mins</i>		
Starting Hour Meter Reading	<i>202 <del>2</del></i>		
Monthly Fuel Consumption(gal)			
Oil Level	<i>Normal</i>		
Coolant Level	<i>Normal</i>	Coolant Temp. @ Start <i>58 °c</i>	Finish= <i>75 °c</i>
Belt Condition	<i>Normal</i>		
Oil Pressure		Start = <i>8.3 bar</i>	Finish= <i>6.5 bar</i>
Battery Condition	<i>Normal</i>		
Battery Voltage	<i>27.4</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>1530</i>		
Generator Amps	<i>248</i>		
Generator "KVA"	<i>4.18</i>		
Reason For Use		Comments	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Generator		Comments	
Fuel Delivered	<i>No</i>		
Fuel Level	<i>82%</i>		
Sulfur Concentrations			
<0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

e: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Alpha</u>		Date: <u>11-16-19</u>					
Operator: <u>Mike Hinton</u>							
Main Generator Breaker		Comments					
Open	✓						
Closed							
Engine		Comments					
Start Time:	<u>1725</u>						
Stop Time:	<u>8-1735</u>						
Total Run Time:	<u>10 mins</u>						
Starting Hour Meter Reading	<u><del>255</del> 2020</u>						
Monthly Fuel Consumption(gal)							
Oil Level	<u>Normal</u>						
Coolant Level	<u>Normal</u>	Coolant Temp. @ Start <u>60</u> °c	Finish = <u>75</u> °c				
Belt Condition	<u>Normal</u>						
Oil Pressure	<u>Normal</u>	Start = <u>8.3</u> bar	Finish = <u>6.5</u> bar				
Battery Condition	<u>Normal</u>						
Battery Voltage	<u>27.4</u>						
Engine RPMs	<u>1800</u>						
Generator		Comments					
Generator Volts	<u>1488</u>						
Generator Amps	<u>240</u>						
Generator "KVA"	<u>4.17</u>						
Reason For Use		Comments					
Testing	✓						
Emergency							
Maintenance							
Generator		Comments					
Fuel Delivered	<u>NO</u>						
Fuel Level	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>1/4</td> <td>1/2</td> <td>3/4</td> <td>F</td> </tr> </table>	1/4	1/2	3/4	F	<u>82%</u>	
1/4	1/2	3/4	F				
Sulfur Concentrations <0.0015% (15ppm)							
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut down immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>							

Tojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: ALPHA

Date: 11-10-19

Operator: PHIL TOURGELIS

Main Generator Breaker		Comments
Open	✓	
Closed		
Engine		Comments
Start Time:	18:35	
Stop Time:	18:45	
Total Run Time:	10 MIN 5	
Starting Hour Meter Reading	201.8	END HOURS 202.0
Monthly Fuel Consumption(gal)		
Oil Level	GOOD	
Coolant Level	GOOD	Coolant Temp. @ Start 62 °c Finish=75 °c
Belt Condition	GOOD	
Oil Pressure		Start = 8.5 bar Finish = 6.5 bar
Battery Condition	GOOD	
Battery Voltage	26.6	
Engine RPMs	1800	
Generator		Comments
Generator Volts	416KV	
Generator Amps	-	
Generator "KVA"	-	
Reason For Use		Comments
Testing	WEEKLY	
Emergency	-	
Maintenance	-	
Generator		Comments
Fuel Delivered	N/A	
Fuel Level	<input checked="" type="checkbox"/> 1/4 <input checked="" type="checkbox"/> 1/2 <input checked="" type="checkbox"/> 3/4 <input type="checkbox"/> F	82%
Sulfur Concentrations <0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: ALPHA Date: 11-2-19

Operator: PHIL TOURBELLIS

Main Generator Breaker		Comments
Open	<input checked="" type="checkbox"/>	
Closed	<input type="checkbox"/>	
Engine		Comments
Start Time:	<u>21:18</u>	
Stop Time:	<u>21:28</u>	
Total Run Time:	<u>10mins</u>	
Starting Hour Meter Reading	<u>201.6</u>	<u>201.8 ENDING HOURS</u>
Monthly Fuel Consumption(gal)		
Oil Level	<u>GOOD</u>	
Coolant Level		Coolant Temp. @ Start <u>53 °c</u> Finish= <u>75 °c</u>
Belt Condition	<u>GOOD</u>	
Oil Pressure		Start = <u>8.1</u> bar Finish = <u>6.5</u> bar
Battery Condition	<u>GOOD</u>	
Battery Voltage	<u>26.8</u>	
Engine RPMs	<u>1800</u>	
Generator		Comments
Generator Volts	<u>408KV</u>	
Generator Amps	<u>-</u>	
Generator "KVA"	<u>-</u>	
Reason For Use		Comments
Testing	<u>WEEKLY</u>	
Emergency	<u>-</u>	
Maintenance	<u>-</u>	
Generator		Comments
Fuel Delivered	<u>N/A</u>	
Fuel Level	<input checked="" type="checkbox"/> 1/4 <input checked="" type="checkbox"/> 1/2 <input checked="" type="checkbox"/> 3/4 <input type="checkbox"/> F <u>82%</u>	
Sulfur Concentrations <0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **ALPHA**

Date: **10-25-19**

Operator: **FREUND**

Main Generator Breaker		Comments
Open	✓	
Closed		
Engine		Comments
Start Time:	2148	
Stop Time:	2158	
Total Run Time:	10 MIN	
Starting Hour Meter Reading	201.5	
Monthly Fuel Consumption(gal)	76	
Oil Level	OK	
Coolant Level	OK	Coolant Temp. @ Start 60 °c      Finish=75 °c
Belt Condition	OK	
Oil Pressure		Start = 7.6 bar      Finish=6.5 bar
Battery Condition	OK	
Battery Voltage	27.2 V	
Engine RPMs	1800	
Generator		Comments
Generator Volts	N/A	
Generator Amps	N/A	
Generator "KVA"	N/A	
Reason For Use		Comments
Testing	✓	
Emergency		
Maintenance		
Generator		Comments
Fuel Delivered	NO	
Fuel Level	1/4   1/2   3/4   F	83%
Sulfur Concentrations <0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log					
Plant: <b>ALPHA</b>			Date: <b>10-19-19</b>		
Operator: <b>FREUND</b>					
Main Generator Breaker		Comments			
Open		✓			
Closed					
Engine		Comments			
Start Time:		2029			
Stop Time:		2039			
Total Run Time:		10 MIN			
Starting Hour Meter Reading		201.3			
Monthly Fuel Consumption (gal)		57.6M			
Oil Level		OK			
Coolant Level		OK		Coolant Temp. @ Start 60 °c      Finish=75 °c	
Belt Condition		OK			
Oil Pressure				Start = 7.3 bar      Finish=6.5 bar	
Battery Condition		OK			
Battery Voltage		26.9			
Engine RPMs		1800			
Generator		Comments			
Generator Volts		N/A			
Generator Amps		N/A			
Generator "KVA"		N/A			
Reason For Use		Comments			
Testing		✓			
Emergency					
Maintenance					
Generator		Comments			
Fuel Delivered		NO			
Fuel Level	1/4	1/2	3/4	F	84%
Sulfur Concentrations <0.0015% (15ppm)					
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>					

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log					
Plant: <b>Alpha</b>			Date: <b>10-12-19</b>		
Operator: <b>Mike Hinton</b>					
Main Generator Breaker		Comments			
Open		✓			
Closed					
Engine		Comments			
Start Time:		1805			
Stop Time:		1815			
Total Run Time:		10 mins			
Starting Hour Meter Reading		201.2			
Monthly Fuel Consumption (gal)					
Oil Level		Normal			
Coolant Level		Coolant Temp. @ Start		57°C	
				Finish = 75°C	
Belt Condition		Normal			
Oil Pressure		Start = 7.7 bar		Finish = 7.4 bar	
Battery Condition		Normal			
Battery Voltage		27.3			
Engine RPMs		1800			
Generator		Comments			
Generator Volts		1816			
Generator Amps		288			
Generator "KVA"		4.17			
Reason For Use		Comments			
Testing		✓			
Emergency					
Maintenance					
Generator		Comments			
Fuel Delivered		No			
Fuel Level	1/4	1/2	3/4	F	83%
Sulfur Concentrations <0.0015% (15ppm)					
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>					

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log				
Plant: <u>Alpha</u>			Date: <u>10/5/19</u>	
Operator: <u>Rico</u>				
Main Generator Breaker		Comments		
Open		/		
Closed				
Engine		Comments		
Start Time:		<u>7:03 pm</u>		
Stop Time:		<u>7:13 pm</u>		
Total Run Time:		<u>10 min</u>		
Starting Hour Meter Reading		<u>2012</u>		
Monthly Fuel Consumption (gal)				
Oil Level		✓		
Coolant Level		✓		
Belt Condition		✓		
Oil Pressure		Start = <u>8.1</u> bar      Finish = <u>6.6</u> bar		
Battery Condition		✓		
Battery Voltage		<u>28.6</u> <sup>27.4</sup>		
Engine RPMs		<u>1799</u>		
Generator		Comments		
Generator Volts		<u>4.17</u>		
Generator Amps		<u>0332</u>		
Generator "KVA"		<u>1385</u>		
Reason For Use		Comments		
Testing		✓ <u>weekly</u>		
Emergency				
Maintenance				
Generator		Comments		
Fuel Delivered				
Fuel Level	1/4	1/2	3/4	F
Sulfur Concentrations <0.0015% (15ppm)				
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log				
Plant:		Date:		
Alpha		9/27/19		
Operator: Rico				
Main Generator Breaker		Comments		
Open				
Closed		✓		
Engine		Comments		
Start Time:		7:20 pm		
Stop Time:		7:30		
Total Run Time:		10		
Starting Hour Meter Reading		200.9		
Monthly Fuel Consumption(gal)				
Oil Level		✓		
Coolant Level		✓		
Coolant Temp. @ Start		60 °c		
Coolant Temp. @ Finish		75 °c		
Belt Condition		✓		
Oil Pressure		Start = 8.7 bar		
Oil Pressure		Finish = 6.5 bar		
Battery Condition		✓		
Battery Voltage		26.7		
Engine RPMs		1800		
Generator		Comments		
Generator Volts		4.18		
Generator Amps		6304		
Generator "KVA"		1876		
Reason For Use		Comments		
Testing		✓		
Emergency				
Maintenance				
Generator		Comments		
Fuel Delivered				
Fuel Level	1/4	1/2	3/4	F
Sulfur Concentrations <0.0015% (15ppm)				
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the Interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log					
Plant: <b>Alpha</b>				Date: <b>9-20-19</b>	
Operator: <b>Mike Hinton</b>					
Main Generator Breaker			Comments		
Open			✓		
Closed					
Engine			Comments		
Start Time:			<b>1902</b>		
Stop Time:			<b>1912</b>		
Total Run Time:			<b>10 mins</b>		
Starting Hour Meter Reading			<b>200.8</b>		
Monthly Fuel Consumption(gal)					
Oil Level			<b>Normal</b>		
Coolant Level			<b>Normal</b>		
Belt Condition			<b>Normal</b>		
Oil Pressure			Start = <b>7.1</b> bar      Finish = <b>6.5</b> bar		
Battery Condition			<b>Normal</b>		
Battery Voltage			<b>27.4</b>		
Engine RPMs			<b>1800</b>		
Generator			Comments		
Generator Volts			<b>1876</b>		
Generator Amps			<b>304</b>		
Generator "KVA"			<b>4.18</b>		
Reason For Use			Comments		
Testing			✓		
Emergency					
Maintenance					
Generator			Comments		
Fuel Delivered			<b>NO</b>		
Fuel Level	1/4	1/2	3/4	F	<b>84%</b>
Sulfur Concentrations <0.0015% (15ppm)					
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>					

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: Alpha Date: 9-14-19

Operator: Caleb Sowards

Open  Closed

Start Time: 0350

Stop Time: 0400

Total Run Time: 10 min

Starting Hour Meter Reading: 200.6

Monthly Fuel Consumption(gal)

Oil Level: good

Coolant Level: good Coolant Temp. @ Start 62°c Finish 75°c

Belt Condition: good

Oil Pressure: good Start = 8.0 bar Finish = 65 bar

Battery Condition: good

Battery Voltage: 26.9

Engine RPMs: 1800

Generator Volts: na

Generator Amps: na

Generator "KVA": na

Testing  Emergency  Maintenance

Fuel Delivered: no

Fuel Level: 3/4

Sulfur Concentrations: <0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power. If the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **ALPHA** Date: **9-7-19**

Operator: **PHIL TOURBENS**

Main Generator Breaker		Comments	
Open	✓		
Closed	—		
Engine		Comments	
Start Time:	04:20		
Stop Time:	04:30		
Total Run Time:	10 mins		
Starting Hour Meter Reading	200.4	ENDING	200.6nes
Monthly Fuel Consumption(gal)	—		
Oil Level	GOOD		
Coolant Level	GOOD	Coolant Temp. @ Start	60 °c Finish=75 °c
Belt Condition	GOOD		
Oil Pressure		Start = 7.9 bar	Finish = 6.5 bar
Battery Condition	GOOD		
Battery Voltage	26.9		
Engine RPMs	1800		
Generator		Comments	
Generator Volts	4.13		
Generator Amps	—		
Generator "KVA"	—		
Reason For Use		Comments	
Testing	✓		
Emergency	—		
Maintenance	—		
Generator		Comments	
Fuel Delivered	N/A		
Fuel Level	1/4 1/2 3/4 F	85%	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log			
Plant: <b>ALPHA</b>		Date: <b>8-31-19</b>	
Operator: <b>PHIL TOURLELIS</b>			
Main Generator Breaker		Comments	
Open	<b>X</b>		
Closed			
Engine		Comments	
Start Time:	<b>22:25</b>		
Stop Time:	<b>22:35</b>		
Total Run Time:	<b>10 MIN</b>		
Starting Hour Meter Reading	<b>200.3</b>	<b>200.4 ENDING HRS</b>	
Monthly Fuel Consumption(gal)			
Oil Level	<b>GOOD</b>		
Coolant Level	<b>GOOD</b>	Coolant Temp. @ Start <b>62</b> *c	Finish <b>75</b> *c
Belt Condition	<b>GOOD</b>		
Oil Pressure		Start = <b>7.1</b> bar	Finish = <b>6.5</b> bar
Battery Condition	<b>GOOD</b>		
Battery Voltage	<b>26.8</b>		
Engine RPMs	<b>1800</b>		
Generator		Comments	
Generator Volts	<b>4.17KV</b>		
Generator Amps	<b>---</b>		
Generator "KVA"	<b>-</b>		
Reason For Use		Comments	
Testing	<b>WEEKLY</b>		
Emergency	<b>N/A</b>		
Maintenance	<b>N/A</b>		
Generator		Comments	
Fuel Delivered	<b>N/A</b>		
Fuel Level	<b>1/4 1/2 3/4 F 85%</b>		
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log				
Plant: <i>Beta</i>		Date: <i>8-31-19</i>		
Operator: <i>Estain Mades</i>				
Main Generator Breaker		Comments		
Open	<input checked="" type="checkbox"/>	<i>See test</i>		
Closed	<input checked="" type="checkbox"/>	<i>after test</i>		
Engine		Comments		
Start Time:	<i>2352</i>			
Stop Time:	<i>0002</i>			
Total Run Time:	<i>10 min</i>			
Starting Hour Meter Reading	<i>470.5</i>			
Monthly Fuel Consumption (gal)	<i>—</i>			
Oil Level	<input checked="" type="checkbox"/>			
Coolant Level	<input checked="" type="checkbox"/>	Coolant Temp. @ Start	<i>51 °c</i>	Finish = <i>75 °c</i>
Belt Condition	<input checked="" type="checkbox"/>			
Oil Pressure		Start = <i>0</i> bar	Finish = <i>6.7</i> bar	
Battery Condition	<input checked="" type="checkbox"/>			
Battery Voltage	<i>26.7v</i>			
Engine RPMs	<i>1800</i>			
Generator		Comments		
Generator Volts	<i>4.15 v</i>			
Generator Amps	<i>—</i>			
Generator "KVA"	<i>—</i>			
Reason For Use		Comments		
Testing	<input checked="" type="checkbox"/>			
Emergency	<input type="checkbox"/>			
Maintenance	<input type="checkbox"/>			
Generator		Comments		
Fuel Delivered	<i>X</i>			
Fuel Level	1/4   1/2   3/4   F	<i>86%</i>		
Sulfur Concentrations <0.0015% (15ppm)	<i>—</i>			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:

Alpha

Date:

8-23-19

Operator:

Michael Hinton

Main Generator Breaker		Comments	
Open	✓		
Closed			
Engine		Comments	
Start Time:	2010		
Stop Time:	2020		
Total Run Time:	10 mins		
Starting Hour Meter Reading	200.2		
Monthly Fuel Consumption(gal)			
Oil Level	Normal		
Coolant Level	Normal	Coolant Temp. @ Start 62 *c	Finish= 76 *c
Belt Condition	Normal		
Oil Pressure		Start = 4.8 bar	Finish= 6.2 bar
Battery Condition	Normal		
Battery Voltage	27.4		
Engine RPMs	1800		
Generator		Comments	
Generator Volts			
Generator Amps			
Generator "KVA"			
Reason For Use		Comments	
Testing	✓		
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered	No		
Fuel Level	1/4 1/2 3/4 F	84%	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:	Alpha				Date:	8-19-19			
Operator:	Michael Hinton								
<b>Main Generator Breaker</b>					<b>Comments</b>				
Open					✓				
Closed									
<b>Engine</b>					<b>Comments</b>				
Start Time:	2020								
Stop Time:	2030								
Total Run Time:	10 mins								
Starting Hour Meter Reading	<del>200.0</del> 200.1				Finish				
Monthly Fuel Consumption(gal)									
Oil Level	Good								
Coolant Level					Coolant Temp. @ Start	69 °c		Finish= 75 °c	
Belt Condition	Good								
Oil Pressure					Start =	7.6 bar		Finish= 6.8 bar	
Battery Condition	Normal								
Battery Voltage	26.9								
Engine RPMs	1800								
<b>Generator</b>					<b>Comments</b>				
Generator Volts	2177								
Generator Amps	328								
Generator "KVA"	4.17								
<b>Reason For Use</b>					<b>Comments</b>				
Testing	✓								
Emergency									
Maintenance									
<b>Generator</b>					<b>Comments</b>				
Fuel Delivered	No								
Fuel Level	1/4	1/2	3/4	F	85%				
Sulfur Concentrations <0.0015% (15ppm)									
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>									

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **ALPHA** Date: **8-15-19**

Operator: **PHIL TORRELLIS**

Main Generator Breaker		Comments
Open		
Closed	X	
Engine		Comments
Start Time:	04:01	
Stop Time:	05:41	
Total Run Time:	1HR 40MIN	
Starting Hour Meter Reading	198.3	200.0 ENDING
Monthly Fuel Consumption(gal)		
Oil Level	GOOD	
Coolant Level	GOOD	Coolant Temp. @ Start = 75 *c Finish = 78 *c
Belt Condition	GOOD	
Oil Pressure		Start = 6.4 bar Finish = bar
Battery Condition	GOOD	
Battery Voltage	26.1	
Engine RPMs	1800	
Generator		Comments
Generator Volts	4.18	
Generator Amps		
Generator "KVA"		
Reason For Use		Comments
Testing	<del>X</del> K9	PLANT WENT BLACK FROM MAINT WORK
Emergency	X	Generator Breaker
Maintenance		
Generator		Comments
Fuel Delivered	N/A	
Fuel Level	1/4 1/2 3/4 F 86%	
Sulfur Concentrations <0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:	Alpha				Date:	8-11-19	
Operator:	Mike Hinton						
<b>Main Generator Breaker</b>					<b>Comments</b>		
Open	✓						
Closed							
<b>Engine</b>					<b>Comments</b>		
Start Time:	2120						
Stop Time:	2135						
Total Run Time:	10 mins						
Starting Hour Meter Reading	198.1		198.3		Finish		
Monthly Fuel Consumption(gal)							
Oil Level	Normal						
Coolant Level	Good		Coolant Temp. @ Start		60 *c		Finish= 75 *c
Belt Condition	Good						
Oil Pressure			Start = 6.8 bar		Finish= 6.5 bar		
Battery Condition	Good						
Battery Voltage	26.7						
Engine RPMs	1800						
<b>Generator</b>					<b>Comments</b>		
Generator Volts	1680						
Generator Amps	272						
Generator "KVA"	4.18						
<b>Reason For Use</b>					<b>Comments</b>		
Testing	✓						
Emergency							
Maintenance							
<b>Generator</b>					<b>Comments</b>		
Fuel Delivered	No						
Fuel Level	1/4	1/2	3/4	F	87%		
Sulfur Concentrations <0.0015% (15ppm)							
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>							

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Alpha Date: 8/3/19

Operator: Rico

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:	<u>8:10 pm</u>		
Stop Time:	<u>8:20 pm</u>		
Total Run Time:	<u>10 min</u>		
Starting Hour Meter Reading	<u>198.0</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>✓</u>		
Coolant Level	<u>✓</u>	Coolant Temp. @ Start <u>62 °c</u>	Finish= <u>75 °c</u>
Belt Condition	<u>✓</u>		
Oil Pressure	<u>✓</u>	Start = <u>7.8</u> bar	Finish= <u>6.5</u> bar
Battery Condition	<u>✓</u>		
Battery Voltage	<u>✓ 27.3</u>		
Engine RPMs	<u>1800</u>		
Generator		Comments	
Generator Volts	<u>4.17</u>		
Generator Amps	<u>N/A</u>	<u>Amps + KVA numbers up and down</u>	
Generator "KVA"	<u>N/A 0307</u>	<u>not consistent</u>	
Reason For Use		Comments	
Testing	<u>✓</u>	<u>weekly</u>	
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	<u>1/4</u> <u>1/2</u> <u>3/4</u> <u>F</u>		
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **ALPHA** Date: **7-29-19**

Operator: **PHIL TOULBEUS**

### Main Generator Breaker

Open    
 Closed

### Engine

Start Time: **02:10** Comments

Stop Time: **02:20**

Total Run Time: **10 mins**

Starting Hour Meter Reading **197.8**

Monthly Fuel Consumption(gal)

Oil Level **GOOD**

Coolant Level **GOOD** Coolant Temp. @ Start **60**\*c Finish = **75**\*c

Belt Condition **GOOD**

Oil Pressure Start = **7.3** bar Finish = **6.5** bar

Battery Condition **GOOD**

Battery Voltage **26.8**

Engine RPMs **1800**

### Generator

Generator Volts **4.15KV** Comments

Generator Amps **-**

Generator "KVA" **-**

### Reason For Use

Testing **WEEKLY** Comments

Emergency

Maintenance

### Generator

Fuel Delivered **N/A** Comments

Fuel Level **1/4 1/2 3/4 F 88%**

Sulfur Concentrations <0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log					
Plant:	ALPHA			Date:	7/20/19
Operator:	PLAZA				
Main Generator Breaker		Comments			
Open	✓				
Closed					
Engine		Comments			
Start Time:	1907				
Stop Time:	1917				
Total Run Time:	10 MINUTES				
Starting Hour Meter Reading	197.6	ENDING 197.8			
Monthly Fuel Consumption(gal)					
Oil Level	N				
Coolant Level	N	Coolant Temp. @ Start	59 *c	Finish= 26 *c	
Belt Condition	GOOD				
Oil Pressure		Start =	7.9 bar	Finish= 6.5 bar	
Battery Condition	GOOD				
Battery Voltage	26.8				
Engine RPMs	1800				
Generator		Comments			
Generator Volts	4.17				
Generator Amps					
Generator "KVA"					
Reason For Use		Comments			
Testing	✓				
Emergency					
Maintenance					
Generator		Comments			
Fuel Delivered					
Fuel Level	1/4	1/2	3/4	F 87.1	
Sulfur Concentrations <0.0015% (15ppm)					
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>					

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:	ALPHA				Date:	7/13/19	
Operator:	PLAZA						
<b>Main Generator Breaker</b>					<b>Comments</b>		
Open					✓		
Closed							
<b>Engine</b>					<b>Comments</b>		
Start Time:	2148						
Stop Time:	2158						
Total Run Time:	10 MINUTES						
Starting Hour Meter Reading	197.5				ENDING 197.6		
Monthly Fuel Consumption(gal)							
Oil Level	N						
Coolant Level	N				Coolant Temp. @ Start	50 *c	
Belt Condition	GOOD				Finish=	76 *c	
Oil Pressure					Start =	4 bar	
Battery Condition	GOOD				Finish=	6.5 bar	
Battery Voltage	26.8						
Engine RPMs	1800						
<b>Generator</b>					<b>Comments</b>		
Generator Volts	4.1						
Generator Amps							
Generator "KVA"							
<b>Reason For Use</b>					<b>Comments</b>		
Testing					✓		
Emergency							
Maintenance							
<b>Generator</b>					<b>Comments</b>		
Fuel Delivered							
Fuel Level	1/4	1/2	3/4	F	87.1		
Sulfur Concentrations <0.0015% (15ppm)							
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>							

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Alpha</i>		Date: <i>7-6-19</i>	
Operator: <i>Ebrah</i>			
Main Generator Breaker		Comments	
Open	<i>✓</i>	<i>See test</i>	
Closed		<i>after test</i>	
Engine		Comments	
Start Time:	<i>2200</i>		
Stop Time:	<i>2210</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>197.3</i>		
Monthly Fuel Consumption(gal)	<i>-</i>		
Oil Level	<i>Good</i>		
Coolant Level	<i>Good</i>	Coolant Temp. @ Start <i>59</i> *c	Finish = <i>75</i> *c
Belt Condition	<i>Good</i>		
Oil Pressure		Start = <i>0</i> bar	Finish = <i>4.5</i> bar
Battery Condition	<i>Good</i>		
Battery Voltage	<i>26.8V</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>416</i>		
Generator Amps	<i>-</i>		
Generator "KVA"	<i>-</i>		
Reason For Use		Comments	
Testing	<i>✓</i>		
Emergency	<i>-</i>		
Maintenance	<i>-</i>		
Generator		Comments	
Fuel Delivered	<i>-</i>		
Fuel Level	1/4   1/2   3/4   F	<i>88%</i>	
Sulfur Concentrations <0.0015% (15ppm)	<i>-</i>		
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: *Alpha*

Date: *6-29-19*

Operator: *Foran*

Main Generator Breaker		Comments	
Open	✓	<i>Sen test</i>	
Closed	✓	<i>after desol</i>	
Engine		Comments	
Start Time:	<i>2019</i>		
Stop Time:	<i>2029</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>197.1</i>	<i>ending 197.3</i>	
Monthly Fuel Consumption(gal)			
Oil Level	✓		
Coolant Level	✓	Coolant Temp. @ Start	<i>60 *c</i> Finish = <i>25 *c</i>
Belt Condition	✓		
Oil Pressure		Start = <i>0</i> bar	Finish = <i>6.5</i> bar
Battery Condition	✓		
Battery Voltage	<i>26.8v</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>4112</i>		
Generator Amps	<i>—</i>		
Generator "KVA"	<i>—</i>		
Reason For Use		Comments	
Testing	✓		
Emergency	<i>—</i>		
Maintenance	<i>—</i>		
Generator		Comments	
Fuel Delivered	<i>X</i>		
Fuel Level	<i>88%</i>		
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect

**Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.**

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Alpha</u>	Date: <u>6/22/19</u>
Operator: <u>Rico</u>	
<b>Main Generator Breaker</b>	<b>Comments</b>
Open	
Closed	
<b>Engine</b>	<b>Comments</b>
Start Time:	<u>9:45pm</u>
Stop Time:	<u>9:55pm</u>
Total Run Time:	<u>10min</u>
Starting Hour Meter Reading	<u>197.0</u>
Monthly Fuel Consumption(gal)	
Oil Level	<input checked="" type="checkbox"/>
Coolant Level	<input checked="" type="checkbox"/> Coolant Temp. @ Start <u>61</u> *c      Finish= <u>75</u> *c
Belt Condition	<input checked="" type="checkbox"/>
Oil Pressure	<input checked="" type="checkbox"/> Start = <u>8.2</u> bar      Finish= <u>6.5</u> bar
Battery Condition	<input checked="" type="checkbox"/>
Battery Voltage	<u>27.4</u>
Engine RPMs	<u>1800</u>
<b>Generator</b>	<b>Comments</b>
Generator Volts	<u>4.16</u>
Generator Amps	<u>6308</u>
Generator "KVA"	<u>4.17</u>
<b>Reason For Use</b>	<b>Comments</b>
Testing	<input checked="" type="checkbox"/>
Emergency	
Maintenance	
<b>Generator</b>	<b>Comments</b>
Fuel Delivered	
Fuel Level	<input type="checkbox"/> 1/4 <input type="checkbox"/> 1/2 <input type="checkbox"/> 3/4 <input type="checkbox"/> F
Sulfur Concentrations <0.0015% (15ppm)	
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>	

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## Emergency Diesel Generator Weekly Test Log

Plant: <u>Alpha</u>	Date: <u>6-14-19</u>
Operator: <u>Mike Hinton</u>	
<b>Main Generator Breaker</b>	
Open	✓
Closed	
<b>Engine</b>	
Start Time:	<u>2015</u>
Stop Time:	<u>2025</u>
Total Run Time:	<u>10 mins</u>
Starting Hour Meter Reading	<u><del>20</del> 196.8</u>
Monthly Fuel Consumption(gal)	
Oil Level	<u>Normal</u>
Coolant Level	Coolant Temp. @ Start <u>59</u> *c      Finish= <u>76</u> *c
Belt Condition	<u>Good</u>
Oil Pressure	Start = <u>7.5</u> bar      Finish= <u>6.7</u> bar
Battery Condition	<u>Good</u>
Battery Voltage	<u>27.3</u>
Engine RPMs	<u>1800</u>
<b>Generator</b>	
Generator Volts	<u>2277</u>
Generator Amps	<u>352</u>
Generator "KVA"	<u>4.18</u>
<b>Reason For Use</b>	
Testing	✓
Emergency	
Maintenance	
<b>Generator</b>	
Fuel Delivered	<u>No</u>
Fuel Level	<u>88%</u>
Sulfur Concentrations	
<0.0015% (15ppm)	
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>	

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Alpha</i>		Date: <i>6-8-19</i>	
Operator: <i>Michael Hinton</i>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
<b>Engine</b>		<b>Comments</b>	
Start Time:	<i>2210</i>		
Stop Time:	<i>2220</i>		
Total Run Time:	<i>10 mins</i>		
Starting Hour Meter Reading	<i>196.7</i>		
Monthly Fuel Consumption(gal)			
Oil Level	<i>Normal</i>		
Coolant Level	<i>Normal</i>	Coolant Temp. @ Start <i>56</i> *c	Finish= <i>75</i> *c
Belt Condition	<i>Good</i>		
Oil Pressure		Start = <i>7.6</i> bar	Finish= <i>5.4</i> bar
Battery Condition	<i>Good</i>		
Battery Voltage	<i>27.1</i>		
Engine RPMs	<i>1800</i>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts	<i>2127</i>		
Generator Amps	<i>328</i>		
Generator "KVA"	<i>417</i>		
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered	<i>NO</i>		
Fuel Level	<i>88%</i>		
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Alpha</b>		Date: <b>6/1/19</b>	
Operator: <b>Rico</b>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open			
Closed			
<b>Engine</b>		<b>Comments</b>	
Start Time:	<b>6:36</b>		
Stop Time:	<b>6:46</b>		
Total Run Time:	<b>10 min</b>		
Starting Hour Meter Reading	<b>1966</b>		
Monthly Fuel Consumption(gal)			
Oil Level	<input checked="" type="checkbox"/>		
Coolant Level	<input checked="" type="checkbox"/>	Coolant Temp. @ Start <b>60*c</b>	Finish= <b>75 *c</b>
Belt Condition	<input checked="" type="checkbox"/>		
Oil Pressure	<input checked="" type="checkbox"/>	Start = <b>8.3 bar</b>	Finish= <b>6.6 bar</b>
Battery Condition	<input checked="" type="checkbox"/>		
Battery Voltage	<input checked="" type="checkbox"/>		
Engine RPMs	<b>1799</b>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts	<b>4.16</b>		
Generator Amps	<b>033.20</b>		
Generator "KVA"	<b>2122</b>		
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<input checked="" type="checkbox"/>		
Emergency			
Maintenance			
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered			
Fuel Level	<input type="checkbox"/> 1/4	<input type="checkbox"/> 1/2	<input type="checkbox"/> 3/4 <input type="checkbox"/> F
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>			

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Alpha</i>		Date: <i>5-26-19</i>	
Operator: <i>Edwin Mendez</i>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	<input checked="" type="checkbox"/>	<i>Return test</i>	
Closed	<input checked="" type="checkbox"/>	<i>After test</i>	
<b>Engine</b>		<b>Comments</b>	
Start Time:	<i>1728</i>		
Stop Time:	<i>1738</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>196.4</i>		
Monthly Fuel Consumption(gal)			
Oil Level	<input checked="" type="checkbox"/>		
Coolant Level	<input checked="" type="checkbox"/>	Coolant Temp. @ Start	<i>61</i> *c      Finish= <i>75</i> *c
Belt Condition	<input checked="" type="checkbox"/>		
Oil Pressure		Start = <i>0</i> bar	Finish = <i>6.6</i> bar
Battery Condition	<input checked="" type="checkbox"/>		
Battery Voltage	<i>26.9</i> ✓		
Engine RPMs	<i>1800</i>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts	<i>4.17</i>		
Generator Amps	<i>—</i>		
Generator "KVA"	<i>—</i>		
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input checked="" type="checkbox"/>		
Maintenance	<input checked="" type="checkbox"/>		
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered	<i>—</i>		
Fuel Level	1/4   1/2   3/4   F	<i>87%</i>	
Sulfur Concentrations	<0.0015% (15ppm)		
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</b></p>			

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Emergency Diesel Generator Weekly Test Log				
Plant: <b>ALPHA</b>		Date: <b>5-20-19</b>		
Operator: <b>PHIL TOURGELIS</b>				
Main Generator Breaker		Comments		
Open		✓		
Closed				
Engine		Comments		
Start Time:		<b>02:52</b>		
Stop Time:		<b>03:02</b>		
Total Run Time:		<b>10 MINS</b>		
Starting Hour Meter Reading		<b>196.2</b> <b>196.4 END</b>		
Monthly Fuel Consumption(gal)				
Oil Level		<b>GOOD</b>		
Coolant Level		Coolant Temp. @ Start <b>61</b> *c      Finish= <b>75</b> *c		
Belt Condition		<b>GOOD</b>		
Oil Pressure		Start = <b>8.3</b> bar      Finish= <b>6.6</b> bar		
Battery Condition		<b>GOOD</b>		
Battery Voltage		<b>26.9</b>		
Engine RPMs		<b>1800</b>		
Generator		Comments		
Generator Volts		<b>4.16</b>		
Generator Amps		<b>N/A</b>		
Generator "KVA"		<b>N/A</b>		
Reason For Use		Comments		
Testing		<b>WEEKLY</b>		
Emergency		—		
Maintenance		—		
Generator		Comments		
Fuel Delivered		<b>N/A</b>		
Fuel Level	<b>1/4</b>   <b>1/2</b>   <b>3/4</b>   <b>F</b>	<b>87%</b>		
Sulfur Concentrations <0.0015% (15ppm)				
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

## Emergency Diesel Generator Weekly Test Log

Plant: *Alpha*

Date: *5-10-19*

Operator: *Erwin Marks*

Main Generator Breaker		Comments	
Open	✓	<i>for test</i>	
Closed	✓	<i>after test</i>	
Engine		Comments	
Start Time:	<i>1519</i>		
Stop Time:	<i>1529</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>196.1h</i>	<i>ending 196.2h</i>	
Monthly Fuel Consumption(gal)			
Oil Level	<i>Good</i>		
Coolant Level	<i>Good</i>	Coolant Temp. @ Start	<i>62 *c</i> Finish= <i>75 *c</i>
Belt Condition	<i>Good</i>		
Oil Pressure		Start = <i>0</i> bar	Finish= <i>6.6</i> bar
Battery Condition	<i>Good</i>		
Battery Voltage	<i>26.9V</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>4.16 kV</i>		
Generator Amps	<i>X</i>		
Generator "KVA"	<i>X</i>		
Reason For Use		Comments	
Testing	✓		
Emergency	X		
Maintenance	X		
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4   1/2   3/4   F	<i>88%</i>	
Sulfur Concentrations	<0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

**Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.**

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## Emergency Diesel Generator Weekly Test Log

Plant: *Alpha*

Date: *5-9-19*

Operator: *Edrain M. D.*

Main Generator Breaker		Comments	
Open	✓		
Closed	✓		
Engine		Comments	
Start Time:	<i>2027</i>		
Stop Time:	<i>2037</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>1959</i>	<i>end of 1 cycle. 1h</i>	
Monthly Fuel Consumption(gal)			
Oil Level	✓		
Coolant Level	✓	Coolant Temp. @ Start <i>62</i> *c	Finish= <i>75</i> *c
Belt Condition	✓		
Oil Pressure		Start = <i>0.0</i> bar	Finish= <i>6.6</i> bar
Battery Condition	✓		
Battery Voltage	<i>26.8</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>4.13</i>		
Generator Amps	<i>25</i>		
Generator "KVA"	<i>2</i>		
Reason For Use		Comments	
Testing	✓		
Emergency	<del>X</del>		
Maintenance	<del>X</del>		
Generator		Comments	
Fuel Delivered	<del>X</del>		
Fuel Level	1/4   1/2   3/4   F	<i>88%</i>	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

**Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.**

## Emergency Diesel Generator Weekly Test Log

Plant:

Alpha

Date:

4/28/19

Operator:

Rico

Main Generator Breaker		Comments	
Open			
Closed	✓		
Engine		Comments	
Start Time:	6:05pm		
Stop Time:	6:15pm		
Total Run Time:	10 min		
Starting Hour Meter Reading	195.8		
Monthly Fuel Consumption(gal)			
Oil Level	✓		
Coolant Level	✓	Coolant Temp. @ Start 59 °c	Finish= 75 °c
Belt Condition	✓		
Oil Pressure		Start = 8.5 bar	Finish= 6.6 bar
Battery Condition	✓		
Battery Voltage	26.5		
Engine RPMs	1800		
Generator		Comments	
Generator Volts	4.16		
Generator Amps	0308		
Generator "KVA"	2284		
Reason For Use		Comments	
Testing	✓	weekly	
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4   1/2   3/4   F		
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

**Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.**

## Emergency Diesel Generator Weekly Test Log

Plant:

Alpha

Date:

Operator:

Rico

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:	8:07		
Stop Time:	8:17		
Total Run Time:	10 min		
Starting Hour Meter Reading	195.6		
Monthly Fuel Consumption(gal)			
Oil Level	✓		
Coolant Level	✓	Coolant Temp. @ Start	59 °c      Finish=75 °c
Belt Condition	✓		
Oil Pressure		Start = 8.1 bar	Finish=6.7 bar
Battery Condition	✓		
Battery Voltage	27.1		
Engine RPMs	1800		
Generator		Comments	
Generator Volts	416		
Generator Amps	0320		
Generator "KVA"	2169		
Reason For Use		Comments	
Testing	✓	weekly	
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4   1/2   3/4   F		
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

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**Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.**

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Alpha</u>		Date: <u>4-12-19</u>					
Operator: <u>Michael Hinton</u>							
<b>Main Generator Breaker</b>		<b>Comments</b>					
Open	<input checked="" type="checkbox"/>						
Closed	<input type="checkbox"/>						
<b>Engine</b>		<b>Comments</b>					
Start Time:	<u>1940</u>						
Stop Time:	<u>1950</u>						
Total Run Time:	<u>10 mins</u>						
Starting Hour Meter Reading	<u>195.4</u>						
Monthly Fuel Consumption(gal)							
Oil Level	<u>Normal</u>						
Coolant Level		Coolant Temp. @ Start <u>55</u> *c	Finish= <u>75</u> *c				
Belt Condition	<u>Normal</u>						
Oil Pressure		Start = <u>7.9</u> bar	Finish= <u>6.6</u> bar				
Battery Condition	<u>Normal</u>						
Battery Voltage	<u>26.6</u>						
Engine RPMs	<u>1800</u>						
<b>Generator</b>		<b>Comments</b>					
Generator Volts	<u>2176</u>						
Generator Amps	<u>328</u>						
Generator "KVA"	<u>4.18</u>						
<b>Reason For Use</b>		<b>Comments</b>					
Testing	<input checked="" type="checkbox"/>						
Emergency	<input type="checkbox"/>						
Maintenance	<input type="checkbox"/>						
<b>Generator</b>		<b>Comments</b>					
Fuel Delivered	<u>No</u>						
Fuel Level	<table border="1"> <tr> <td>1/4</td> <td>1/2</td> <td>3/4</td> <td>F</td> </tr> </table>	1/4	1/2	3/4	F	<u>88%</u>	
1/4	1/2	3/4	F				
Sulfur Concentrations							
<0.0015% (15ppm)							
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>							

Emergency Diesel Generator Weekly Test Log

Plant: Alpha Date: 4-5-19

Operator: Mike Hinton

Main Generator Breaker Comments

Open

Closed

Engine Comments

Start Time: 1925

Stop Time: 1935

Total Run Time: 10 mins

Starting Hour Meter Reading 195.3

Monthly Fuel Consumption(gal)

Oil Level Normal

Coolant Level Coolant Temp. @ Start 59\*c Finish=75\*c

Belt Condition Normal

Oil Pressure Start = 8.3 bar Finish=6.6 bar

Battery Condition Normal

Battery Voltage 26.8

Engine RPMs 1800

Generator Comments

Generator Volts 1581

Generator Amps 256

Generator "KVA" 4.17

Reason For Use Comments

Testing

Emergency

Maintenance

Generator Comments

Fuel Delivered NO

Fuel Level | 1/4 | 1/2 | 3/4 | F | 88%

Sulfur Concentrations

<0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log			
Plant: <b>ALPHA</b>		Date: <b>3-29-19</b>	
Operator: <b>PHIL TOURBELLS</b>			
Main Generator Breaker		Comments	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Engine		Comments	
Start Time:	<b>06:28</b>		
Stop Time:	<b>06:38</b>		
Total Run Time:	<b>10 mins</b>		
Starting Hour Meter Reading	<b>195.1</b>	<b>195.3 END MILES</b>	
Monthly Fuel Consumption(gal)			
Oil Level	<b>GOOD</b>		
Coolant Level	<b>GOOD</b>	Coolant Temp. @ Start <b>61</b> *c	Finish = <b>75</b> *c
Belt Condition	<b>GOOD</b>		
Oil Pressure		Start = <b>7.9</b> bar	Finish = <del>6.9</del> bar
Battery Condition	<b>GOOD</b>		
Battery Voltage	<b>26.9</b>		
Engine RPMs	<b>1800</b>		
Generator		Comments	
Generator Volts	<b>4.17kV</b>		
Generator Amps	<b>-</b>		
Generator "KVA"	<b>-</b>		
Reason For Use		Comments	
Testing	<b>WEEKLY</b>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Generator		Comments	
Fuel Delivered	<b>N/A</b>		
Fuel Level	<input checked="" type="checkbox"/> 1/A <input checked="" type="checkbox"/> 2/A <input checked="" type="checkbox"/> 3/A <input type="checkbox"/> F	<b>88%</b>	
Sulfur Concentrations	<b>&lt;0.0015% (15ppm)</b>		
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <b>ALPHA</b>		Date: <b>3-24-19</b>	
Operator: <b>PHIL TOURKELLIS</b>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open		/	
Closed			
<b>Engine</b>		<b>Comments</b>	
Start Time:		<b>06:40</b>	
Stop Time:		<b>06:50</b>	
Total Run Time:		<b>10 MIN</b>	
Starting Hour Meter Reading		<b>194.8</b> <b>194.9 END TEST</b>	
Monthly Fuel Consumption(gal)			
Oil Level		<b>GOOD</b>	
Coolant Level		<b>GOOD</b>	
Coolant Temp. @ Start		<b>60 *c</b>	
Coolant Temp. @ Finish		<b>75 *c</b>	
Belt Condition		<b>GOOD</b>	
Oil Pressure		Start = <b>8.1</b> bar	
Oil Pressure		Finish = <b>6.7</b> bar	
Battery Condition		<b>GOOD</b>	
Battery Voltage		<b>26.9</b>	
Engine RPMs		<b>1800</b>	
<b>Generator</b>		<b>Comments</b>	
Generator Volts		<b>4.15 KV</b>	
Generator Amps		<b>—</b>	
Generator "KVA"		<b>—</b>	
<b>Reason For Use</b>		<b>Comments</b>	
Testing		<b>✓</b>	
Emergency		<b>—</b>	
Maintenance		<b>—</b>	
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered		<b>N/A</b>	
Fuel Level		<b>50% / 0</b>	
Sulfur Concentrations			
<0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p><b>Note: Fuel consumption 114.01 gal/h (431.57 U/h) of load approximately.</b></p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:

ALPHA

Date: 3-16-19

Operator: PHIL TOURBELIS

Main Generator Breaker		Comments	
Open	—		
Closed			
Engine		Comments	
Start Time:	21:25		
Stop Time:	21:35		
Total Run Time:	10 min		
Starting Hour Meter Reading	194.6	194.8	
Monthly Fuel Consumption(gal)			
Oil Level	GOOD		
Coolant Level	GOOD	Coolant Temp. @ Start 58°C	Finish=75°C
Belt Condition	GOOD		
Oil Pressure		Start = 8.2 bar	Finish = 6.6 bar
Battery Condition	GOOD		
Battery Voltage	26.9		
Engine RPMs	1800		
Generator		Comments	
Generator Volts	4.15KV		
Generator Amps	—		
Generator "KVA"	—		
Reason For Use		Comments	
Testing	WEEKLY		
Emergency	—		
Maintenance	—		
Generator		Comments	
Fuel Delivered	N/A		
Fuel Level	1/4 1/2 3/4 F	88%	
Sulfur Concentrations <0.0015% (15ppm)			

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log				
Plant:		ALPHA		
		Date: 3-10-19		
Operator: PHIL TOURGENS				
Main Generator Breaker		Comments		
Open		/		
Closed				
Engine		Comments		
Start Time:		04:03		
Stop Time:		04:13		
Total Run Time:		10 mins ENDING		
Starting Hour Meter Reading		194.4 HOURS 194.6		
Monthly Fuel Consumption(gal)				
Oil Level		/		
Coolant Level		/		
Belt Condition		/		
Oil Pressure		Start = 7.7 bar Finish = 6.7 bar		
Battery Condition		GOOD		
Battery Voltage		26.9		
Engine RPMs		1800		
Generator		Comments		
Generator Volts		495KV		
Generator Amps		-		
Generator "KVA"		-		
Reason For Use		Comments		
Testing		WEEKLY		
Emergency		-		
Maintenance		-		
Generator		Comments		
Fuel Delivered		N/A		
Fuel Level		1/4 1/2 3/4 F 88%		
Sulfur Concentrations <0.0015% (15ppm)				
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Alpha</b>		Date: <b>3-9-19</b>	
Operator: <b>Mike Hinton</b>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	✓		
Closed			
<b>Engine</b>		<b>Comments</b>	
Start Time:	<b>1840</b>		
Stop Time:	<b>1850</b>		
Total Run Time:	<b>10 mins.</b>		
Starting Hour Meter Reading	<b>194.2</b>		
Monthly Fuel Consumption(gal)			
Oil Level	✓		
Coolant Level	✓	Coolant Temp. @ Start <b>62</b> °c	Finish = <b>75</b> °c
Belt Condition	✓		
Oil Pressure		Start = <b>9.2</b> bar	Finish = <b>6.6</b> bar
Battery Condition	✓		
Battery Voltage	<b>27.5</b>		
Engine RPMs	<b>1800</b>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts	<b>2195</b>		
Generator Amps	<b>336</b>		
Generator "KVA"	<b>4.14</b>		
<b>Reason For Use</b>		<b>Comments</b>	
Testing	✓		
Emergency			
Maintenance			
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered	<del>877.10</del>		
Fuel Level	<b>877.1</b>		
Sulfur Concentrations			
<0.0015% (15ppm)			

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log				
Plant: <b>Alpha</b>		Date: <b>2/24/19</b>		
Operator: <b>Rico</b>				
Main Generator Breaker		Comments		
Open				
Closed				
Engine		Comments		
Start Time:		<b>6:20 PM</b>		
Stop Time:		<b>6:30 PM</b>		
Total Run Time:		<b>10 Min</b>		
Starting Hour Meter Reading		<b>194.1</b>		
Monthly Fuel Consumption(gal)				
Oil Level		<input checked="" type="checkbox"/>		
Coolant Level		<input checked="" type="checkbox"/>		
Coolant Temp. @ Start		<b>53*c</b>		
Coolant Temp. @ Finish		<b>75*c</b>		
Belt Condition		<input checked="" type="checkbox"/>		
Oil Pressure		<input checked="" type="checkbox"/>		
Oil Pressure @ Start		<b>8.1 bar</b>		
Oil Pressure @ Finish		<b>6.7 bar</b>		
Battery Condition		<input checked="" type="checkbox"/>		
Battery Voltage		<b>27.3</b>		
Engine RPMs		<b>1800</b>		
Generator		Comments		
Generator Volts		<b>204.17</b>		
Generator Amps		<b>0328</b>		
Generator "KVA"		<b>2045</b>		
Reason For Use		Comments		
Testing		<input checked="" type="checkbox"/>		
Emergency		<b>Weekly</b>		
Maintenance				
Generator		Comments		
Fuel Delivered				
Fuel Level	1/4	1/2	3/4	F
Sulfur Concentrations		<b>&lt;0.0015% (15ppm)</b>		
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Alpha</b>		Date: <b>2/16/19</b>		
Operator: <b>Rico</b>				
<b>Main Generator Breaker</b>		<b>Comments</b>		
Open				
Closed				
<b>Engine</b>		<b>Comments</b>		
Start Time:		<b>6:11 pm</b>		
Stop Time:		<b>6:21 pm</b>		
Total Run Time:		<b>10 min</b>		
Starting Hour Meter Reading		<b>194.0</b>		
Monthly Fuel Consumption(gal)				
Oil Level		<b>✓</b>		
Coolant Level		<b>✓</b>		
Belt Condition		<b>✓</b>		
Oil Pressure		Start = <b>8.7</b> bar      Finish = <b>6.9</b> bar		
Battery Condition		<b>✓</b>		
Battery Voltage		<b>26.9</b>		
Engine RPMs				
<b>Generator</b>		<b>Comments</b>		
Generator Volts		<b>4.18</b>		
Generator Amps		<b>6296</b>		
Generator "KVA"		<b>1902</b>		
<b>Reason For Use</b>		<b>Comments</b>		
Testing		<b>✓</b> <b>Weekly's</b>		
Emergency				
Maintenance				
<b>Generator</b>		<b>Comments</b>		
Fuel Delivered				
Fuel Level	1/4	1/2	3/4	F
Sulfur Concentrations				
<0.0015% (15ppm)				
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:	Alpha				Date:	2-8-19	
Operator:	Mike Hinton						
<b>Main Generator Breaker</b>						<b>Comments</b>	
Open	/						
Closed							
<b>Engine</b>						<b>Comments</b>	
Start Time:	1950						
Stop Time:	2000						
Total Run Time:	10 mins.						
Starting Hour Meter Reading	193.8						
Monthly Fuel Consumption(gal)							
Oil Level	Normal						
Coolant Level					Coolant Temp. @ Start	55 °c	Finish=75 °c
Belt Condition	Normal						
Oil Pressure					Start = 8.5 bar	Finish=6.7bar	
Battery Condition	Normal						
Battery Voltage	26.7						
Engine RPMs	1800						
<b>Generator</b>						<b>Comments</b>	
Generator Volts	4.17						
Generator Amps	447						
Generator "KVA"	2234						
<b>Reason For Use</b>						<b>Comments</b>	
Testing	/						
Emergency							
Maintenance							
<b>Generator</b>						<b>Comments</b>	
Fuel Delivered	No						
Fuel Level	1/4	1/2	3/4	F	86 %		
Sulfur Concentrations <0.0015% (15ppm)							

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>ALPHA</b>		Date: <b>2-3-19</b>	
Operator: <b>PHIL TOUGHELS</b>			
Main Generator Breaker		Comments	
Open	✓		
Closed			
Engine		Comments	
Start Time:	<b>01:00</b>		
Stop Time:	<b>01:10</b>		
Total Run Time:	<b>10 MINS</b>		
Starting Hour Meter Reading	<b>193.6</b>		
Monthly Fuel Consumption(gal)			
Oil Level	<b>GOOD</b>		
Coolant Level	✓	Coolant Temp. @ Start <b>61</b> °c	Finish= <b>75</b> °c
Belt Condition	✓		
Oil Pressure		Start= <b>8.4</b> bar	Finish= <b>6.5</b> bar
Battery Condition	✓		
Battery Voltage	<b>26.9</b>		
Engine RPMs	<b>1800</b>		
Generator		Comments	
Generator Volts	<b>4.16 kV</b>		
Generator Amps	—		
Generator "KVA"	—		
Reason For Use		Comments	
Testing	<b>WEEKLY</b>		
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered	<b>N/A</b>		
Fuel Level	<b>87%</b>		
Sulfur Concentrations <0.0015% (15ppm)			

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Alpha</i>		Date: <i>1-26-19</i>	
Operator: <i>Efrain Mantey</i>			
Main Generator Breaker		Comments	
Open	✓	<i>for testing</i>	
Closed	✓	<i>after testing</i>	
Engine		Comments	
Start Time:	<i>2230</i>		
Stop Time:	<i>2240</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>193.4h</i>	<i>ending - 193.6h</i>	
Monthly Fuel Consumption(gal)			
Oil Level	<i>Good</i>		
Coolant Level	<i>Good</i>	Coolant Temp. @ Start	<i>62 °c</i> Finish= <i>75 °c</i>
Belt Condition	<i>Good</i>		
Oil Pressure		Start = <i>0</i> bar	Finish= <i>6.7</i> bar
Battery Condition	<i>Good</i>		
Battery Voltage	<i>26.9V</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>4.16</i>		
Generator Amps	<i>—</i>		
Generator "KVA"	<i>—</i>		
Reason for Use		Comments	
Testing	✓		
Emergency	—		
Maintenance	—		
Generator		Comments	
Fuel Delivered	<i>—</i>		
Fuel Level	<i>87%</i>		
Sulfur Concentrations			
<0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: *Alpha*

Date: *1-19-19*

Operator: *E. Spain*

Main Generator Breaker		Comments	
Open	✓	for testing	
Closed	✓	after testing	
Engine		Comments	
Start Time:	<i>2308</i>		
Stop Time:	<i>2318</i>		
Total Run Time:	<i>4</i>	<i>10 min</i>	
Starting Hour Meter Reading	<i>193.3</i>	<i>after test 193.4</i>	
Monthly Fuel Consumption(gal)			
Oil Level	<i>Good</i>		
Coolant Level	<i>Good</i>	Coolant Temp. @ Start	<i>57 °c</i> Finish= <i>75 °c</i>
Belt Condition	<i>Good</i>		
Oil Pressure		Start = <i>0</i> bar	Finish= <i>6.7</i> bar
Battery Condition	✓		
Battery Voltage	<i>26.9V</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>4.16</i>		
Generator Amps	<i>—</i>		
Generator "KVA"	<i>—</i>		
Reason For Use		Comments	
Testing	✓		
Emergency	<i>—</i>		
Maintenance	<i>—</i>		
Generator		Comments	
Fuel Delivered	<i>—</i>		
Fuel Level	1/4   1/2   3/4   F	<i>87%</i>	
Sulfur Concentrations <0.0015% (15ppm)			

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>ALPHA</b>		Date: <b>1-13-19</b>	
Operator: <b>PHIL TOURBEUS</b>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	<b>X</b>		
Closed			
<b>Engine</b>		<b>Comments</b>	
Start Time:	<b>03:42</b>		
Stop Time:	<b>03:52</b>		
Total Run Time:	<b>10 MIN</b>		
Starting Hour Meter Reading	<b>1937</b>	<b>END</b>	<b>193.3</b>
Monthly Fuel Consumption(gal)	<b>-</b>		
Oil Level	<b>GOOD</b>		
Coolant Level	<b>GOOD</b>	Coolant Temp. @ Start <b>62 °c</b>	Finish= <b>75 °c</b>
Belt Condition	<b>GOOD</b>		
Oil Pressure		Start= <b>7.6</b> bar	Finish= <b>6.7</b> bar
Battery Condition	<b>GOOD</b>		
Battery Voltage	<b>26.9</b>		
Engine RPMs	<b>1800</b>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts	<b>4.19kV</b>		
Generator Amps			
Generator "KVA"			
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<b>WEEKLY</b>		
Emergency			
Maintenance			
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered	<b>N/A</b>		
Fuel Level	<b>1/4 1/2 3/4 F</b>	<b>87%</b>	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **Alpha** Date: **1-5-18**

Operator: **Mike Hinton**

Main Generator Breaker		Comments
------------------------	--	----------

Open	✓	
------	---	--

Closed		
--------	--	--

Engine		Comments
--------	--	----------

Start Time:	6:18:30	
-------------	---------	--

Stop Time:	18:40	
------------	-------	--

Total Run Time:	10 mins	
-----------------	---------	--

Starting Hour Meter Reading	192.9	
-----------------------------	-------	--

Monthly Fuel Consumption(gal)		
-------------------------------	--	--

Oil Level	Normal	
-----------	--------	--

Coolant Level		Coolant Temp. @ Start 54 *c      Finish= 75*c
---------------	--	---

Belt Condition	Normal	
----------------	--------	--

Oil Pressure		Start = 8.6 bar      Finish= 7.4bar
--------------	--	-------------------------------------

Battery Condition	Normal	
-------------------	--------	--

Battery Voltage	26.71	
-----------------	-------	--

Engine RPMs	1800	
-------------	------	--

Generator		Comments
-----------	--	----------

Generator Volts	2560	
-----------------	------	--

Generator Amps	360	
----------------	-----	--

Generator "KVA"	4.11	
-----------------	------	--

Reason For Use		Comments
----------------	--	----------

Testing	✓	
---------	---	--

Emergency		
-----------	--	--

Maintenance		
-------------	--	--

Generator		Comments
-----------	--	----------

Fuel Delivered	No	
----------------	----	--

Fuel Level	1/4   1/2   3/4   F	87%
------------	---------------------	-----

Sulfur Concentrations <0.0015% (15ppm)		
---	--	--

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Alpha Date: 12-30-18

Operator: Michael Hinton

Main Generator Breaker		Comments
------------------------	--	----------

Open	✓	
------	---	--

Closed		
--------	--	--

Engine		Comments
--------	--	----------

Start Time:	1740	
-------------	------	--

Stop Time:	1750	
------------	------	--

Total Run Time:	10 mins	
-----------------	---------	--

Starting Hour Meter Reading	192.7	
-----------------------------	-------	--

Monthly Fuel Consumption(gal)		
-------------------------------	--	--

Oil Level	Normal	
-----------	--------	--

Coolant Level	Normal	Coolant Temp. @ Start <u>63</u> *c      Finish = <u>74</u> *c
---------------	--------	---

Belt Condition	Normal	
----------------	--------	--

Oil Pressure		Start = <u>8.7</u> bar      Finish = <u>6.6</u> bar
--------------	--	---

Battery Condition	Normal	
-------------------	--------	--

Battery Voltage	26.9	
-----------------	------	--

Engine RPMs	1800	
-------------	------	--

Generator		Comments
-----------	--	----------

Generator Volts	N/A	
-----------------	-----	--

Generator Amps	N/A	
----------------	-----	--

Generator "KVA"	4.19	
-----------------	------	--

Reason For Use		Comments
----------------	--	----------

Testing	✓	
---------	---	--

Emergency		
-----------	--	--

Maintenance		
-------------	--	--

Generator		Comments
-----------	--	----------

Fuel Delivered	No	
----------------	----	--

Fuel Level	1/4   1/2   3/4   F	87%
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Sulfur Concentrations <0.0015% (15ppm)		
---	--	--

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Rate: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta*

Date: *12-13-19*

Operator: *Edraim Mendes*

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:		<i>2004</i>	
Stop Time:		<i>2014</i>	
Total Run Time:		<i>10 min</i>	
Starting Hour Meter Reading		<i>473.0</i>	
Monthly Fuel Consumption(gal)			
Oil Level		<i>Good</i>	
Coolant Level		<i>Good</i>	
Coolant Temp. @ Start		<i>51 °C</i>	
Coolant Temp. @ Finish		<i>79 °C</i>	
Belt Condition		<i>Good</i>	
Oil Pressure		Start = <i>0</i> bar	
Oil Pressure		Finish = <i>6.7</i> bar	
Battery Condition		<i>Good</i>	
Battery Voltage		<i>26.7</i>	
Engine RPMs		<i>1800</i>	
Generator		Comments	
Generator Volts		<i>417V</i>	
Generator Amps		<i>-</i>	
Generator "KVA"		<i>-</i>	
Reason For Use		Comments	
Testing		<input checked="" type="checkbox"/>	
Emergency		<input type="checkbox"/>	
Maintenance		<input type="checkbox"/>	
Generator		Comments	
Fuel Delivered		<input checked="" type="checkbox"/>	
Fuel Level	1/4   1/2   3/4   F	<i>83%</i>	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

Emergency Diesel Generator Weekly Test Log			
Plant: <b>BETA</b>		Date: <b>6/07/19</b>	
Operator: <b>MANUEL GARCIA</b>			
Main Generator Breaker		Comments	
Open	<b>OPEN</b>		
Closed	<b>—</b>		
Engine		Comments	
Start Time:	<b>1929</b>		
Stop Time:	<b>1939</b>		
Total Run Time:	<b>10 MINS</b>		
Starting Hour Meter Reading	<b>472.9</b>		
Monthly Fuel Consumption(gal)	<b>76 gallons / month approx</b>		
Oil Level	<b>Good</b>		
Coolant Level	<b>Good</b>	Coolant Temp. @ Start <b>52</b> °c	Finish = <b>75</b> °c
Belt Condition	<b>Good</b>		
Oil Pressure	<b>Good</b>	Start = <b>8.3</b> bar	Finish = <b>6.8</b> bar
Battery Condition	<b>Good</b>		
Battery Voltage	<b>26.8</b>		
Engine RPMs	<b>1800</b>		
Generator		Comments	
Generator Volts	<b>4.17KV</b>		
Generator Amps	<b>—</b>		
Generator "KVA"	<b>—</b>		
Reason For Use		Comments	
Testing	<b>WEEKLY</b>		
Emergency	<b>—</b>		
Maintenance	<b>—</b>		
Generator		Comments	
Fuel Delivered	<b>NO</b>		
Fuel Level	1/4   1/2   <b>3/4</b>   F	<b>83%</b>	
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **BETA** Date: **12-1-19**

Operator: **PHIL TOURGERS**

Main Generator Breaker		Comments					
Open	X						
Closed							
Engine		Comments					
Start Time:	15:14						
Stop Time:	15:24						
Total Run Time:	10 MINS						
Starting Hour Meter Reading	472.7	472.9 END HOURS					
Monthly Fuel Consumption(gal)							
Oil Level	✓						
Coolant Level	✓	Coolant Temp. @ Start 50 °c	Finish = 75 °c				
Belt Condition	✓						
Oil Pressure		Start = 8.8 bar	Finish = 6.8 bar				
Battery Condition	✓						
Battery Voltage	26.7						
Engine RPMs	1800						
Generator		Comments					
Generator Volts	4.17						
Generator Amps	—						
Generator "KVA"	—						
Reason For Use		Comments					
Testing	WEEKLY						
Emergency	—						
Maintenance	—						
Generator		Comments					
Fuel Delivered	NA						
Fuel Level	<table border="1"> <tr> <td>1/4</td> <td>1/2</td> <td>3/4</td> <td>F</td> </tr> </table>	1/4	1/2	3/4	F	82%	
1/4	1/2	3/4	F				
Sulfur Concentrations							
<0.0015% (15ppm)							

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Mojave Solar LLC

### Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>11-2<sup>2</sup>-19</u>	
Operator: <u>Mike Hinton</u>			
Main Generator Breaker		Comments	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Engine		Comments	
Start Time:	<u>1920</u>		
Stop Time:	<u>1930</u>		
Total Run Time:	<u>10 mins</u>		
Starting Hour Meter Reading	<u>472.5</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>Normal</u>		
Coolant Level	<u>Normal</u>	Coolant Temp. @ Start <u>51</u> °c	Finish = <u>75</u> °c
Belt Condition	<u>Normal</u>		
Oil Pressure		Start = <u>8.8</u> bar	Finish = <u>6.7</u> bar
Battery Condition	<u>Normal</u>		
Battery Voltage	<u>27.2</u>		
Engine RPMs	<u>1800</u>		
Generator		Comments	
Generator Volts	<u>1905</u>		
Generator Amps	<u>288</u>		
Generator "KVA"	<u>415</u>		
Reason For Use		Comments	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Generator		Comments	
Fuel Delivered	<u><del>637</del> NO</u>		
Fuel Level	1/4 1/2 3/4 F <u>837.</u>		
Sulfur Concentrations	<u>&lt;0.0015% (15ppm)</u>		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

\* Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

Emergency Diesel Generator Weekly Test Log			
Plant: <b>BETA</b>		Date: <b>11/16/2019</b>	
Operator: <b>Manuel Garcia</b>			
Main Generator Breaker		Comments	
Open		✓	
Closed			
Engine		Comments	
Start Time:		0622	
Stop Time:		0632	
Total Run Time:		10 MIN	
Starting Hour Meter Reading		472.4	
Monthly Fuel Consumption(gal)		76 gal (approx)	
Oil Level		Good	
Coolant Level		Good	
Coolant Temp. @ Start		52 °C	
Coolant Temp. @ Finish		75 °C	
Belt Condition		Good	
Oil Pressure		Start = 8.3 bar	
Oil Pressure		Finish = 6.8 bar	
Battery Condition		Good	
Battery Voltage		26.6V	
Engine RPMs		1800	
Generator		Comments	
Generator Volts		4.16	
Generator Amps		240	
Generator "KVA"		1668	
Reason For Use		Comments	
Testing		✓	
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4	1/2	3/4 <b>F</b>
Fuel Level		83%	
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta* Date: *11-10-19*

Operator: *Efrain Morales*

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:		<i>1847</i>	
Stop Time:		<i>1857</i>	
Total Run Time:		<i>10 min</i>	
Starting Hour Meter Reading		<i>472.2</i>	
Monthly Fuel Consumption(gal)			
Oil Level		<i>Good</i>	
Coolant Level		<i>Good</i>	Coolant Temp. @ Start <i>50</i> °c Finish= <i>75</i> °c
Belt Condition		<i>Good</i>	
Oil Pressure		Start = <i>0</i> bar	Finish= <i>6.7</i> bar
Battery Condition		<i>Good</i>	
Battery Voltage		<i>26.7v</i>	
Engine RPMs		<i>1800</i>	
Generator		Comments	
Generator Volts		<i>X</i>	
Generator Amps		<i>X</i>	
Generator "KVA"		<i>4.17</i>	
Reason For Use		Comments	
Testing		<i>✓</i>	
Emergency		<i>X</i>	
Maintenance		<i>X</i>	
Generator		Comments	
Fuel Delivered		<i>X</i>	
Fuel Level	1/4 1/2 3/4 F	<i>83%</i>	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately

**Tojave Solar LLC**

**Emergency Diesel Generator Weekly Test Log**

Plant: *Beda* Date: *11-4-19*

Operator: *Edeals*

**Main Generator Breaker** **Comments**

Open ✓

Closed

**Engine** **Comments**

Start Time: *0016*

Stop Time: *0024*

Total Run Time: *10 min*

Starting Hour Meter Reading *472.0* ending *472.2*

Monthly Fuel Consumption(gal)

Oil Level *Good*

Coolant Level *Good* Coolant Temp. @ Start *51* °c Finish = *75* °c

Belt Condition *Good*

Oil Pressure Start = *0* bar Finish = *6.7* bar

Battery Condition *Good*

Battery Voltage *26.7 V*

Engine RPMs *1800*

**Generator** **Comments**

Generator Volts *-*

Generator Amps *-*

Generator "KVA" *4.16*

**Reason For Use** **Comments**

Testing ✓

Emergency X

Maintenance X

**Generator** **Comments**

Fuel Delivered X

Fuel Level 

1/4	1/2	3/4	F
-----	-----	-----	---

*83 %*

Sulfur Concentrations <0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

ojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Beta

Date: 10-26-19

Operator: Caleb Sowards

Main Generator Breaker		Comments	
Open	✓		
Closed			
Engine		Comments	
Start Time:	<u>0345</u>		
Stop Time:	<u>0355</u>		
Total Run Time:	<u>10 min</u>		
Starting Hour Meter Reading	<u>471.9</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>good</u>		
Coolant Level	<u>good</u>	Coolant Temp. @ Start <u>51</u> °c	Finish = <u>75</u> °c
Belt Condition	<u>good</u>		
Oil Pressure		Start = <u>8.4</u> bar	Finish = <u>8.5</u> bar
Battery Condition	<u>good</u>		
Battery Voltage	<u>26.7</u>		
Engine RPMs	<u>1800</u>		
Generator		Comments	
Generator Volts	<u>NA</u>		
Generator Amps	<u>NA</u>		
Generator "KVA"	<u>NA</u>		
Reason For Use		Comments	
Testing	✓		
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered	<u>NO</u>		
Fuel Level	1/4   1/2   3/4   F	<u>84</u>	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta*

Date: *10-20-19*

Operator: *Caleb Saunders*

Main Generator Breaker		Comments	
Open	✓		
Closed			
Engine		Comments	
Start Time:	<i>0420</i>		
Stop Time:	<i>0430</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>471.7</i>		
Monthly Fuel Consumption(gal)	<i>57</i>		
Oil Level	<i>good</i>		
Coolant Level	<i>good</i>	Coolant Temp. @ Start <i>57</i> °c	Finish = <i>75</i> °c
Belt Condition	<i>good</i>		
Oil Pressure	<i>good</i>	Start = <i>8.6</i> bar	Finish = <i>6.8</i> bar
Battery Condition	<i>good</i>		
Battery Voltage	<i>26.7</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>na</i>		
Generator Amps	<i>na</i>		
Generator "KVA"	<i>na</i>		
Reason For Use		Comments	
Testing	✓		
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered	<i>no</i>		
Fuel Level	<i>84%</i>		
Sulfur Concentrations			
<0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log					
Plant: <del>Alpha</del> Beta				Date: 10-13-19	
Operator: Mike Hinton					
Main Generator Breaker			Comments		
Open			✓		
Closed					
Engine			Comments		
Start Time:			1830		
Stop Time:			1840		
Total Run Time:			10 mins		
Starting Hour Meter Reading			471.5		
Monthly Fuel Consumption(gal)					
Oil Level			Normal		
Coolant Level			Coolant Temp. @ Start 51 *c Finish=75*c		
Belt Condition			Normal		
Oil Pressure			Start = 8.6 bar Finish=6.0 bar		
Battery Condition			Normal		
Battery Voltage			26.7		
Engine RPMs			1800		
Generator			Comments		
Generator Volts			1523		
Generator Amps			240		
Generator "KVA"			4.16		
Reason For Use			Comments		
Testing			✓		
Emergency					
Maintenance					
Generator			Comments		
Fuel Delivered			No		
Fuel Level			1/4 1/2 3/4 F 84%		
Sulfur Concentrations <0.0015% (15ppm)					
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>					

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Beta Date: 10/4/19

Operator: Mmanuel Garcia

Main Generator Breaker		Comments
Open	<input checked="" type="checkbox"/>	
Closed	<input type="checkbox"/>	
Engine		Comments
Start Time:	<u>19:01</u>	
Stop Time:	<u>19:11</u>	
Total Run Time:	<u>10 MINS</u>	
Starting Hour Meter Reading	<u>471.3</u>	
Monthly Fuel Consumption(gal)		
Oil Level	<input checked="" type="checkbox"/>	
Coolant Level	<input checked="" type="checkbox"/>	Coolant Temp. @ Start <u>49</u> °c      Finish = <u>75</u> °c
Belt Condition	<input checked="" type="checkbox"/>	
Oil Pressure	<input checked="" type="checkbox"/>	Start = <u>8.6</u> bar      Finish = <u>6.7</u> bar
Battery Condition	<input checked="" type="checkbox"/>	
Battery Voltage	<u>26.7</u>	
Engine RPMs	<u>1.800</u>	
Generator		Comments
Generator Volts	<u>417</u>	
Generator Amps	<u>248</u>	
Generator "KVA"	<u>1827</u>	
Reason For Use		Comments
Testing	<input checked="" type="checkbox"/>	
Emergency	<input type="checkbox"/>	
Maintenance	<input type="checkbox"/>	
Generator		Comments
Fuel Delivered		
Fuel Level	1/4   1/2   <u>3/4</u>   F	<u>84%</u>
Sulfur Concentrations		
<0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use. This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

\*Note: Fuel consumption 114.07 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Beta</b>		Date: <b>9/27/2019</b>	
Operator: <b>Manuel Garcia</b>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
<b>Engine</b>		<b>Comments</b>	
Start Time:	<b>19:03</b>		
Stop Time:	<b>19:13</b>		
Total Run Time:	<b>10 mins</b>		
Starting Hour Meter Reading	<b>471.1</b>		
Monthly Fuel Consumption (gal)			
Oil Level	<b>Good</b>		
Coolant Level	<input checked="" type="checkbox"/>	Coolant Temp. @ Start: <b>50*c</b>	Finish: <b>75*c</b>
Belt Condition	<b>Good</b>		
Oil Pressure	<input checked="" type="checkbox"/>	Start = <del>8</del> <b>bar 8.2 bar</b>	Finish = <b>6.7 bar</b>
Battery Condition	<b>Good</b>		
Battery Voltage	<b>27.0</b>		
Engine RPMs	<b>1800</b>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts			
Generator Amps			
Generator "KVA"			
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered			
Fuel Level	1/4 1/2 <b>(3/4)</b> F <b>84%</b>		
Sulfur Concentrations <0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate In response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

**ABENGOA SOLAR**  
ASI Operations

Revision:

Date:

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# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant:		Date:	
Beta		9-20-19	
Operator: Shell L			
Open		X	
Closed			
Start Time:		20:27	
Stop Time:		20:3	
Total Run Time:		10 min	
Starting Hour Meter Reading		471.0	
Monthly Fuel Consumption(gal)			
Oil Level		OK	
Coolant Level		Good	
Coolant Temp. @ Start		61 °c	
Coolant Temp. @ Finish		75 °c	
Belt Condition		Good	
Oil Pressure		Start = 8.1 bar	
Oil Pressure @ Finish		6.7 bar	
Battery Condition		Good	
Battery Voltage		26.7	
Engine RPMs		1800	
Generator Volts			
Generator Amps			
Generator "KVA"			
Testing		X	
Emergency			
Maintenance			
Fuel Delivered		NA	
Fuel Level		84%	
Sulfur Concentrations		<0.0015% (15ppm)	
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta*

Date: ~~9-14-17~~ *9-14-17*

Operator: *Caleb Sowards*

Open

Closed

Start Time: *0155*

Stop Time: *0205*

Total Run Time: *10 min*

Starting Hour Meter Reading *470.8*

Monthly Fuel Consumption(gal)

Oil Level: *good*

Coolant Level: *good* Coolant Temp. @ Start *58* \*c Finish=*75* \*c

Belt Condition: *good*

Oil Pressure: *good* Start=*80* bar Finish=*6.7* bar

Battery Condition: *good*

Battery Voltage: *26.7*

Engine RPMs

Generator Volts: *NG*

Generator Amps: *NG*

Generator "KVA": *NG*

Testing

Emergency

Maintenance

Fuel Delivered: *NO*

Fuel Level: *85*

Sulfur Concentrations

<0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log				
Plant: <i>Beta</i>		Date: <i>9-8-19</i>		
Operator: <i>Espin Maldonado</i>				
Main Generator Breaker		Comments		
Open	<input checked="" type="checkbox"/>			
Closed	<input type="checkbox"/>			
Engine		Comments		
Start Time:	<i>2002</i>			
Stop Time:	<i>2012</i>			
Total Run Time:	<i>10 min</i>			
Starting Hour Meter Reading	<i>470.7 h</i>			
Monthly Fuel Consumption (gal)	<i>—</i>			
Oil Level	<i>Good</i>			
Coolant Level	<i>Good</i>	Coolant Temp. @ Start	<i>51°C</i>	Finish = <i>75°C</i>
Belt Condition	<i>Good</i>			
Oil Pressure		Start = <i>0</i> bar	Finish = <i>6.0</i> bar	
Battery Condition	<i>Good</i>			
Battery Voltage	<i>26.7V</i>			
Engine RPMs	<i>1800</i>			
Generator		Comments		
Generator Volts	<i>4.16</i>			
Generator Amps	<i>—</i>			
Generator "KVA"	<i>—</i>			
Reason For Use		Comments		
Testing	<input checked="" type="checkbox"/>			
Emergency	<input type="checkbox"/>			
Maintenance	<input type="checkbox"/>			
Generator		Comments		
Fuel Delivered	<i>—</i>			
Fuel Level	1/4   1/2   3/4   F	<i>85%</i>		
Sulfur Concentrations <0.0015% (15ppm)	<i>—</i>			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>				

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>8-24-19</u>	
Operator: <u>Caleb Sowards</u>			
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Start Time:	<u>0204</u>		
Stop Time:	<u>0214</u>		
Total Run Time:	<u>10 min</u>		
Starting Hour Meter Reading	<u>470.3</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>good</u>		
Coolant Level	<u>good</u>	Coolant Temp. @ Start	<u>57 °c</u> Finish <u>75 °c</u>
Belt Condition	<u>good</u>		
Oil Pressure	<u>good</u>	Start = <u>8.1</u> bar	Finish <u>67</u> bar
Battery Condition	<u>good</u>		
Battery Voltage	<u>126.8</u>		
Engine RPMs	<u>1800</u>		
Generator Volts	<u>na</u>		
Generator Amps	<u>na</u>		
Generator "KVA"	<u>na</u>		
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Fuel Delivered	<u>no</u>		
Fuel Level	1/4   1/2   3/4   F	<u>86</u>	
Sulfur Concentrations	<0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Beta</b>		Date: <b>8-17-19</b>	
Operator: <b>Shell</b>			
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Start Time:	<b>20:53</b>		
Stop Time:	<b>21:03</b>		
Total Run Time:	<b>10 min</b>		
Starting Hour Meter Reading	<b>28.9</b>		
Monthly Fuel Consumption(gal)			
Oil Level	<b>OK</b>		
Coolant Level	<b>Full</b>	Coolant Temp. @ Start <b>50 °c</b>	Finish= <b>75 °c</b>
Belt Condition	<b>good</b>		
Oil Pressure	<b>8000</b>	Start = <b>7.9</b> bar	Finish= <b>6.7</b> bar
Battery Condition	<b>good</b>		
Battery Voltage	<b>26.9</b>		
Engine RPMs	<b>1800</b>		
Generator Volts			
Generator Amps			
Generator "KVA"			
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Fuel Delivered	<b>No</b>		
Fuel Level	1/4   1/2   3/4   F	<b>86%</b>	
Sulfur Concentrations	<b>&lt;0.0015% (15ppm)</b>		
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage in the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta*

Date: *8-9-19*

Operator: *Shell*

Open

Closed

Start Time:

*2307*

Stop Time:

*2317*

Total Run Time:

*10 min.*

Starting Hour Meter Reading

*476.0*

Monthly Fuel Consumption(gal)

Oil Level

*OK*

Coolant Level

°C

Finish: °C

Coolant Temp. @ Start *17 °C*

Finish=*15 °C*

Belt Condition

*Good*

Oil Pressure

inches

bar

Start = *7.9* bar

Finish=*6.7* bar

Battery Condition

*Good*

Battery Voltage

*26.1*

Engine RPMs

*1800*

Generator Volts

*416*

Generator Amps

Generator "KVA"

Testing

Emergency

Maintenance

Fuel Delivered

*NO*

Fuel Level

1/4

1/2

3/4

F

*86%*

Sulfur Concentrations

<0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Beta</b>		Date: <b>8/2/2019</b>	
Operator: <b>Manuel Garcia</b>			
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Start Time:	<b>2027</b>		
Stop Time:	<b>2037</b>		
Total Run Time:	<del>400</del> <b>10 minutes</b>		
Starting Hour Meter Reading	<b>469.8</b>		
Monthly Fuel Consumption(gal)	<b>80%</b>		
Oil Level	<b>Good</b>		
Coolant Level	<b>Good</b>	Coolant Temp. @ Start <b>50</b> °c	Finish = <b>76</b> °c
Belt Condition	<b>Good</b>		
Oil Pressure	<b>Good</b>	Start = bar <b>0.0</b>	Finish = <b>6.7</b> bar
Battery Condition	<b>Good</b>		
Battery Voltage	<b>26.1 V</b>	<b>27.0</b>	<b>after 5 minutes</b>
Engine RPMs	<b>1800</b>		
Generator Volts	<b>4.15KV</b>		
Generator Amps	<b>336A</b>	<b>instantaneous</b>	
Generator "KVA"	<b>288.3</b>		
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Fuel Delivered			
Fuel Level	1/4 1/2 3/4 <b>F</b>	<b>80%</b>	
Sulfur Concentrations	<b>&lt;0.0015% (15ppm)</b>		
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta*

Date:

*7-28-19*

Operator: *Efrain Mateo*

Main Generator Breaker		Comments	
Open	<i>/</i>		
Closed			
Engine		Comments	
Start Time:	<i>2020</i>		
Stop Time:	<i>2030</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>469.7</i>		
Monthly Fuel Consumption(gal)			
Oil Level	<i>good</i>		
Coolant Level	<i>good</i>	Coolant Temp. @ Start <i>51 °c</i>	Finish= <i>76 °c</i>
Belt Condition	<i>good</i>		
Oil Pressure		Start = <i>0.0</i> bar	Finish= <i>0.7</i> bar
Battery Condition	<i>good</i>		
Battery Voltage	<i>26.6V</i>		
Engine RPMs	<i>1800</i>		
Generator		Comments	
Generator Volts	<i>4.13</i>		
Generator Amps	<i>-</i>		
Generator "KVA"	<i>-</i>		
Reason For Use		Comments	
Testing	<i>✓</i>		
Emergency	<i>-</i>		
Maintenance	<i>-</i>		
Generator		Comments	
Fuel Delivered	<i>-</i>		
Fuel Level	1/4   1/2   3/4   F	<i>86%</i>	
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

**Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.**

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Beta</i>		Date: <i>7-21-19</i>	
Operator: <i>Caleb Sowards</i>			
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Start Time:	<i>4:15</i>		
Stop Time:	<i>4:25</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>469.5</i>		
Monthly Fuel Consumption(gal)			
Oil Level	<i>good</i>		
Coolant Level	<i>good</i>	Coolant Temp. @ Start <i>51</i> °c	Finish = <i>75</i> °c
Belt Condition	<i>good</i>		
Oil Pressure	<i>good</i>	Start = <i>8.6</i> bar	Finish = <i>6.7</i> bar
Battery Condition	<i>good</i>		
Battery Voltage	<i>26.7</i>		
Engine RPMs			
Generator Volts	<i>na</i>		
Generator Amps	<i>na</i>		
Generator "KVA"	<i>na</i>		
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Fuel Delivered	<i>no</i>		
Fuel Level	1/4   1/2   3/4   F	<i>86%</i>	
Sulfur Concentrations			
<0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Emergency Diesel Generator Weekly Test Log

Plant:	Beta	Date:	7-14-19
Operator:	Caleb Sowards		
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Start Time:	8345		
Stop Time:	2355		
Total Run Time:	10 min		
Starting Hour Meter Reading	469.3		
Monthly Fuel Consumption(gal)			
Oil Level	good		
Coolant Level	Start =	Finish =	good
Coolant Temp. @ Start	46°C	Finish =	76°C
Belt Condition	good		
Oil Pressure	Start =	Finish =	80 bar
Battery Condition	good		
Battery Voltage	27.6		
Engine RPMs	1800		
Generator Volts	na		
Generator Amps	na		
Generator "KVA"	na		
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Fuel Delivered	86		
Fuel Level	1/4	1/2	3/4 F
Sulfur Concentrations	<0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately

## Emergency Diesel Generator Weekly Test Log

Plant:		Beta		Date:		7/6/19	
Operator:		Alaza					
Open		<input checked="" type="checkbox"/>					
Closed		<input type="checkbox"/>					
Start Time:		2140					
Stop Time:		2150					
Total Run Time:		10 MINUTES					
Starting Hour Meter Reading		469.2					
Monthly Fuel Consumption(gal)							
Oil Level		N					
Coolant Level: °c		Finish= °N		Coolant Temp. @ Start 50 °c		Finish= 76 °c	
Belt Condition		GOOD					
Oil Pressure		Finish= bar		Start = 8.3 bar		Finish= 6.7 bar	
Battery Condition		GOOD					
Battery Voltage		26.5					
Engine RPMs		1800					
Generator Volts		4.14					
Generator Amps							
Generator "KVA"							
Testing		<input checked="" type="checkbox"/>					
Emergency		<input type="checkbox"/>					
Maintenance		<input type="checkbox"/>					
Fuel Delivered							
Fuel Level		1/4	1/2	3/4	F	8.1	
Sulfur Concentrations		<0.0015% (15ppm)					

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage in the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant:	BETA				Date:	6/28/19			
Operator:	PLAZA								
Open	<input checked="" type="checkbox"/>								
Closed	<input type="checkbox"/>								
Start Time:	2230								
Stop Time:	2240								
Total Run Time:	10 MINUTES								
Starting Hour Meter Reading	469.0								
Monthly Fuel Consumption (gal)									
Oil Level	N								
Coolant Level	*c	Finish=	N	Coolant Temp. @ Start	51°C	Finish=	75°C		
Belt Condition	GOOD								
Oil Pressure	Finish=	bar	Start =	8.5 bar	Finish=	6.8 bar			
Battery Condition	GOOD								
Battery Voltage	28.5								
Engine RPMs	1800								
Generator Volts	4.1								
Generator Amps									
Generator "KVA"									
Testing	<input checked="" type="checkbox"/>								
Emergency	<input type="checkbox"/>								
Maintenance	<input type="checkbox"/>								
Fuel Delivered									
Fuel Level	1/4	1/2	3/4	F	80%				
Sulfur Concentrations	<0.0015% (15ppm)								

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage for the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage. The engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Emergency Diesel Generator Weekly Test Log

Plant:	BETA		Date:	6/21/19	
Operator:	PLAZA				
Open	<input checked="" type="checkbox"/>				
Closed	<input type="checkbox"/>				
Start Time:	2230				
Stop Time:	2240				
Total Run Time:	10 MINUTES				
Starting Hour Meter Reading	468.9				
Monthly Fuel Consumption(gal)					
Oil Level	Normal				
Coolant Level	Start =	Normal	Coolant Temp. @ Start	50°C	Finish = 75°C
Belt Condition	Good				
Oil Pressure	Finish =	bar	Start =	7 bar	Finish = 6.8 bar
Battery Condition	Good				
Battery Voltage	27				
Engine RPMs	1800				
Generator Volts	4.17				
Generator Amps					
Generator "KVA"					
Testing	<input checked="" type="checkbox"/>				
Emergency	<input type="checkbox"/>				
Maintenance	<input type="checkbox"/>				
Fuel Delivered					
Fuel Level	1/4	1/2	<input checked="" type="checkbox"/> 3/4	F	86%
Sulfur Concentrations	<0.0015% (15ppm)				

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage at the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage. The engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Abengoa Solar LLC

## Fire Pump Weekly Test Log

General Information			
Plant: <input type="checkbox"/> Alpha <input checked="" type="checkbox"/> Beta	Date: 6-16-19	Plant: <input type="checkbox"/> Alpha <input type="checkbox"/> Beta	
Operator: Shell	* To be completed each time unit is operated		
Reason for running pumps: <input checked="" type="checkbox"/> Weekly test <input type="checkbox"/> Maintenance <input type="checkbox"/> Emergency	Reason for running pumps:		
<b>Water Based Fire Pump</b>			
Pre-start Inspection: <input type="checkbox"/> Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>	Pre-start Inspection:		
Check the jockey pump on pressure drop. Start up pressure: 150	Check the jockey pump		
Discharge Pressure: 161	Discharge Pressure:		
Pump Suction Pressure: No gauge	Pump Discharge pressure: 162	Pump Suction Pressure:	
Comments: In Auto	Comments:		
<b>Water Based Fire Pump</b>			
Pre-start Inspection: <input type="checkbox"/> Electrical Feed <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>	Pre-start Inspection:		
Start the pump on pressure drop. Start up pressure: 25	Start the pump on pressure drop		
Start time: 22:24	Start time:		
Pump Suction Pressure: 15 Hg	Pump Discharge pressure: 155	Pump Suction Pressure:	
Stop time: 22:25	Total time running: 1 min.	Stop time:	
Comments: IN Auto	Comments:		
<b>Diesel Pump</b>			
Pre-start Inspection: <input checked="" type="checkbox"/> Coolant <input checked="" type="checkbox"/> Oil <input checked="" type="checkbox"/> Mechanical <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/> Water Jacket Heater <input checked="" type="checkbox"/>	Pre-start Inspection:		
Fuel level > 2/3: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> < 1/2	Monthly Fuel Consumption:		
Battery volt Crank 1: 27.0 Battery volt Crank 2: 27.0	Battery Condition: Good		
Starting hour meter: 62.8	Start time: 22:28		
Oil pressure start: 60	Oil Pressure finish: 43		
Pump Suction Pressure: 26	Pump Discharge pressure: 150/155	Pump Suction Pressure:	
Coolant temperature after 30 minutes running: 187	Coolant temperature after 30 minutes running:		
Stop time: 22:58	Stop hour meter:	Total time running: 30 min	
Comments: In Auto <del>17962</del> RPM 1760	Comments:		
Sulfur Concentrations (less than or equal to 0.0015% on a weight per weight basis).			
<p>This 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 engine shall be operated no more than 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 be operated more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 "Standards for the Inspection, Testing, and Maintenance of Water Based Fire Systems" (current edition). The hours of operation for source testing will not be counted towards either of the allowable annual limits above.</p> <p>Note: Fuel consumption 27 gal/h approximately.</p> <p>There is no limit on engine operation for emergency use. [Title 17 CCR 93115.6(a)(4)]</p>			

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Beta</b>	State:	Date: <b>6-7-19</b>
Operator: <b>Shell</b>		
Open	<input checked="" type="checkbox"/>	
Closed	<input type="checkbox"/>	
Start Time:	<b>23:15</b>	
Stop Time:	<b>23:25</b>	
Total Run Time:	<b>10 min</b>	
Starting Hour Meter Reading	<b>468.5</b>	
Monthly Fuel Consumption (gal)		
Oil Level	<b>OK</b>	
Coolant Level: *E Finish= *E OK		Coolant Temp. @ Start <b>53 °C</b> Finish= <b>76 °C</b>
Bel Condition	<b>good</b>	
Oil Pressure Finish= bar		Start = <b>7.9</b> bar Finish= <b>6.8</b> bar
Battery Condition	<b>good</b>	
Battery Voltage	<b>26.8</b>	
Engine RPMs	<b>1800</b>	
Generator Volts	<b>1.17</b>	
Generator Amps		
Generator "KVA"		
Testing	<input checked="" type="checkbox"/>	
Emergency	<input type="checkbox"/>	
Maintenance	<input type="checkbox"/>	
Fuel Delivered	<b>87%</b>	
Fuel Level	1/4 1/2 3/4 F	
Sulfur Concentrations		
<0.0015% (15ppm)		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>5-31-19</u>	
Operator: <u>Collin Anderson</u>			
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Start Time:	<u>2027</u>	Start Time	
Stop Time:	<u>2042</u>	Stop Time	
Total Run Time:	<u>15 Mins</u>	Total Run Time	
Starting Hour Meter Reading	<u>468.3</u>	Starting Hour Meter Reading	
Monthly Fuel Consumption(gal)		Monthly Fuel Consumption(gal)	
Oil Level	<u>Normal</u>	Oil Level	
Coolant Level: °C	<u>Normal</u>	Coolant Temp. @ Start	<u>51 °C</u>
		Finish=	<u>76 °C</u>
Belt Condition	<u>Good</u>	Belt Condition	
Oil Pressure	Finish= <u>bar</u>	Start = <u>8</u> bar	Finish= <u>6.7</u> bar
Battery Condition	<u>Good</u>	Battery Condition	
Battery Voltage	<u>27.0</u>	Battery Voltage	
Engine RPMs	<u>1800</u>	Engine RPMs	
Generator Volts	<u>4.17 kV</u>	Generator Volts	
Generator Amps		Generator Amps	
Generator "KVA"		Generator "KVA"	
Testing	<input checked="" type="checkbox"/>	Testing	
Emergency	<input type="checkbox"/>	Emergency	
Maintenance	<input type="checkbox"/>	Maintenance	
Fuel Delivered		Fuel Delivered	
Fuel Level	<input type="checkbox"/> 1/4 <input type="checkbox"/> 1/2 <input type="checkbox"/> 3/4 <input type="checkbox"/> F	Fuel Level	
Sulfur Concentrations		Sulfur Concentrations	
<0.0015% (15ppm)		<0.0015% (15ppm)	

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage. If the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage. The engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: Beta Date: 25  
5-27-19

Operator: Shell

**Generator Status**

Open    
 Closed

**Generator Performance**

Start Time: 20:46   
 Stop Time: 20:56   
 Total Run Time: 10:00   
 Starting Hour Meter Reading: 468.1   
 Monthly Fuel Consumption(gal):   
 Oil Level: Good   
 Coolant Level: Good Coolant Temp. @ Start 52 \*c 76 Finish= \*c   
 Belt Condition: Good   
 Oil Pressure: 6.8 Start = 8.5 bar Finish = 6.8 bar   
 Battery Condition: Good   
 Battery Voltage: 24.6   
 Engine RPMs: 1800

**Generator Output**

Generator Volts:   
 Generator Amps:   
 Generator "KVA":

**Generator Testing**

Testing    
 Emergency    
 Maintenance

**Generator Fuel**

Fuel Delivered:   
 Fuel Level: 

1/4	1/2	3/4	F
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86%   
 Sulfur Concentrations: <0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: *Beta*

Date: *5-20-19*

Operator: *Caleb Sowards*

Main Generator Breaker		Comments	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Before		After	
Start Time:	<i>0218</i>		
Stop Time:	<i>0228</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>467.9</i>		
Monthly Fuel Consumption(gal)			
Oil Level	<i>good</i>		
Coolant Level	<i>good</i>	Coolant Temp. @ Start <i>49</i> °c	Finish = <i>75</i> °c
Belt Condition	<i>good</i>		
Oil Pressure	<i>0 bar</i>	Start = <i>8.6</i> bar	Finish = <i>6.7</i> bar
Battery Condition	<i>good</i>		
Battery Voltage	<i>26.7</i>		
Engine RPMs	<i>1800</i>		
Generator		Generator	
Generator Volts	<i>n/a</i>		
Generator Amps	<i>n/a</i>		
Generator "KVA"	<i>n/a</i>		
Reason for Use		Comments	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Generator		Comments	
Fuel Delivered	<i>no</i>		
Fuel Level	<i>86</i>		
Sulfur Concentrations			
<0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>5-11-19</u>	
Operator: <u>Caleb Sowards</u>			
Open Generator Breaker		Comments	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
Engine		Comments	
Start Time:	<u>0445</u>		
Stop Time:	<u>0455</u>		
Total Run Time:	<u>10min</u>		
Starting Hour Meter Reading	<u>467.7</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>good</u>		
Coolant Level	<u>good</u>	Coolant Temp. @ Start <u>57</u> °c	Finish = <u>75</u> °c
Belt Condition	<u>good</u>		
Oil Pressure	<u>oil</u>	Start = <u>8.5</u> bar	Finish = <u>6.8</u> bar
Battery Condition	<u>good</u>		
Battery Voltage	<u>26.7</u>		
Engine RPMs	<u>1800</u>		
Generator		Comments	
Generator Volts	<u>N/A</u>		
Generator Amps	<u>N/A</u>		
Generator "KVA"	<u>N/A</u>		
Generator Oil		Comments	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Generator		Comments	
Fuel Delivered	<u>NO</u>		
Fuel Level	1/4   1/2   3/4   F	<u>87</u>	
Sulfur Concentrations			
<0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant:	Beta Plaza			Date:	5/3/19
Operator:					
Open	✓				
Closed					
Start Time:	2054				
Stop Time:	2104				
Total Run Time:	10 Min				
Starting Hour Meter Reading	467.5		(467.7) END		
Monthly Fuel Consumption(gal)					
Oil Level	N				
Coolant Level	N		Coolant Temp. @ Start	49 °c Finish= 75 °c	
Belt Condition	Good				
Oil Pressure			Start =	0 bar Finish= 6.8 bar	
Battery Condition	Good				
Battery Voltage	26.6				
Engine RPMs	1800				
Generator Volts	41.7				
Generator Amps					
Generator "KVA"					
Testing	✓				
Emergency					
Maintenance					
Fuel Delivered					
Fuel Level	1/4	1/2	3/4	F	87.1
Sulfur Concentrations	<0.0015% (15ppm)				

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Beta</i>					Date: <i>4-28-19</i>
Operator: <i>Collin Anderson</i>					
<b>Open</b>		<input checked="" type="checkbox"/>			
<b>Closed</b>		<input type="checkbox"/>			
Start Time:	<i>1845</i>				
Stop Time:	<i>1900</i>				
Total Run Time:	<i>15 Mins</i>				
Starting Hour Meter Reading	<i>467.3</i>				
Monthly Fuel Consumption(gal)					
Oil Level	<i>Normal</i>				
Coolant Level			Coolant Temp. @ Start	<i>49*c</i>	Finish= <i>76*c</i>
Belt Condition					
Oil Pressure			Start = <i>8.4</i> bar	Finish= <i>6.7</i> bar	
Battery Condition	<i>Good</i>				
Battery Voltage	<i>26.2</i>				
Engine RPMs	<i>1800</i>				
Generator Volts	<i>4.13 kV</i>				
Generator Amps					
Generator "KVA"					
<b>Testing</b>		<input checked="" type="checkbox"/>			
<b>Emergency</b>		<input type="checkbox"/>			
<b>Maintenance</b>		<input type="checkbox"/>			
Fuel Delivered					
Fuel Level	<input type="checkbox"/> 1/4	<input type="checkbox"/> 1/2	<input type="checkbox"/> 3/4	<input type="checkbox"/> F	
Sulfur Concentrations					
<0.0015% (15ppm)					
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>					

## Emergency Diesel Generator Weekly Test Log

Plant: Beta Date: 4-21-19

Operator: Collin Anderson

**Main (Refer to breaker)** **Comments**

Open

Closed

**Run Time** **Remarks**

Start Time: 2010

Stop Time: 2025

Total Run Time: 15 Minutes

Starting Hour Meter Reading: 467

Monthly Fuel Consumption(gal):

Oil Level: Normal

Coolant Level: Normal Coolant Temp. @ Start 50°c Finish=75°c

Belt Condition: Good

Oil Pressure: Start = bar 8.3 Finish=bar 6.7

Battery Condition: Good

Battery Voltage: 26.3

Engine RPMs: 1800

**Generator** **Comments**

Generator Volts: 4.14 kV

Generator Amps:

Generator "KVA":

**Running (to) (off)** **Comments**

Testing

Emergency

Maintenance

**Generator** **Comments**

Fuel Delivered:

Fuel Level	1/4	1/2	3/4	F
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Sulfur Concentrations: <0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <b>Beta</b>		Date: <b>4-13-19</b>	
Operator: <b>Shell</b>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	<b>X</b>		
Closed			
<b>Engine</b>		<b>Comments</b>	
Start Time:	<b>19:42</b>		
Stop Time:	<b>19:52</b>		
Total Run Time:	<b>10 min</b>		
Starting Hour Meter Reading	<b>466.8</b>		
Monthly Fuel Consumption(gal)			
Oil Level	<b>max</b>		
Coolant Level	<b>Good</b>	Coolant Temp. @ Start	<b>49 °c</b> Finish= <b>75*c</b>
Belt Condition	<b>Good</b>		
Oil Pressure		Start = <b>8.6 bar</b>	Finish= <b>6.8 bar</b>
Battery Condition	<b>Good</b>		
Battery Voltage	<b>26.7</b>		
Engine RPMs	<b>1800</b>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts			
Generator Amps			
Generator "KVA"			
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<b>X</b>		
Emergency			
Maintenance			
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered	<b>26%</b>		
Fuel Level	<b>1/4</b>   <b>1/2</b>   <b>3/4</b>   <b>F</b>		
Sulfur Concentrations			
<0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>4-6-19</u>	
Operator: <u>Shell</u>			
<b>Main Generator Breaker</b>		<b>Comments</b>	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		
<b>Engine</b>		<b>Comments</b>	
Start Time:	<u>0330</u>		
Stop Time:	<u>03:40</u>		
Total Run Time:	<u>10 min</u>		
Starting Hour Meter Reading	<u>466.7</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>max</u>		
Coolant Level	<u>ok</u>	Coolant Temp. @ Start <u>51</u> °c	Finish = <u>75</u> °c
Belt Condition	<u>good</u>		
Oil Pressure		Start = <u>8.5</u> bar	Finish = <u>6.9</u> bar
Battery Condition	<u>Good</u>		
Battery Voltage	<u>26.2</u>		
Engine RPMs	<u>1800</u>		
<b>Generator</b>		<b>Comments</b>	
Generator Volts			
Generator Amps			
Generator "KVA"			
<b>Reason For Use</b>		<b>Comments</b>	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
<b>Generator</b>		<b>Comments</b>	
Fuel Delivered	<u>no</u>		
Fuel Level	<input type="checkbox"/> 1/4 <input type="checkbox"/> 1/2 <input type="checkbox"/> 3/4 <input type="checkbox"/> F		
Sulfur Concentrations			
<0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Beta</i>		Date: <i>3-30-19</i>	
Operator: <i>Caleb Sowards</i>			
Main Generator Breaker		Comments	
Open	<input checked="" type="checkbox"/>		
Closed			
Run Time		Comments	
Start Time:	<i>1915</i>		
Stop Time:	<i>1925</i>		
Total Run Time:	<i>10min</i>		
Starting Hour Meter Reading	<i>466.5</i>	<i>466.7 ending</i>	
Monthly Fuel Consumption(gal)			
Oil Level	<i>full</i>		
Coolant Level	<i>good</i>	Coolant Temp. @ Start <i>52</i> °c	Finish= <i>75</i> °c
Belt Condition	<i>good</i>		
Oil Pressure	<i>1</i>	Start= <i>8.5</i> bar	Finish= <i>6.8</i> bar
Battery Condition	<i>good</i>		
Battery Voltage	<i>26.7</i>		
Engine RPMs	<i>800</i>		
Generator		Comments	
Generator Volts	<i>na</i>		
Generator Amps	<i>na</i>		
Generator "KVA"	<i>na</i>		
Reason for Use		Comments	
Testing	<input checked="" type="checkbox"/>		
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered	<i>no</i>		
Fuel Level	1/4 1/2 3/4 F	<i>8670</i>	
Sulfur Concentrations			
<0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: BETA Date: 3/23/19

Operator: PLAZA

Open   
 Closed

Start Time: 2019  
 Stop Time: 2029  
 Total Run Time: 10 MIN  
 Starting Hour Meter Reading: 466.3 END 466.5  
 Monthly Fuel Consumption(gal): FUEL LVL 87%  
 Oil Level: N  
 Coolant Level: N Coolant Temp. @ Start: 64 °c Finish: 75 °c  
 Belt Condition: Good  
 Oil Pressure: Start = 7.4 bar Finish: 6.8 bar  
 Battery Condition: Good  
 Battery Voltage: 26.3  
 Engine RPMs: 1800

Generator Volts: 4.1  
 Generator Amps:  
 Generator "KVA":

Testing   
 Emergency  
 Maintenance

Fuel Delivered  
 Fuel Level | 1/4 | 1/2 | 3/4 | F | (87%)  
 Sulfur Concentrations  
 <0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Beta

Date: 3-17-19

Operator: Caleb Sowards

Open

Closed

Start Time: 0345

Stop Time: 0355

Total Run Time: 10min

Starting Hour Meter Reading: 466.2

Monthly Fuel Consumption(gal)

Oil Level: good

Coolant Level: good

Belt Condition: good

Oil Pressure: good

Battery Condition: good

Battery Voltage: 26.7

Engine RPMs: 1800

Coolant Temp. @ Start 50 °c      Finish = 76 °c

Start = 8.5 bar      Finish = 6.8 bar

Generator Volts: NA

Generator Amps: NA

Generator "KVA": NA

Testing

Emergency

Maintenance

Fuel Delivered: NO

Fuel Level	1/4	1/2	3/4	F	<u>85%</u>
------------	-----	-----	-----	---	------------

Sulfur Concentrations  
<0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of lead approximately

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>3-9-19</u>	
Operator: <u>Caleb</u>			
Open	✓		
Closed			
Start Time:		05:17	
Stop Time:		05:28	
Total Run Time:		00:05	
Starting Hour Meter Reading		465.9	
Monthly Fuel Consumption(gal)			
Oil Level		good	
Coolant Level		good	
Coolant Temp. @ Start		57 °c	Finish=71 °c
Belt Condition		good	
Oil Pressure		Start = 8.5 bar	Finish = 7.1 bar
Battery Condition		good	
Battery Voltage		76.6	
Engine RPMs			
Generator Volts		NA	
Generator Amps		NA	
Generator "KVA"		NA	
Testing		✓	
Emergency			
Maintenance			
Fuel Delivered		NA	
Fuel Level	3/4	1/2	3/4 F
			87%
Sulfur Concentrations		<0.0015% (15ppm)	
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: **BETA** Date: **3-5-19**

Operator: **PHIL TOURGEUS**

Open

Closed

Engine	Comments		
Start Time:	10:35		
Stop Time:	10:41		
Total Run Time:	6 MINS		
Starting Hour Meter Reading	465.9		
Monthly Fuel Consumption(gal)			
Oil Level	GOOD		
Coolant Level	GOOD	Coolant Temp. @ Start N/A °C	Finish=71 °C
Belt Condition			
Oil Pressure		Start = N/A bar	Finish=7.2 bar
Battery Condition	GOOD		
Battery Voltage	21.6		
Engine RPMs	1800		

Generator Volts **4.15KV**

Generator Amps

Generator "KVA"

Testing

Emergency

Maintenance

Fuel Delivered	Comments		
Fuel Level	1/4	1/2	3/4
			F 87%

Sulfur Concentrations  
<0.0015% (15ppm)

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This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

## Emergency Diesel Generator Weekly Test Log

Plant:

Betta

Date:

3-3-19

Operator:

ICA

Main Generator Breaker		Comments	
Open			
Closed			
Engine		Comments	
Start Time:			
Stop Time:			
Total Run Time:			
Starting Hour Meter Reading			
<del>Monthly Fuel Consumption (gal)</del>			
Oil Level			
Coolant Level		Coolant Temp. @ Start	*c Finish= *c
Belt Condition			
Oil Pressure		Start = bar	Finish= bar
Battery Condition			
Battery Voltage			
Engine RPMs			
Generator		Comments	
Generator Volts			
Generator Amps			
Generator "KVA"			
Reason For Use		Comments	
Testing			
Emergency			
Maintenance			
Generator		Comments	
Fuel Delivered			
Fuel Level	1/4   1/2   3/4   F		
Sulfur Concentrations <0.0015% (15ppm)			

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

**Note: Fuel consumption 114.01 gal/h (431.57 V/h) of load approximately.**

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:

Date: 2-24-17

Beta

Operator:

Collin Anderson

Open

✓

Closed

Start Time:

Stop Time:

Total Run Time:

Starting Hour Meter Reading

Monthly Fuel Consumption(gal)

Oil Level

Normal

Coolant Level

Normal

Coolant Temp. @ Start

\*c

Finish=

\*c

Belt Condition

Good

Oil Pressure

Start =

bar

Finish =

bar

Battery Condition

Good

Battery Voltage

Engine RPMs

1800

Generator Volts

Generator Amps

Generator "KVA"

Testing

✓

Emergency

Maintenance

Fuel Delivered

Fuel Level

1/4

1/2

3/4

F

Sulfur Concentrations

<0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant:

Date:

Betal

2-16-19

Operator:

Colin Anderson

Open

✓

Closed

Start Time:

2030

Stop Time:

2045

Total Run Time:

15 Minutes

Starting Hour Meter Reading

465.1

Monthly Fuel Consumption(gal)

Oil Level

Normal

Coolant Level

Normal

Coolant Temp. @ Start

17 °c

Finish=75 °c

Belt Condition

Good

Oil Pressure

Start = 9.9 bar

Finish= 7 bar

Battery Condition

Good

Battery Voltage

26.4

Engine RPMs

1800

Generator Volts

4.17 kV

Generator Amps

Generator "KVA"

Testing

✓

Emergency

Maintenance

Fuel Delivered

Fuel Level 1/4 1/2 3/4 F

Sulfur Concentrations

<0.0015% (15ppm)

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the Interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <u>Beta</u>		Date: <u>2-8-19</u>	
Operator: <u>Shell</u>			
Open	<input checked="" type="checkbox"/>	X	
Closed	<input type="checkbox"/>		
Start Time:	<u>19:35</u>		
Stop Time:	<u>19:45</u>		
Total Run Time:	<u>10 min</u>		
Starting Hour Meter Reading	<u>464.9</u>		
Monthly Fuel Consumption(gal)			
Oil Level	<u>Good</u>		
Coolant Level	<u>Good</u>	Coolant Temp. @ Start <u>52 °c</u>	Finish = <u>77 °c</u>
Belt Condition	<u>Good</u>		
Oil Pressure		Start = <u>8.7 bar</u>	Finish = <u>7.0 bar</u>
Battery Condition	<u>good</u>		
Battery Voltage	<u>26.7</u>		
Engine RPMs	<u>1800</u>		
Generator Volts			
Generator Amps			
Generator "KVA"			
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		
Fuel Delivered	<u>100 %</u>		
Fuel Level	1/4 1/2 3/4 F	<u>87 %</u>	
Sulfur Concentrations			
<0.0015% (15ppm)			
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately</p>			

# ABENGOA

## Emergency Diesel Generator Weekly Test Log

Plant: Beta Date: 2-1-19

Operator: Caleb Sowards

Main Generator Parameters		Capacity of	
Open	<input checked="" type="checkbox"/>		
Closed	<input type="checkbox"/>		

Engine		Parameters	
Start Time:	<u>0105</u>		
Stop Time:	<u>0115</u>		
Total Run Time:	<u>10 min</u>		
Starting Hour Meter Reading	<u>464.8</u>	<u>ending 464.9</u>	
Monthly Fuel Consumption(gal)			
Oil Level	<u>good</u>		
Coolant Level	<u>good</u>	Coolant Temp. @ Start <u>57</u> *c	Finish= <u>75</u> *c
Belt Condition	<u>good</u>		
Oil Pressure	<u>good</u>	Start = <u>8.8</u> bar	Finish = <u>6.9</u> bar
Battery Condition	<u>good</u>		
Battery Voltage	<u>26.6</u>		
Engine RPMs	<u>1800</u>		

Generator		Parameters	
Generator Volts	<u>NA</u>		
Generator Amps	<u>NA</u>		
Generator "KVA"	<u>NA</u>		

Response For Use		Parameters	
Testing	<input checked="" type="checkbox"/>		
Emergency	<input type="checkbox"/>		
Maintenance	<input type="checkbox"/>		

Generator		Comments	
Fuel Delivered	<u>NO</u>		
Fuel Level	<u>87%</u>		
Sulfur Concentrations	<u>&lt;0.0015% (15ppm)</u>		

This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.

This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage on the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.

Note: Fuel consumption 134.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Beta

Date: 1-27-19

Operator: Caleb Swartz

Open

Closed

Start Time: 0730

Stop Time: 0741

Total Run Time: 2 min

Starting Hour Meter Reading 464.6

Monthly Fuel Consumption(gal)

Oil Level good

Coolant Level good

Coolant Temp. @ Start 47 °c

Finish 53 °c

Belt Condition good

Oil Pressure good

Start = 8.1 bar

Finish = 7.1 bar

Battery Condition good

Battery Voltage 26.6

Engine RPMs 1800

Generator Volts na

Generator Amps na

Generator "KVA" na

Testing

Emergency

Maintenance

Fuel Delivered no

Fuel Level

1/4

1/2

3/4

F

87%

Sulfur Concentrations

<0.0015% (15ppm)

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

Emergency Diesel Generator Weekly Test Log					
Plant:	BETA			Date:	1/18/19
Operator:	PLAZA				
Open	✓				
Closed					
Start Time:	21:58				
Stop Time:	22:08				
Total Run Time:	10 min.				
Starting Hour Meter Reading	464.4				
Monthly Fuel Consumption(gal)					
Oil Level	N				
Coolant Level	N		Coolant Temp. @ Start	44*c	Finish=74*c
Belt Condition	N				
Oil Pressure			Start = 8 bar	Finish=6.9 bar	
Battery Condition	Good				
Battery Voltage	26.7				
Engine RPMs	1800				
Generator Volts					
Generator Amps					
Generator "KVA"					
Testing	✓				
Emergency					
Maintenance					
Fuel Delivered					
Fuel Level	1/4	1/2	3/4	F	87-%
Sulfur Concentrations	<0.0015% (15ppm)				
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>					

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: Beta

Date: 1-13-19

Operator: Caleb Sowards

Open

Closed

Start Time: 04:09

Stop Time: 04:19

Total Run Time: 10 min

Starting Hour Meter Reading 464.2

ending 464.4

Monthly Fuel Consumption(gal)

Oil Level good

Coolant Level good

Coolant Temp. @ Start 45°C Finish = 74°C

Belt Condition good

fan belt is 2 teeth off

Oil Pressure good

Start = 6.7 bar

Finish = 6.8 bar

Battery Condition good

Battery Voltage 26.7

Engine RPMs 1800

Generator Volts na

Generator Amps na

Generator "KVA" na

Testing

Emergency

Maintenance

Fuel Delivered no

Fuel Level

1/4

1/2

3/4

F

87%

Sulfur Concentrations

<0.0015% (15ppm)

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

Plant: <i>Beta</i>		Date: <i>1-5-19</i>	
Operator: <i>Shell</i>			
Open		<i>X</i>	
Closed			
Start Time:	<i>20:50</i>		
Stop Time:	<i>21:00</i>		
Total Run Time:	<i>10 min</i>		
Starting Hour Meter Reading	<i>464.1</i>		
Monthly Fuel Consumption(gal)			
Oil Level	<i>Good</i>		
Coolant Level	<i>Good</i>	Coolant Temp. @ Start	<i>41 °c</i> Finish= <i>75°c</i>
Belt Condition	<i>Good</i>		
Oil Pressure		Start =	bar <i>2.6</i> Finish= <i>6.7</i> bar
Battery Condition	<i>Good</i>		
Battery Voltage	<i>26.6</i>		
Engine RPMs	<i>1800</i>		
Generator Volts			
Generator Amps			
Generator "KVA"			
Testing	<i>X</i>		
Emergency			
Maintenance			
Fuel Delivered			
Fuel Level	1/4 1/2 3/4 F	<i>87%</i>	
Sulfur Concentrations <0.0015% (15ppm)		<i>see shipping invoice.</i>	
<p>This Emergency Generator shall be limited to use for emergency power, as 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 30 minutes during any hour and 50 hours per year for testing and maintenance excluding compliance source testing. There is no limit on engine operation for Emergency use.</p> <p>This engine may operate in response to notification of impending loss of utility back-feed power if the interconnected utility has ordered an outage to the plant or expects to order such outages at a particular time the engine is operated no more than 30 minutes prior to the forecasted outage and the engine is shut immediately after the utility advises that the outage no longer imminent or in effect.</p> <p>Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.</p>			

# ABENGOA

Mojave Solar LLC

## Emergency Diesel Generator Weekly Test Log

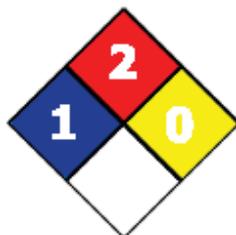
Plant:		BETA		Date:		12/28/18		
Operator:		PLAZA						
Open		✓						
Closed								
Start Time:	2055							
Stop Time:	2105							
Total Run Time:	10 MIN.							
Starting Hour Meter Reading	4639							
Monthly Fuel Consumption(gal)								
Oil Level	N							
Coolant Level	N		Coolant Temp. @ Start 44°C		Finish= 75°C			
Belt Condition	GOOD							
Oil Pressure	7		Start = 0 bar		Finish= 7 bar			
Battery Condition	GOOD							
Battery Voltage	26.6							
Engine RPMs	1700							
Generator Volts	4.16							
Generator Amps								
Generator "KVA"								
Testing	✓							
Emergency								
Maintenance								
Fuel Delivered								
Fuel Level	1/4	1/2	3/4	F	B-1			
Sulfur Concentrations	<0.0015% (15ppm)							

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Note: Fuel consumption 114.01 gal/h (431.57 l/h) of load approximately.

# SAFETY DATA SHEET



Revision Date 02-Aug-2018

SDS Number 888100004478

Revision Number 3.01

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

**Product Name** Diesel Low Sulfur (LSD) and Ultra Low Sulfur Diesel (ULSD)

**Synonyms** CARB Diesel, APPC174

**Recommended Use** No information available  
**Uses advised against** All others

**Manufacturer**  
Tesoro Refining & Marketing Co.  
19100 Ridgewood Parkway  
San Antonio, TX 78259

**Emergency Telephone** Chemtrec: 1-800-424-9300  
Tesoro Call Center: 1-877-783-7676

**E-mail address** ProductStewardship@TSOCORP.com

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute Inhalation Toxicity - Vapors	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation Category	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2
Chronic Aquatic Toxicity	Category 2
Aspiration toxicity	Category 1

### Label elements

#### **Danger**

Flammable liquid and vapor  
Causes skin irritation  
May cause cancer  
May cause damage to organs through prolonged or repeated exposure  
Toxic to aquatic life with long lasting effects  
May be fatal if swallowed and enters airways  
Toxic if inhaled



**Appearance** Liquid

**Physical State @20°C** Liquid

**Odor** Characteristic petroleum or kerosene-like

**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Use only outdoors or in a well-ventilated area  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/or bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting / equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 IF skin irritation occurs: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Call a POISON CENTER or doctor  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor  
 Do NOT induce vomiting  
 In case of fire: Use CO2, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Harmful to aquatic life.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

General Composition Statement Diesel Fuels consist of complex mixtures of various hydrocarbons having diverse structures represented by paraffins, olefins, naphthenes, and aromatics hydrocarbons. Composition may contain additives and/or dyes which are not considered hazardous at the concentration used. Sulfur content less than 15 ppm.

Chemical Name	CAS-No	Percent
Diesel Fuel	68476-34-6	0-100
Nonane	111-84-2	0-5

Naphthalene	91-20-3	0-1
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## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Remove from exposure, lie down. In case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt, seek medical advice. Never give anything by mouth to an unconscious person. Take off all contaminated clothing immediately and thoroughly wash material from skin.
<b>Inhalation</b>	If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Aspiration into lungs can produce severe lung damage. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention. Delayed pulmonary edema may occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. <b>ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE.</b> If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

### Most important symptoms and effects, both acute and delayed

**Symptoms** Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Small Fire</b>	Any extinguisher suitable for Class B fires, dry chemical, CO <sub>2</sub> , foam (AFFF/ATC), or water spray can be used.
<b>Large Fire</b>	Water spray, fog or alcohol-resistant foam. CAUTION: Use of water spray when fighting fire

may be inefficient. Cool containers with flooding quantities of water until well after fire is out.

<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Hazardous combustion products</b>	Smoke, CO, and other products of incomplete combustion.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.
<b>Further information</b>	ALWAYS stay away from tanks engulfed in fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Do not direct water at source of leak or safety devices; icing may occur. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

**NFPA**                      **Health hazards** 1                      **Flammability** 2                      **Stability** 0                      **Physical and chemical properties** -

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions**                      Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not breathe vapor or mist. See section 8 for more information. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

**Other Information**                      Refer to protective measures listed in Sections 7 and 8. Ventilate the area.

### Environmental precautions

**Environmental precautions**                      Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

### Methods and material for containment and cleaning up

**Methods for containment**                      Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up**                      Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards**                      Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Use personal protection equipment. Avoid contact with skin and eyes. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store away from other materials.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Chemical Name	ACGIH TLV	OSHA PEL
Diesel Fuel 68476-34-6	TWA: 100 mg/m <sup>3</sup> total hydrocarbons inhalable fraction and vapor S*	-
Nonane 111-84-2	TWA: 200 ppm	(vacated) TWA: 200 ppm (vacated) TWA: 1050 mg/m <sup>3</sup>
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m <sup>3</sup> (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m <sup>3</sup>

S\* - Potential exposure by cutaneous route

NOTE: Limits shown for guidance only. For additional information, OSHA's 1989 air contaminants standard exposure limits provided even though the limits were vacated in 1992. State, local or other agencies or advisory groups may have established more stringent limits. Follow applicable regulations.

**Appropriate engineering controls**

**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Wear suitable gloves. Impervious gloves.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

**Respiratory protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a NIOSH approved respirator when there is a potential

for airborne concentrations to exceed occupational exposure limits. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2, NIOSH Respirator Decision Logic, and the respirator manufacturer for additional guidance on respiratory protection selection. A Self-Contained Breathing Apparatus (SCBA) should be used for fire fighting. Use a NIOSH approved positive-pressure supplied air respirator if there is a potential for uncontrolled release, exposure levels are unknown, in oxygen deficient (less than 19.5% oxygen), or any other circumstance where an air-purifying respirator may not provide adequate protection.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical State @20°C</b>	Liquid
<b>Appearance</b>	Liquid
<b>Odor</b>	Characteristic petroleum or kerosene-like
<b>Color</b>	Clear to straw , May contain Red Dye
<b>Odor threshold</b>	0.1 - 1 ppm typically reported

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not applicable	
Melting point / freezing point	-15 °C / 5 °F	
Boiling range	154 - 372 °C	
Flash point	52 °C / 126 °F	
Evaporation rate	No data available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air %		
Upper flammability limit:	6.5	
Lower flammability limit:	0.6	
Vapor pressure	<0.27	
Vapor density	>4.5	
Relative density	0.86	
Water solubility	0.0005 g/100 mL	
Solubility in other solvents	No data available	
Partition coefficient	>3.63	
Autoignition temperature	257 °C / 495 °F	
Decomposition temperature	No data available	
Kinematic viscosity	1 to 6 mm <sup>2</sup> /s	
Dynamic viscosity	No data available	
Explosive properties	No data available	
Oxidizing properties	No data available	
Minimum Ignition Energy (mJ)	No data available	
K <sub>st</sub> (bar.m/s)	No data available	
Softening point	No data available	
VOC Content (%)	No data available	
Density	No data available	
Bulk density	Not applicable	
Conductivity	Diesel Fuel Oils at terminal load rack: At least 25 pS/m. Ultra Low Sulfur Diesel (ULSD) without conductivity additive: 0 pS/m to 5 pS/m. ULSD at terminal load rack with conductivity additive: At least 50 pS/m. JP-8 at terminal load rack: 150 pS/m to 600 pS/m.	

**10. STABILITY AND REACTIVITY**

**Reactivity** This product is non-reactive under normal conditions.

**Chemical stability** Stable under recommended storage conditions.

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid** Excessive heat. Heat, flames and sparks.

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products** None under normal use conditions.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Toxic by inhalation. (based on components). Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal.

**Eye contact** Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components).

**Skin contact** Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Repeated exposure may cause skin dryness or cracking.

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

### Information on toxicological effects

**Symptoms** Redness. May cause redness and tearing of the eyes. Difficulty in breathing. Coughing and/or wheezing. Dizziness.

### Numerical measures of toxicity

#### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 50,000.00 mg/kg  
 ATEmix (inhalation-dust/mist) 1.30 mg/l  
 ATEmix (inhalation-vapor) 3.00 mg/l

Chemical Name	Oral LD50	LD50/dermal/rat - NO UNITS (Wizards mg/kg)	Inhalation LC50
Nonane 111-84-2	-	-	= 3200 ppm ( Rat ) 4 h
Naphthalene 91-20-3	= 1110 mg/kg ( Rat ) = 490 mg/kg ( Rat )	= 1120 mg/kg ( Rabbit ) > 20 g/kg ( Rabbit )	> 340 mg/m <sup>3</sup> ( Rat ) 1 h

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Chemical Name Nonane

Nonane may be fatal if it is swallowed and enters the airway. Nonane affects the eyes, skin, respiratory system, and central nervous system. If inhaled, short-term overexposure can cause drowsiness, dizziness, and possibly death. Exposure to high enough levels of nonane can cause irritation to eyes, nose, and skin (including dermatitis). Sensitization is not reported.

#### Naphthalene

Acute (short term) exposure to large amounts of naphthalene may damage or destroy red blood cells, a condition termed hemolytic anemia. Symptoms of hemolytic anemia include

fatigue, lack of appetite, restlessness, and pale skin. Acute inhalation or oral exposure to large amounts of naphthalene may also cause nausea, vomiting, diarrhea, blood in the urine, and a yellow color to the skin. Ingestion may result in death. Chronic (long term) exposure in rats and mice can lead to irritation and inflammation of their nose and lungs; nasal hyperplasia and metaplasia in respiratory and olfactory epithelium has been reported in studies in mice. Exposure to high enough levels may have effects on the blood, resulting in chronic hemolytic anemia, and effects on the eyes, resulting in the development of cataracts. Cancer from naphthalene exposure has been observed in animals, but not humans. IARC has classified naphthalene as possibly carcinogenic to humans (Group 2B), and the ECHA C&L Inventory reports that naphthalene is suspected of causing cancer (Carc. 2).

**Health hazard and classification information**

**Skin Corrosion/Irritation Category** Classification based on data available for ingredients. Irritating to skin.

**Serious eye damage/eye irritation** No information available.

No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Diesel Fuel 68476-34-6	A3	Group 3	-	-
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X

**Reproductive toxicity** No information available.

**Target Organ Systemic Toxicant - Single Exposure** No information available.

**Target Organ Systemic Toxicant - Repeated Exposure** Causes damage to organs through prolonged or repeated exposure.

**Target organ effects** liver, kidney, Respiratory system, Eyes, Skin, Central nervous system, blood.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**12. ECOLOGICAL INFORMATION**

**Additional Ecological Information** Release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. U.S.A. regulations require reporting spills of this material that could reach any surface waters. The toll free number to the U.S. Coast Guard National Response Center is (800) 424-8802

**Ecotoxicity** Toxic to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Diesel Fuel 68476-34-6	-	35: 96 h Pimephales promelas mg/L LC50 flow-through	-	-
Naphthalene 91-20-3	0.4: 72 h Skeletonema costatum mg/L EC50	5.74 - 6.44: 96 h Pimephales promelas mg/L LC50 flow-through	-	1.96: 48 h Daphnia magna mg/L EC50 Flow through 1.09 - 3.4: 48 h

		31.0265: 96 h Lepomis macrochirus mg/L LC50 static 0.91 - 2.82: 96 h Oncorhynchus mykiss mg/L LC50 static 1.6: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.99: 96 h Pimephales promelas mg/L LC50 static		Daphnia magna mg/L EC50 Static 2.16: 48 h Daphnia magna mg/L LC50
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**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Component Information**

Chemical Name	Partition coefficient
Naphthalene 91-20-3	3.6

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** U165 U239 D001.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145	-	U165

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Naphthalene 91-20-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and	-

			positions of chlorine substitution.	
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**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Naphthalene 91-20-3	Toxic

## 14. TRANSPORT INFORMATION

### DOT

**UN/ID no** UN1202/NA1993  
**Proper Shipping Name** Diesel fuel  
**Hazard Class** 3  
**Packing group** III  
**Reportable Quantity (RQ)** (Naphthalene: RQ (kg)= 45.40, Xylenes (mixed isomers): RQ (kg)= 45.40)  
**Special Provisions** 144, B1, IB3, T2, TP1  
**Description** UN1202, DIESEL FUEL, III  
**Emergency Response Guide Number** 128

### TDG

**UN/ID no** UN1202/NA1993  
**Proper Shipping Name** Diesel fuel  
**Hazard Class** 3  
**Packing group** III  
**Description** UN1202, DIESEL FUEL, III

### MEX

**UN/ID no** UN1202/NA1993  
**Proper Shipping Name** GAS OIL  
**Hazard Class** 3  
**Packing group** III  
**Description** UN1202, GAS OIL, III

### IATA

**UN/ID no** UN1202/NA1993  
**Proper Shipping Name** Diesel fuel  
**Hazard Class** 3  
**Packing group** III  
**ERG Code** 3L  
**Description** UN1202, DIESEL FUEL, III

### IMDG

**UN/ID no** UN1202/NA1993  
**Proper Shipping Name** GAS OIL  
**Hazard Class** 3  
**Packing group** III  
**EmS No.** F-E, S-E  
**Special Provisions** 363  
**Description** UN1202, GAS OIL, III, (52°C C.C.), Marine pollutant

## 15. REGULATORY INFORMATION

### International Inventories

**TSCA** Listed  
**DSL/NDSL** Listed  
**ENCS** Not Listed

IECSC	Listed
KECL	Listed
PICCS	Listed
AICS	Listed

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene 91-20-3	100 lb	X	X	X

**CERCLA**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Naphthalene - 91-20-3	Carcinogen

**U.S. State Right-to-Know Regulations**

**US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Nonane 111-84-2	X	X	X
Naphthalene 91-20-3	X	X	X

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Revision Date 02-Aug-2018  
Revision Note SDS sections updated. 3.

### Disclaimer

Tesoro Companies, Inc. (Tesoro) provides the information on this Safety Data Sheet (SDS) in order to meet its obligations under 29 CFR 1910.1200, and does not hereby make any guarantee of product specifications or suitability for any particular purpose. Tesoro does not assume any liability arising out of the use of Tesoro's product or the use of information provided on this SDS. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use, the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all relevant information in the format of this document, since additional information may be necessary under exceptional conditions of use, and since Tesoro prepared this SDS based on information available on the date of its publication.

1153, 1188, 1309, 1443, 1866, 1925

**End of Safety Data Sheet**

# **Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## **Appendix F**

### **Air Quality 54**

**2019 AQ54-04-01 Gasoline Dispensing Tank Vapor Recovery Test  
results submitted to MDAQMD and to the CEC CPM**

**Mojave Solar Project  
Annual Compliance Report  
San Bernardino County, California**

**2019 Reporting Period**

# ABENGOA

## NORTH AMERICA



### Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760-308-0400

### Submitted electronically

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**Subject:** 09-AFC-5C  
**Condition Number :** AQ-54  
**Description:** MDAQMD Rule 461 Testing Notification Form for Gasoline Dispensing Tank Vapor Recovery Annual Test  
**Submittal Number:** AQ54-04-01

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5/7/2019

Keith Winstead  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814  
[keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov)

Dear Mr. Winstead,

The attached documentation is submitted for your record. See the test results from the test performed on April 29<sup>th</sup>, 2019.

This Test results were submitted to the Air District directly from the testing company following Rule 461.

For your convenience, we are including the Compliance language below:

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 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, and
- c. Liquid Removal Test (if applicable) per TP-201.6, and Summary of Test Data shall be documented on a Form similar to 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

# ABENGOA NORTH AMERICA



## Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760-308-0400

the tests.

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

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.

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

Sincerely,

Jose Manuel Bravo Romero

Manager  
Quality & Environment Department

**ABENGOA**  
NORTH AMERICA

## ASI Operations LLC

42134 Harper Lake Rd  
Hinkley, CA 92347

Cell: (303) 378-7302

[jmanuel.bravo@abengoa.com](mailto:jmanuel.bravo@abengoa.com)

Attachments: AQ-54. Gasoline Dispensing Tank Vapor Recovery Annual Test. Test report.



Mojave Desert Air Quality Management District  
 14306 Park Avenue, Victorville, CA 92392-2310  
 760.245.1661 • FAX 760.245.2022  
 www.mdaqmd.ca.gov

**MDAQMD Rule 461 Testing Notification Form**

Submit Form to VaporRecoveryTesting@mdaqmd.ca.gov

Today's Date: 04/12/2019

Facility Information: MDAQMD Co.# 1876 Fac.# 3130 ATC/PTO# N011039  
 Name: MOJAVE SOLAR, LLC  
 Site Address: 41234 HARPER LAKE ROAD HINKLEY CA 92347  
Street City State Zip  
 Site Contact Person: JOSE ROMERO Site Phone: 303-378-7302

**Testing Company Information:**

Name: ORANGE COAST PETROLEUM EQUIPMENT INC  
 Site Address: 1015 NORTH PARKER STREET, ORANGE CA 92867  
Street City State Zip  
 Testing Person: ROSENDO ROBLES Phone: 909-238-4250 Fax: 866-760-6077  
 Reported By: DESIREE DELGADILLO Phone: 714-271-4049 Fax: 714-744-0638

Test Information: Test Date: 04/29/2019 Test Time: 1:00 PM 10-day Prior Notice - Yes or No

System Type: Balance:  Assist:  Hirt:  Hasstech:  Healy:  VST:  AGT:  Exec. Order# VR-402  
 ATC Initial Test:  Annual Test:  Retest:  Cancellation:  Reschedule:

The following TP list is not exhaustive, refer to District permit conditions and use blank spaces for tests not listed

Scheduled	P/F	TP #	Test	Scheduled	P/F	TP #	
X	P	201.3	Leak Decay (2")			201.1D	Leak Rate of Drop Tube Overfill Prevention Device & Drain Valve
		201.3B	AGT Leak Decay (2")	X	P	201.1E	Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves
		201.3C	Tie Tank Test			Exhibit 4	Determination of Static Pressure Performance of Healy CAS VR-201/VR-202
X	P	201.4	Dynamic Back Pressure			Exhibit 5	Vapor to Liquid Volume Ratio; VR-201/202
		201.5	Air/Liquid Ratio			Exhibit 6	VST ECS Hydrocarbon Sensor Verification Test VR-203/204
X	P	201.6C	Determination of Liquid Removal of VR system*			Exhibit 7 OR 10	Nozzle Bag Test Procedure VR-202/201 OR VR-203/204
		201.1B	Static Torque of Rotatable Phase I Adaptors			Exhibit 8	Vapor Pressure Sensor Verification Test VR-203/204
		201.1C	Leak Rate of Drop Tube/Drain Valve Assembly			Exhibit 9	ISD Operational Test Procedure VR-202 OR VST ECS Processor Activation Pressure VR-203/204
						Exhibit 11, 12, 13	ISD Operational Test Procedures for VST system VR-204

Comments/notes/additional tests: ATC # COULD CHANGE DUE TO MODIFICATION OF NEW SITE ADDRESS.

\* Applicable and required when hose loop is greater than 10 inches.  
 Gasoline Station Testing Notification Form  
 PD 9/10/08

# Rule 461 Vapor Recovery System Test Results Summary

Your gasoline dispensing facility (GDF) has passed one or more of the following California Air Resources Board (CARB) performance tests on your gasoline vapor recovery system :

<input checked="" type="checkbox"/> TP-201.3	Static Pressure Performance (Leak Decay) Test	<input type="checkbox"/> TP-201.1B	Static Torque of Rotatable Phase I Adaptors
<input checked="" type="checkbox"/> TP-201.3C	Piping Connections to UST's (Tie-Tank Test)	<input type="checkbox"/> TP-201.1C	Leak Rate Of Drop Tube/Drain Valve Assembly
<input checked="" type="checkbox"/> TP-201.4	Dynamic Back Pressure Test	<input type="checkbox"/> TP-201.1D	Leak Rate Of Drop Tube Overfill Prevention Device and Drain Valve
<input type="checkbox"/> TP-201.5	Air to Liquid Ratio Test	<input checked="" type="checkbox"/> TP-201.1E	Leak Rate and Cracking Pressure Of Pressure/Vacuum Vent Valves
<input checked="" type="checkbox"/> TP-201.6C	Liquid Removal Rate Test	<input type="checkbox"/> Other	

Your GDF has failed to pass one or more of the following required CARB performance tests on your gasoline vapor recovery system :

<input type="checkbox"/> TP-201.3	Static Pressure Performance (Leak Decay) Test	<input type="checkbox"/> TP-201.1B	Static Torque of Rotatable Phase I Adaptors
<input type="checkbox"/> TP-201.3C	Piping Connections to UST's (Tie-Tank Test)	<input type="checkbox"/> TP-201.1C	Leak Rate Of Drop Tube/Drain Valve Assembly
<input type="checkbox"/> TP-201.4	Dynamic Back Pressure Test	<input type="checkbox"/> TP-201.1D	Leak Rate Of Drop Tube Overfill Prevention Device and Drain Valve
<input type="checkbox"/> TP-201.5	Air to Liquid Ratio Test	<input type="checkbox"/> TP-201.1E	Leak Rate and Cracking Pressure Of Pressure/Vacuum Vent Valves
<input type="checkbox"/> TP-201.6C	Liquid Removal Rate Test	<input type="checkbox"/> Other	

Rule 461 (e)(5) states that the owner/operator shall not operate or resume operation of a gasoline transfer and dispensing facility, unless the facility has successfully passed the applicable performance and reverification tests.

Continued operation of your GDF without passing tests is a violation of South Coast AQMD regulations and California Health and Safety Code. You may be subject to substantial financial and other legal penalties.

Notwithstanding the above, when a dispenser associated with any equipment that fails a reverification test, it must be isolated and shut down. The owner/operator may continue operation of the remaining equipment if the test results demonstrate that the remaining equipment is functioning in good operating condition. All test results and the method of isolating the defective equipment shall be documented in the test reports to be submitted to the Executive Officer pursuant to subparagraph (e)(7)(C), and also maintained/logged in the O & M manual on site.

You may seek administrative relief from the regulations through the South Coast AQMD Hearing Board. Be aware that filing a petition for relief does not authorize you to dispense gasoline; you must wait until the Hearing Board reviews your case. Information concerning the Hearing Board can be obtained by calling the Clerk of the Board at 909 396-2500 from 7:30 A.M. to 5:30 P.M., Tuesday through Friday.

GDF Contact: Print Jose R. Rosendo Signature [Signature]

Testing Person: Print Rosendo Robles Signature [Signature]

Testing Company: ORANGE COAST PETROLEUM EQUIPMENT Testing Person ID: 175756

Facility Name: MOJAVE SOLAR, LLC AQMD ID# N011039

Facility Address: 41234 HARPEN LAKE ROAD, HINKLEY, CA 92347

Date: 4/29/2019 Ref: \_\_\_\_\_

Louis Roberto/GPK  
Pass/Fail.Doc



## 2 Inch Pressure Decay TP201.3

Ref. No.: \_\_\_\_\_  
 AQMD Id: N011039  
 Site Name: MOJAVE SOLAR, LLC  
 Address: 41234 HARPER LAKE ROAD  
HINKLEY, CA 92347  
 Phone: \_\_\_\_\_

Name: Orange Coast Petroleum Equip Inc.  
 Address: 1015 Parker ST  
Orange, CA 92867  
 Phone: \_\_\_\_\_

Phase I System? VR 402  
 Phase II System? \_\_\_\_\_  
 Total # of Nozzles 1  
 Products per Nozzle 1

Tanks Manifolder? N/A  
 Vapor Pot Present? NO  
 Total # of Tanks 1

Tank Information	1	2	3	4	All
1. Product Grade	87				
2. Actual Tank Capacity, gallons	2000				2000
3. Gasoline Volume, gallons	511				511
4. Ullage, (V) gallons (line #2 minus line#3)	1489				1489
Test Information					
5. Start time	12:01				
6. Initial Test Pressure, inches H <sub>2</sub> O	2.00				
7. Pressure after 1 minute, inches H <sub>2</sub> O	1.91				
8. Pressure after 2 minutes, inches H <sub>2</sub> O	1.84				
9. Pressure after 3 minutes, inches H <sub>2</sub> O	1.78				
10. Pressure after 4 minutes, inches H <sub>2</sub> O	1.77				
11. Pressure after 5 minutes, inches H <sub>2</sub> O	1.70				
12. Allowable Final Pressure	1.16				
13. Pass / Fail (Enter "GF" for Gross failure)	PASS				

4/29/2019  
9AM  
 DIGITAL MANOMETER  
3/6/2019  
0.00  
1  
 3 Min 0 Sec  
 6 Min 0 Sec  
0.00  
1.88  
 PHASE I

Requested Test Date.  
 Requested Test Time.  
 What type of pressure device used?  
 Calibration date for pressure device (90 days).  
 Enter initial tank ullage pressure (Vent if over 0.5 in. w.c., then start the 30 min no dispensing period)  
 Enter flowmeter rate, F (Must be 1 to 5 CFM).  
 Calculate ullage fill time,  $t_2$ .  $t_2 = \frac{V}{[1522]F}$   
 Calculate gross failure time (Twice  $t_2$ ).  
 Enter ending value of drift test (Must be 0.01 in. w.c. or less).  
 Record Vapor Coupler Integrity Test Assembly pressure after 1 minute and location.  
 Nitrogen introduction point. Phase I vapor coupler or Phase II vapor riser?

Tester: Rosendo Robles

Tester ID: 175756

Signature:

Test Date: 4/29/2019







## Leak Rate and Cracking Pressure of P/V Vent Valves TP - 201.1E

Ref. No.: 0  
 AQMD Id: N011039  
 Site Name: MOJAVE SOLAR, LLC  
 Address: 41234 HARPER LAKE ROAD  
HINKLEY, CA 92347  
 Phone: 0

Testing Company

Name: Orange Coast Petroleum Equip Inc.  
 Address: 1015 Parker ST  
Orange, CA 92867  
 Phone: \_\_\_\_\_

Calibration Dates: \_\_\_\_\_  
 Flowmeter: 3-6-19  
 Pressure Gauge: 3-6-19

P/V Valve Manufacturer:	HUSKY	Model Number:	5885	Pass/Fail:	PASS
Manufacturer Specified Positive Leak Rate (CFH):	0.05	Manufacturer Specified Negative Leak Rate (CFH):		0.21	
Measured Positive Leak Rate(CFH)	0.03	Measured Negative Leak Rate (CFH)		0.04	
Positive Cracking Pressure (in. H2O)	2.92	Negative Cracking Pressure (in. H2O)		-9.06	

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			

P/V Valve Manufacturer:		Model Number:		Pass/Fail:	
Manufacturer Specified Positive Leak Rate (CFH):		Manufacturer Specified Negative Leak Rate (CFH):			
Measured Positive Leak Rate(CFH)		Measured Negative Leak Rate (CFH)			
Positive Cracking Pressure (in. H2O)		Negative Cracking Pressure (in. H2O)			

Tester: Rosendo Robles

Tester Id: 175756

Signature: *Rosendo Robles*

Test Date: 4/29/2019



Ref. Number: \_\_\_\_\_ 0 \_\_\_\_\_

**Repair Log:**

**Station Parts:**

NO REPAIRS NEEDED - NO PARTS USED

**Orange Coast Parts:**

**Comments:**

# **Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## **Appendix G**

### **Air Quality 58**

**2019 AQ58-03-00 Annual Fuel Throughput Request for Mojave  
Solar. Facility #3130 Company #1876**

**Mojave Solar Project  
Annual Compliance Report  
San Bernardino County, California**

**2019 Reporting Period**

# Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## Submitted Electronically

---

**Subject:** 09-AFC-5C  
**Condition:** AQ-58  
**Description:** Annual Fuel Throughput 2019  
**Submittal Number:** AQ58-03-00

---

January 17, 2020

Keith Winstead  
Compliance Project Manager  
Siting, Transmission and Environmental Protection  
California Energy Commission  
1516 Ninth Street, MS-2000  
Sacramento, CA 95814  
[keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov)

C. Navas  
Mojave Desert Air Quality Management District  
14306 Park Avenue  
Victorville, CA 92392  
[cnavas@mdaqmd.ca.gov](mailto:cnavas@mdaqmd.ca.gov)

Dear Mr. Winstead and Mr. Navas,

The attached documentation is submitted for your records as stated on the Permit to Operate N011039 and as requested on a notification received in our postal box on January 16, 2020. The form is completed and attached.

The information contained in this submittal will also be part of the ACR as it calls for in the compliance.

For your convenience, we are including the Compliance language below:

**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.

# Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

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

Sincerely,

Jose Manuel Bravo Romero

Manager

Permitting, Compliance, Quality & Environmental Department

**ASI Operations LLC**

42134 Harper Lake Rd

Hinkley, CA 92347

Cell: (303) 378-7302

[jmanuel.bravo@abatlanticayield.com](mailto:jmanuel.bravo@abatlanticayield.com)

Attachments: MDAQMD VR Form 2019 annual report



Dear Owner / Operator of a Gasoline Dispensing Facility (GDF),

Enclosed are:

2019 Throughput Fuel Dispensing Equipment form

GDF Throughput Record Form

GDF Vapor Recovery Test Policy

Please complete and return ONE Throughput Fuel Dispensing Equipment form for each permitted gas facility. Fuel Dispensing Equipment Permit Number(s): N011039

RECEIVED  
01-16-2020  
RL

**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**  
**BRAD POIRIEZ, EXECUTIVE DIRECTOR**  
 14306 Park Avenue, Victorville, CA 92392-2310  
 760.245.1661 • Fax 760.245.2022  
 www.MDAQMD.ca.gov • @MDAQMD



# Throughput Fuel Dispensing Equipment

Failure to respond by **02/29/2020** will result in enforcement action.

**Emission year: 2019**

Fill out sections in gray and return to  
**Mojave Desert Air Quality Management District**  
 at the address listed at the top of this document,  
 or email completed form to [cnavas@mdaqmd.ca.gov](mailto:cnavas@mdaqmd.ca.gov)

STATION NAME: Mojave Solar LLC	COMPANY NUMBER: 1876	FACILITY NUMBER: 3130	DISTRICT PERMIT NUMBER: N011039
STATION ADDRESS: 42134 Harper Lake Road	CITY: Hinkley	STATE: CA	ZIP: 92347
TELEPHONE NUMBER: 760-308-2601	EMAIL ADDRESS: jmanuel.bravo@atlanticayield.com		

TYPE OF FUEL DISPENSED:	TOTAL GALLONS DISPENSED IN 2019
<input checked="" type="checkbox"/> Gasoline	19046.50 gallons
<input checked="" type="checkbox"/> Diesel fuel	11293.40 gallons
<input type="checkbox"/> Propane	
<input type="checkbox"/> Aviation gas	
<input type="checkbox"/> Ethanol	
<input type="checkbox"/> Racing fuel	

**CERTIFICATION**

I, Jose Manuel Bravo Romero, a responsible official of  
NAME OF OFFICIAL

Mojave Solar LLC, hereby certify, based upon information and  
NAME OF FACILITY

belief formed after reasonable inquiry, that the above information is true, accurate and complete. Executed this 17 day of January, Mojave Solar at  
DAY MONTH NAME OF FACILITY

San Bernardino County, California  
COUNTY AND STATE

Jose Manuel Bravo Romero, Permitting, Compliance, Q&E Manager  
SIGNATURE NAME AND TITLE

**For questions or assistance, call 760.245.1661, ext. 4040**



## Mojave Solar LLC

# GDF Throughput Record Calendar Year 2019

Month	Gallons of Gasoline
January	1669.70
February	1835.50
March	897.50
April	1357.40
May	1744.60
June	1291.60
July	1904.70
August	1643.70
September	1055.10
October	1904.80
November	1889.00
December	1852.90
<b>Total for the Year</b>	<b>19046.50</b>



## Mojave Solar LLC

# GDF Throughput Record Calendar Year 2019

Month	Gallons of Diesel
January	2861.60
February	253.30
March	0.00
April	890.20
May	550.50
June	951.30
July	554.50
August	703.90
September	658.00
October	276.90
November	1706.10
December	1887.10
<b>Total for the Year</b>	<b>11293.40</b>

# **Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## **Appendix H**

### **Air Quality 63, 65, 70**

**2019 AQ72-08-00 Protocol for VOC & Benzene Emissions Testing on Carbon System for Annual Test. AQ72-09-00 and AQ72-10-00/01/02 Annual Compliance Test results for VOC & Benzene Emissions, Carbon System submitted to the MDAQMD**

**Mojave Solar Project  
Annual Compliance Report  
San Bernardino County, California**

**2019 Reporting Period**

# ABENGOA

## NORTH AMERICA



### Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760-308-0400

---

**Subject: 09-AFC-5C**  
**Condition: AQ-72**  
**Description: Protocol for VOC & Benzene Emissions Testing on Carbon System for Annual Test**  
**Submittal Number: AQ72-08-00**

---

May 29, 2019

Keith Winstead  
Compliance Project Manager  
Siting, Transmission and Environmental Protection  
California Energy Commission  
1516 Ninth Street, MS-2000  
Sacramento, CA 95814  
[keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov)

Dear Mr. Winstead:

Pursuant to Condition of Certification AQ-72, we are submitting the Protocol for VOC & Benzene Emissions Testing on Carbon Adsorption systems of the Mojave Solar Project for your review and records. The MDAQMD approval is also included.

Please accept this letter as a formal invitation to witness the test. The tentative schedule for the test is June 27, 2019.

For your convenience, we are including the Compliance language below:

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.

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

# ABENGOA

## NORTH AMERICA

### Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760-308-0400



Sincerely,

Jose Manuel Bravo Romero  
Manager  
Quality & Environment Department

## ABENGOA

### NORTH AMERICA

### ASI Operations LLC

42134 Harper Lake Rd  
Hinkley, CA 92347

Cell: (303) 378-7302

[jmanuel.bravo@abengoa.com](mailto:jmanuel.bravo@abengoa.com)

Attachments: Test protocol and MDAQMD's submittal and approval.

# **SOURCE TEST PROTOCOL FOR COMPLIANCE TESTING OF TWO CARBON ADSORPTION UNITS AT MOJAVE SOLAR, LLC HINKLEY, CALIFORNIA**

Prepared For:

**Mojave Solar, LLC**  
42134 Harper Lake Road  
Hinkley, California 92347

For Submittal to:

**Mojave Desert Air Quality Management District**  
14306 Park Ave  
Victorville, California 92392

Prepared By:

**Montrose Air Quality Services, LLC**  
1631 E. St. Andrew Pl.  
Santa Ana, California 92705  
(714) 279-6777

Joe Rubio

Production Date: **May 23, 2019**  
Document Number: **002AS-596651-PP-240**



## CONFIDENTIALITY STATEMENT

***Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.***

### REVIEW AND CERTIFICATION

I certify that, to the best of my knowledge, the information contained in this document is complete and accurate and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature: Joe Rubio Date: 5/23/2019  
Name: Joe Rubio Title: Client Project Manager

I have reviewed, technically and editorially, details and other appropriate written materials contained herein. I hereby certify that to the best of my knowledge the presented material is authentic and accurate and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature: Joe Rubio Date: 5/23/2019  
Name: Joe Rubio Title: Client Project Manager

### GENERAL INFORMATION

Source: Carbon Adsorption System (CAS) – Alpha  
Carbon Adsorption System (CAS) – Beta

Source Location: Mojave Solar, LLC  
42134 Harper Lake Road  
Hinkley, California 92347

Contact: Mr. Jose Manuel Bravo  
Telephone: 760-308-2601 ext. 86242  
Email: [jmanuel.bravo@abengoa.com](mailto:jmanuel.bravo@abengoa.com)

Permit Number: C012015 – CAS Alpha  
C012016 – CAS Beta

Agency: Mojave Desert Air Quality Management District  
14306 Park Ave  
Victorville, CA 92392-4178

Contact: Mr. Chris Anderson  
Telephone: 760-245-1661  
Email: [canderson@mdaqmd.ca.gov](mailto:canderson@mdaqmd.ca.gov)

Source Test Contractor: Montrose Air Quality Services, LLC  
1631 E. St. Andrew Place  
Santa Ana, CA 92705

Project Manager: Joe Rubio  
Telephone: 714-332-8486  
Email: [jrubio@montrose-env.com](mailto:jrubio@montrose-env.com)

Proposed Test Date: June 27, 2019

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## **1.0 INTRODUCTION**

Montrose Air Quality Services, LLC (MAQS) was hired by Mojave Solar, LLC to conduct source emissions tests on two (2) Carbon Adsorption Systems (CAS) located in Hinkley, California. The purpose of the test will be to satisfy the compliance test requirements of the Mojave Desert Air Quality Management District (MDAQMD) Authority to Construct No. C012015 for the Alpha System and Authority to Construct No. C012016 for the Beta System.

Testing will be performed to meet the requirements of Mojave Solar, the MDAQMD and the United States Environmental Protection Agency (U.S. EPA), as applicable. Appendix A contains MAQS' SCAQMD, CARB, and STAC certifications, and a Statement of No Conflict of Interest. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflicts of interest). MAQS will have a qualified individual on-site as required by ASTM-D7036-04.

## **2.0 EQUIPMENT AND PROCESS DESCRIPTION**

### **2.1 UNIT DESCRIPTION**

Carbon Adsorption System, HTF Ullage/Expansion System (Alpha) consisting of Carbon Adsorption System having two (2) multi-bed carbon filter sets capturing Ullage/Expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber with each vent only to their own carbon filter set. Both sets were vented to Atmosphere through one common stack.

Carbon Adsorption System, HTF Ullage/Expansion System (Beta) consisting of Carbon Adsorption System having two (2) multi-bed carbon filter sets capturing Ullage/Expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber with each vent only to their own carbon filter set. Both sets were vented to Atmosphere through one common stack.

### **2.2 PROCESS DESCRIPTION**

The HTF expansion tank adsorbs any thermal dilation (both increase and reduction in volume) occurring in the HTF as a result of variations in temperature. The expansion tank must be free of atmospheric air to avoid degrading the HTF by oxygen and it must be pressurized to prevent the HTF from reaching its evaporation temperature. In order to achieve this, nitrogen is fed in when in the pressure in the tank drops, while nitrogen is expelled when the pressure in the tank increases as a result of an expansion in the HTF's volume. Nitrogen is expelled through the Ullage system to avoid releasing pollutant oil vapor into the atmosphere. This system is composed by an HTF Overflow Tank Vent Scrubber (MV-208), HTF Expansion Tank Vent Scrubber (MV-209); Carbon Filters (MF-206), and HTF Condensate Receiver Vessel (MV-207).

The Ullage system operates when the pressure in the HTF expansion header connected with the ullage system reach the remote set point in the vent control. This control (PIC-20626B) has a remote set point according with the pressure and the time, and the maximum value is 165 psia. Above this pressure, the vent valves will be full open in order to avoid overpressure in the system.

HTF vapors from the HTF Condensate Receiver Vessel (MV-207) or the HTF Overflow Tanks (MT-204A/B) are scrubbed in one of two scrubbers with cool HTF to condense as much HTF and low boilers (LB) as possible. The HTF used in these scrubbers comes from the HTF Tank Cooler (MX-205), normally at 70°F ±. After the scrubbers, these remaining HTF vapor streams are combined and routed through a series of three carbon filters to remove as many organics (VOCs/HAPS) as possible before the vapors are release into the atmosphere. There is a nitrogen blanket system set at 8 bara providing nitrogen to the HTF vapor system (all the way back to the Expansion Vessels). The vent line to the carbon filters is designed to vent at 12 bara from the pressurized system but, the overflow system (that works at atmosphere pressure) start to vent at 14.40 psia, pressure set according with the pressure safety valve (PSV) in the overflow system.

There are two types of venting from the HTF system:

1. The venting of nitrogen due to HTF overflow tank breathing;
2. The daily venting of vapor space due to HTF expansion into the expansion vessels.

### 2.2.1 Overflow Tank Venting

As indicated above, during normal operation, there will be no exchange of HTF or nitrogen between the expansion vessels and the overflow tanks. However, during the winter months when the HTF temperature drops below the normal daily range, some of the HTF in the overflow tanks may need to be transferred into the expansion vessels to maintain the minimum expansion tank's level. During these conditions, the overflow tank levels may fall and rise, thus requiring nitrogen space venting. The worst case would be if the HTF system became very cold (limited to 120°F) after a few days of sun, in which case all the HTF from the overflow tanks would be pumped back into the system. The next time the system is brought back to normal operation, all of the HTF that was pumped out of the overflow tanks would return to the overflow tanks. Under that condition, the total amount of nitrogen vented is calculated to be 24,731 ft<sup>3</sup> total for both plants. The overflow tanks have vent scrubbers on their stacks before feeding into the carbon filters. Nitrogen and HTF mixture to be released passes through these scrubbers where it is cooled to 117°F by the cooled liquid HTF stream flowing countercurrent. This overflow tank vent scrubber will condense most of the HTF vapor vented from the overflow tanks before reaching the carbon filters. The overflow tanks have a design temperature of 350°F, but the worst-case vapor space temperature has been calculated to be around 250°F. The overflow tanks are designed to be maintained at 150°F to minimize HTF venting but at the same time be sufficiently higher than the high heat tracing (electric heating) initiation temperature of 120°F. The overflow tank has a liquid HTF cooler to maintain this tank's temperature at 150°F.

### 2.2.2 Expansion Vessel Venting

As the HTF expands and contracts daily into and out of the expansion vessels, the low boilers LB's along with some vaporous HTF will be released into the vapor space. To help this separation of LB's into the vapor space, a side stream of HTF will be also be sprayed to the top of the expansion vessels continuously. As the expansion vessels fill up with HTF, the nitrogen space is compressed until the pressure reaches 12 bara, upon which the vent valve opens and allows any further expansion to force the vapor space through the ullage system. The nitrogen and vapors will be pushed through the nitrogen ullage condenser, where most of the HTF and low boiler degradation products will be condensed and collected in the low boiler condensate receiver vessel. The nitrogen and other non-condensable constituents will pass through the expansion vessel vent scrubber where the 117°F, countercurrent liquid HTF flow will bring even more HTF and low boilers into the liquid phase. The nitrogen, degradation products, and vaporous HTF remaining in the vapor phase at the exit of the scrubber will enter the carbon filters for further cleaning before venting into the atmosphere.

### 3.0 TEST DESCRIPTION

#### 3.1 OPERATING CONDITIONS DURING THE TEST

Both CAS units will be tested early in the morning during the peak venting time at their normal operating load condition. If the temperature does not allow the system to vent then the CAS will be operated manually to simulate the normal operating condition.

During the testing time, the scrubber’s quench line (spray system) will be closed to allow most of the gases to be detected at the inlet of the carbon beds, allowing the carbon beds to prove the minimum required 95% efficiency. Opening the quench line will result in a high percentage reduction of VOC going through the ullage system downstream, which will result in a less amount of VOC detection at the carbon beds inlet. Since the calculations are based on the amount of VOCs reduction between the inlet and the outlet of the canisters, this action will allow to better prove the beds’ efficiency. Also, to be able to vent for the duration of the test, some HTF will be transferred from the expansion vessel to the overflow tanks in order to build enough pressure to carry out the test.

#### 3.2 DIMENSIONS OF DUCT, STACKS, AND SAMPLING PORT LOCATIONS

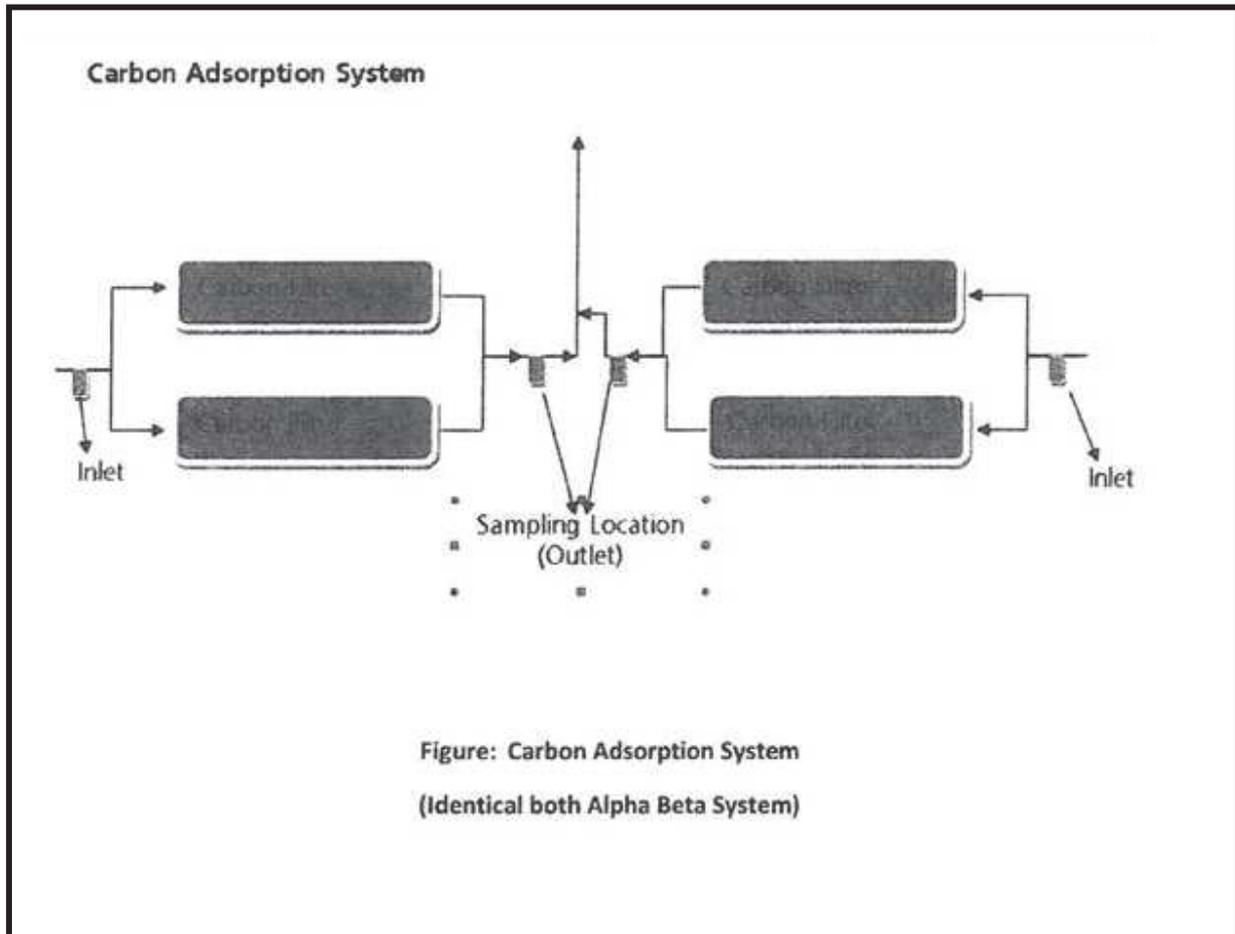
Table 3-1 presents the dimensions of the sampling port locations.

**TABLE 3-1  
 SAMPLING PORT LOCATIONS  
 MOJAVE SOLAR, LLC**

<b>From Scrubber</b>	<b>High Pressure</b>	<b>Low Pressure</b>
Inlet Sample Port Diameter	8 Inches	4 Inches
Outlet Sample Port Diameter	8 Inches	4 Inches
<b>From Expansion Tank</b>		
Inlet Sample Port Diameter	8 Inches	4 Inches
Outlet Sample Port Diameter	8 Inches	4 Inches

Figure 3-1 presents a line diagram of the CAS.

**FIGURE 3-1  
CAS DIAGRAM**



### 3.3 SAMPLING AND ANALYTICAL PROCEDURES

Procedures that will be used to collect the data are summarized in Table 3-2.

**TABLE 3-2  
TEST PROCEDURES  
MOJAVE SOLAR, LLC**

Parameters	Location	Method	Number of Tests	Duration
Hexane	Inlet and Outlet	EPA Method 18	2*	5 Minutes
Benzene	Inlet and Outlet	CARB Method 410A	2*	5 Minutes
Flow Rate	Inlet and Outlet	CARB Method 2	1	5 Minutes
Moisture Content	Inlet and Outlet	Dry Wet Bulb	1	5 Minutes

#### 3.3.1 Velocity and Volumetric Flow Rate

The exhaust gas velocity and volumetric flow rate will be determined according to the guidelines specified in CARB Methods 1 and 2.

#### 3.3.2 Moisture Content

The moisture content at the exhaust will be determined by using dry and wet bulb temperature measurements.

#### 3.3.3 Hexane and Benzene Emissions Testing

In order to minimize any chance of air intrusion into the sample, a 1" sample port was recently installed to collect all sampling. Prior to collecting each sample, MAQS will measure the oxygen level in the inlet location using a Testo portable analyzer, Model 350XL. If no oxygen is measured with the Testo then MAQS will proceed with the sampling for benzene and hexane concentrations.

The concentrations of benzene and hexane will be sampled into SUMMA (specially-prepared stainless steel) canisters. The sampling system includes a stainless-steel probe and components that regulate the rate and duration of sampling into the pre-evacuated and passivated canisters. Each of the three samples will be collected over a period of approximately five minutes. The samples will then be delivered within 24 hours to a state certified lab, Quantum Laboratories in Carson California. The samples will be analyzed by packed column gas chromatography mass spectrophotometry (GC/MS).

#### 4.0 RESULTS

A table similar to Table 4-1 will show the analytical results of the Hexane and Benzene sampling and the field measurements taken during the source test. Additional information such as field data, calibrations and permits will be located in the Appendices of the final report.

**TABLE 4-1  
 ALPHA/BETA PLANT EMISSIONS SUMMARY  
 LOW PRESSURE/HIGH PRESSURE  
 DATE TESTED: TBD**

Parameter	Inlet Stack	Exhaust Stack	Compliance Limit
<b>Hexane Data:</b>			
ppm (v/v)			
lb/hr			
lb/year			792.1
Destruction Efficiency (%)			95
<b>Benzene Data:</b>			
ppm (v/v)			
lb/hr			
lb/year			507.4
Destruction Efficiency (%)			95
<b>O<sub>2</sub> (%)</b>			
<b>CO<sub>2</sub> (%)</b>			
<b>Exhaust Gas Flow (dscfm)</b>			

## **APPENDIX A QUALITY ASSURANCE**

## **Appendix A.1**

### **Quality Assurance Program Summary**

## QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (MAQS) ASTM D7036-04 certification, MAQS is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. MAQS quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: MAQS has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: MAQS has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of MAQS QA efforts. The manual is revised upon periodic review and as MAQS adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. MAQS training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the MAQS QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of MAQS emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: MAQS maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: MAQS maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to MAQS source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to MAQS office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

### **ASTM D7036-04 Required Information**

#### Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in Section 4.0.

#### Performance Data

Performance data are available for review.

#### Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, will be present on each test event.

#### Plant Entry and Safety Requirements

##### **Plant Entry**

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

### **Safety Requirements**

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)

The following safety measures will be followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

**TABLE 1  
 EQUIPMENT MAINTENANCE SCHEDULE**

<b>Equipment</b>	<b>Acceptance Limits</b>	<b>Frequency of Service</b>	<b>Methods of Service</b>
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobil Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

**TABLE 2  
 MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS**

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO <sub>x</sub> Analyzer	Daily	NO <sub>2</sub> -> NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	+/- 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	+/- 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	+/- 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	+/- 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	+/- 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	+/- 1.5%

Note: Calibration requirements will be used that meet applicable regulatory agency requirements.

## **Appendix A.2 SCAQMD and STAC Certifications**

Mojave Solar, LLC  
2019 Compliance of Two Carbon Adsorption Systems Test Plan



South Coast  
Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

October 30, 2018

Mr. John Peterson  
Montrose Air Quality Services, LLC  
1631 E. Saint Andrew Place  
Santa Ana, CA 92705

Subject: LAP Approval Notice  
Reference # 96LA1220

Dear Mr. Peterson:

We have reviewed your renewal letter under the South Coast Air Quality Management District's Laboratory Approval Program (SCAQMD LAP). We are pleased to inform you that your firm is approved for the period beginning October 30, 2018, and ending September 30, 2019 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

SCAQMD Methods 1-4	SCAQMD Methods 5.1, 5.2, 5.3, 6.1
SCAQMD Methods 10.1 and 100.1	SCAQMD Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	SCAQMD Rule 1121/ 1146.2 Protocol
SCAQMD Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling	

Your LAP approval to perform nitrogen oxide emissions compliance testing for SCAQMD Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler  
1510 North Spring Street  
Los Angeles, CA 90012

Noritz America Corp.  
11160 Grace Avenue  
Fountain Valley, CA 92708

Ajax Boiler, Inc.  
2701 S. Harbor Blvd.  
Santa Ana, CA 92704

Thank you for participating in the SCAQMD LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Glenn Kasai. He may be reached by telephone at (909) 396-2271, or via e-mail at [gkasai@aqmd.gov](mailto:gkasai@aqmd.gov).

Sincerely,

A handwritten signature in black ink that reads "D. Sarkar".

Dipankar Sarkar  
Program Supervisor  
Source Test Engineering

DS:GK/gk

Attachment

181030 LapRenewalRev.doc

*Cleaning the air that we breathe...™*



American Association for Laboratory Accreditation

# Accredited Air Emission Testing Body

A2LA has accredited

## MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 5<sup>th</sup> day of March 2018.



President and CEO  
For the Accreditation Council  
Certificate Number 3925.01  
Valid to February 29, 2020

*This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.*

## **Appendix A.3 Statement of No Conflict of Interest**

**STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY**

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	_____
Date(s) Tested:	TBD
Facility Name:	Mohave Solar, LLC
Equipment Address:	42134 Harper Lake Road Hinkley, California 92347
Equipment Tested:	Two Carbon Adsorption Units
Device ID, A/N, P/N:	C012015, C012016

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

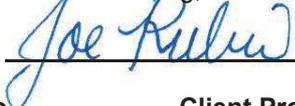
Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in **District Rule 304(k)**:

*For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:*

- (1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -*
- (2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;*
- (3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and*
- (4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.*

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature:  Date: 5/23/2019

Joe Rubio Client Project Manager 714-279-6777 5/23/2019  
(Name) (Title) (Phone) (Date)

## **APPENDIX B GENERAL EMISSIONS CALCULATIONS**

## GENERAL EMISSION CALCULATIONS

### I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$$MW_{dry} = 0.44 * \%CO_2 + 0.32 * \%O_2 + 0.28 * \%N_2$$

$$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

### II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * (P_{bar} + \frac{\Delta H}{13.6}) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{lc} * \frac{T_{ref}}{528 \text{ } ^\circ R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

### III. Stack gas volumetric flow rate

A. Actual stack gas volumetric flow rate, wacfm

$$Q = V_s * A_s * 60$$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{\text{ppm} * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{\text{lb}}{\text{MMBtu}} = \frac{\text{ppm} * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \%O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1-Bwo) * 0 * V_s * P_s * Dn2} * \frac{520^{\circ}R}{T_{ref}}$$

VII. Particulate emissions

- (a) Grain loading, gr/dscf  
 $C = 0.01543 (M_n/V_{m\ std})$
- (b) Grain loading at 12% CO<sub>2</sub>, gr/dscf  
 $C_{12\% \ CO_2} = C (12/\% \ CO_2)$
- (c) Mass emissions, lb/hr  
 $M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$
- (d) Particulate emission factor  
 $\text{lb}/10^6 \text{ Btu} = C * \frac{1 \text{ lb}}{7000 \text{ gr}} * F * \frac{20.9}{20.9 - \% O_2}$

Mojave Solar, LLC  
2019 Compliance of Two Carbon Adsorption Systems Test Plan

Nomenclature:

$A_s$	= stack area, ft <sup>2</sup>
$B_{wo}$	= flue gas moisture content, dimensionless
$C_{12\%CO_2}$	= particulate grain loading, gr/dscf corrected to 12% CO <sub>2</sub>
$C$	= particulate grain loading, gr/dscf
$C_p$	= pitot calibration factor, dimensionless
$D_n$	= nozzle diameter, in.
$F$	= fuel F-Factor, dscf/MMBtu @ 0% O <sub>2</sub>
$H$	= orifice differential pressure, iwg
$I$	= % isokinetics
$M_n$	= mass of collected particulate, mg
$M_i$	= mass emission rate of specie i, lb/hr
$MW$	= molecular weight of flue gas, lb/lb-mole
$M_{wi}$	= molecular weight of specie i: SO <sub>2</sub> : 64 NO <sub>x</sub> : 46 CO: 28 HC: 16
$t$	= sample time, min.
$\Delta P$	= average velocity head, iwg = $(\sqrt{\Delta P})^2$
$P_{bar}$	= barometric pressure, inches Hg
$P_s$	= stack absolute pressure, inches Hg
$P_{sg}$	= stack static pressure, iwbg
$Q$	= wet stack flow rate at actual conditions, wacfm
$Q_{sd}$	= dry standard stack flow rate, dscfm
$SV$	= specific molar volume of an ideal gas at standard conditions, ft <sup>3</sup> /lb-mole
$T_m$	= meter temperature, °R
$T_{ref}$	= reference temperature, °R
$T_s$	= stack temperature, °R
$V_s$	= stack gas velocity, ft/sec
$V_{lc}$	= volume of liquid collected in impingers, ml
$V_m$	= uncorrected dry meter volume, dcf
$V_{mstd}$	= dry meter volume at standard conditions, dscf
$V_{wstd}$	= volume of water vapor at standard conditions, scf
$Y_d$	= meter calibration coefficient

## **APPENDIX C COPY OF PERMIT TO OPERATE**



**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**

14306 Park Avenue, Victorville, CA 92392-2310  
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

**PERMIT TO OPERATE**

C012015

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

**EXPIRES LAST DAY OF: SEPTEMBER 2019**

**OWNER OR OPERATOR (Co. #1876)**

Mojave Solar LLC  
42134 Harper Lake Road  
Hinkley, CA 92347

**EQUIPMENT LOCATION (Fac. #3130)**

Mojave Solar - Harper Lake  
Harper Lake Road, adjacent to SEGS VIII & IX  
Hinkley, CA 92347

**Description:**

CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (ALPHA) consisting of: Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber will each vent only to their own carbon filter set. Both sets will vented to atmosphere through one common stack.

**CONDITIONS:**

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.
2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011046 is venting.
3. 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 B011046. 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.
4. The owner/operator 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

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 4911

SCC: 30688801

Location/UTM(Km):  
470E/3877N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Mojave Solar LLC  
42134 Harper Lake Road

Hinkley, CA 92347  
002AS-596651-PP-240

By:

  
**Brad Poiriez**

Air Pollution Control Officer

writing to the District for approval prior to implementation.

5. Total emissions of VOC to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.
  6. Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.
  7. During operation, o/o 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).
  8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.
  9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site 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).
  10. The o/o 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.
  11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).
  12. The o/o 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. All compliance/certification test notifications, protocols, and results may be submitted electronically to [reporting@mdaqmd.ca.gov](mailto:reporting@mdaqmd.ca.gov)
  13. The o/o 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 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 CARB method 410 or equivalent).
  14. The o/o shall perform the following compliance tests on this equipment at least once every twelve (12) months in accordance with the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required:
    - a. VOC as hexane 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.



**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**

14306 Park Avenue, Victorville, CA 92392-2310  
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

**PERMIT TO OPERATE**

C012016

Operation under this permit must be conducted in compliance with all information included with the initial application, initial permit condition, and conditions contained herein. The equipment must be maintained and kept in good operating condition at all times. This Permit to Operate or copy must be posted on or within 8 meters of equipment. If a copy is posted, the original must be maintained on site, available for inspection at all times.

**EXPIRES LAST DAY OF: SEPTEMBER 2019**

**OWNER OR OPERATOR (Co. #1876)**

Mojave Solar LLC  
42134 Harper Lake Road  
Hinkley, CA 92347

**EQUIPMENT LOCATION (Fac. #3130)**

Mojave Solar - Harper Lake  
Harper Lake Road, adjacent to SEGS VIII & IX  
Hinkley, CA 92347

**Description:**

CARBON ADSORPTION SYSTEM, HTF ULLAGE/EXPANSION SYSTEM (BETA) consisting of: Carbon adsorption system having two (2) multi-bed carbon filter sets capturing ullage/expansion system emissions. Ullage vent scrubber and overflow tank vent scrubber will each vent only to their own carbon filter set. Both sets will vented to atmosphere through one common stack.

**CONDITIONS:**

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.
2. This equipment must be in use and operating properly at all times the HTF ullage/expansion system with valid District Permit B011047 is venting.
3. 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 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.
4. The owner/operator 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

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 4911

SCC: 30688801

Location/UTM(Km):  
470E/3877N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Mojave Solar LLC  
42134 Harper Lake Road

Hinkley, CA 92347  
002AS-596651-PP-240

By:

  
**Brad Poiriez**

Air Pollution Control Officer

writing to the District for approval prior to implementation.

5. Total emissions of VOC to the atmosphere shall not exceed 792.1 lbs/year, calculated based on the most recent test results.
6. Total emissions of benzene to the atmosphere shall not exceed 507.4 lbs/year, calculated based on the most recent test results.
7. During operation, o/o 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).
8. PID shall be considered invalid if not calibrated in accordance with the manufactures recommended calibration procedures.
9. The o/o shall maintain an operations log (in electronic or hardcopy format) current and on-site 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).
10. The o/o 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.
11. Prior to January 31 of each new year, the o/o of this unit shall submit to the District a summary report of all VOC emissions (based on annual source test results).
12. The o/o 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.
13. The o/o 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 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 CARB method 410 or equivalent).

All compliance/certification test notifications, protocols, and results may be submitted electronically to [reporting@mdaqmd.ca.gov](mailto:reporting@mdaqmd.ca.gov)

14. The o/o shall perform the following compliance tests on this equipment at least once every twelve (12) months in accordance with the MDAQMD Compliance Test Procedural Manual. The following compliance tests are required:
  - a. VOC as hexane 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.

## **APPENDIX D SITE SAFETY PLAN**



# Site Safety Plan Booklet

**Finalized: April, 2018**  
**Revision: August, 2018**

## Introduction

Employee safety is the top priority of Montrose Environmental Group. All employees must be trained to mitigate the hazards faced each day. The site manager and project manager/lead are responsible to ensure all hazards have been properly identified and managed. All employees have Stop Work Authority in all situations where an employee feels they cannot perform a job safely or a task for which they have not been adequately trained.

The Site Safety Plan (SSP) has been developed to help assist Montrose test crews with identifying physical and health hazards that could harm our employees and determining how the hazards will be managed. Additionally, the SSP will help each crew manage the health of the employees by providing emergency procedures and information.

The booklet contains all the different safety forms that you may need in the field into one document. The SSP consists of the following:

1. A standardized, two-page, fillable pdf, form that is used as the Hazard Analysis and Safety Plan
2. Hazard Control Matrix - contains useful information on both engineering and administrative controls that a crew can use to reduce or eliminate the hazards they have observed plus applicable PPE that may be required
3. Tool Box Meeting Record – Keeps a daily record of the scheduled testing for the day and a short refresher of the hazards that were identified in the test location SSP and any hazard controls/PPE
4. Additional Forms
  - a. Aerial Lift Inspection Form
  - b. Heat Stress Prevention Form
  - c. Extended Hours Form
  - d. Safe Work Permit

An SSP for each location must be completed or at least started prior to mobilization and included as part of your Project Test Plan. Each test crew will then assess the hazards again while on-site looking for changes or new hazards. Once an SSP is completed, it will need to be reviewed before set up at each of your client's testing locations. Any day a SSP is not reviewed, a Tool Box Meeting will need to be completed.

The SSP is a living document. Each test crew should update the plan as new hazards are found. The client project manager should continually update their SSPs as new information and conditions result in new or changed hazards. The goal is to provide each crew with the most up-to-date hazard and safety information

## MAQS Site Safety Plan

Client	Mojave Solar	Contact Name	J Bravo	Date	5/22/19
Location	CAS Alpha and Beta	SSP Writer	J Rubio	PM	J Rubio

**Job Preparation**

Job Site Walk Through Completed   
  Site Specific Training Complete   
  Certified First Aid Person \_\_\_\_\_  
 Walk Through Needed   
  Site Specific Training Needed   
  Other trainings \_\_\_\_\_

**Facility Information/Emergency Preparedness**

Plant Emergency # \_\_\_\_\_ Identify and Locate the following:  
 On-Site EMS  Yes  No     Evacuation Route \_\_\_\_\_  
 EMS Location \_\_\_\_\_  Rally Point \_\_\_\_\_  
 Nearest Urgent Care Facility: \_\_\_\_\_  Severe Weather Shelter \_\_\_\_\_  
 \_\_\_\_\_  Eye Wash/Safety Shower \_\_\_\_\_  
 \_\_\_\_\_

**Source Information: (list type) –** \_\_\_\_\_

Flue Gas Temp.(°F) \_\_\_\_\_ Flue Gas Press.("H<sub>2</sub>O) \_\_\_\_\_ Flue Gas Components \_\_\_\_\_  
 Flue Gas Inhalation Potential?     Yes  No  
 Describe Hazard Protection Plan:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Required PPE**   
 Hard Hats   
 Safety Glasses   
 Steel Toed Boots   
 Hearing Protection  
 Hi-Vis Vests   
 Harness/Lanyard\*   
 Goggles   
 Personal Monitor Type: \_\_\_\_\_  
 Metatarsal Guards   
 SRL(s)   
 Face Shield   
 Respirator Type: \_\_\_\_\_  
 Nomex/FRC   
 Hot Gloves   
 4-Gas Monitor   
 Other PPE: \_\_\_\_\_

**Critical Procedures** – check all that apply – "\*" indicates additional form must be completed

Hot Weather Work\*   
 Confined Space\*   
 Aerial Work Platform\*   
 Roof Work   
 Scaffold  
 Cold Weather Work   
 Lock out/Tag Out   
 Exposure Monitoring   
 Other: \_\_\_\_\_

**Working at Heights Management**

**Fall Protection Plan**   
 Fixed Guardrails/Toeboards   
 Fall Prevention PPE   
 Warning Line System  
 Describe Hazard Protection Plan:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Falling Objects Protection Plan**

Barricading   
 Netting   
 House Keeping   
 Tethered Tools   
 Catch Blanket or Tarp   
 Safety Spotter  
 Describe Hazard Protection Plan:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# MAQS Site Safety Plan

## Working at Heights Management

<b>Fall Hazard Communication Plan</b> <input type="checkbox"/> Adjacent/Overhead Workers <input type="checkbox"/> Contractor Contact <input type="checkbox"/> Client Contact Describe Hazard Protection Plan: _____ _____ _____	
<b>Environmental Hazards - Weather Forecast</b> <input type="checkbox"/> Heat/Cold <input type="checkbox"/> Lightning <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Ice <input type="checkbox"/> Tornado <input type="checkbox"/> Wind Speed _____ Describe Hazard Protection Plan: _____ _____ _____	

## Additional Work Place Hazards

<b>Physical Hazards</b> Nuisance Dust Hazards <input type="checkbox"/> Thermal Burn <input type="checkbox"/> Electrical Hazards <input type="checkbox"/> Inadequate Lighting Slip and Trip <input type="checkbox"/> Hand Protection	<b>Hazard Controls</b> Dust Mask    Goggles    Other: _____ <input type="checkbox"/> Hot Gloves <input type="checkbox"/> Heat Shields <input type="checkbox"/> Other Protective Clothing: _____ <input type="checkbox"/> Connections Protected from Elements <input type="checkbox"/> External GFCI <input type="checkbox"/> Other: _____ <input type="checkbox"/> Install Temporary Lighting <input type="checkbox"/> Headlamps Housekeeping    Barricade Area    Other: _____ <input type="checkbox"/> Cut Resistant Gloves <input type="checkbox"/> Pinch Pts. <input type="checkbox"/> Other: _____
Describe Hazard Protection Plan: _____ _____ _____ _____	

<b>List of Hazardous Chemicals</b> <input type="checkbox"/> Acetone <input type="checkbox"/> Nitric Acid <input type="checkbox"/> Hydrogen Peroxide <input type="checkbox"/> Hexane <input type="checkbox"/> Sulfuric Acid <input type="checkbox"/> Isopropyl Alcohol <input type="checkbox"/> Toluene <input type="checkbox"/> Hydrochloric Acid <input type="checkbox"/> Liquid Nitrogen	<b>Other Chemicals:</b> <input type="checkbox"/> Compressed Gases <input type="checkbox"/> Flammable Gas <input type="checkbox"/> Non-Flammable Gas
Describe Hazard Protection Plan: _____ _____ _____	

<b>Wildlife/Fauna</b> Describe Hazard Protection Plan: _____ _____
---

## Crew Names & Signatures

Printed Name	Signature	Date	Printed Name	Signature	Date

## Job Site Hazard Mitigation Plan

Hazard	Description	Engineering Controls	Administrative Controls	PPE
Ergonomic: Strains/Sprains	The manual movement of equipment to testing location can cause strains	<ul style="list-style-type: none"> <li>• Eliminate manual “lifts” and use elevators and/or cranes when possible. Stairs can also be used where feasible.</li> <li>• Use lifting straps and locking carabiners to eliminate the need to continuously tie and untie loads.</li> <li>• Use pulley system to eliminate improper ergonomics when lifting and facilitate sharing of loads</li> <li>• Winches should be evaluated and used as much as possible to assist</li> <li>• Equipment should be staged on table or other elevated platform to assist with rigging, lifting and prevent bending over when securing equipment to hoist.</li> <li>• Maintain radio contact between ground and platform to ensure the process is going smoothly or if a break is needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Stretching prior to and after lifting and lowering tasks to keep muscles and joints loose</li> <li>• Break loads into smaller more manageable portions</li> <li>• 3 man lift teams during initial set up and tear down w/2 below and one above</li> <li>• Job rotation and/or breaks during initial set up and tear down.</li> <li>• Discuss potential hazard and controls during tailboard meetings</li> <li>• Observe others and comment on technique</li> </ul>	<ul style="list-style-type: none"> <li>• Gloves, appropriate to task</li> </ul>
Falling objects	When working from heights there is a potential of falling objects from elevated work platform striking someone or something below	<ul style="list-style-type: none"> <li>• Ensure job area is barricaded off with hazard cones, caution tape and/or appropriate warning signs. Specific measures should comply with local plant rules.</li> <li>• Ensure a spotter is present during a lift or lowering of equipment.</li> <li>• Catch blanket should be used on the platform to prevent objects from falling through any grating.</li> <li>• Magnetic trays should be used to hold flange bots and nuts.</li> <li>• Tools should be tethered to platform or personnel uniform.</li> </ul>	<ul style="list-style-type: none"> <li>• Review hazards with any adjacent workers &amp; the client so they understand the scope and timing of the job</li> <li>• Follow proper housekeeping practices by keeping the test location neat and orderly, keeping trash in bags and non-essential equipment stored when not in use.</li> <li>• Perform periodic job site inspections to ensure housekeeping is being observed</li> <li>• Review “grab and twist” method of handling tools and equipment between employees</li> </ul>	<ul style="list-style-type: none"> <li>• Hardhat</li> <li>• Steel toed boots</li> <li>• Work clothes</li> </ul>

## Job Site Hazard Mitigation Plan

Hazard	Description	Engineering Controls	Administrative Controls	PPE
Fall	Fall hazard exists when working from above 4' with no guardrails	<ul style="list-style-type: none"> <li>• Verify anchor point</li> <li>• Warning Line system</li> </ul>	<ul style="list-style-type: none"> <li>• Review Working from Heights procedure prior to job</li> <li>• Maintain 3 points of contact when climbing stairs or ladders</li> <li>• Ensure all fall protection equipment has been inspected and is in good working order</li> </ul>	<ul style="list-style-type: none"> <li>• Harness and Lanyard</li> </ul>
Burn	<p>Flue gas temperature can be elevated and that can lead to hot temperature testing equipment.</p> <p>Hot pipes or other duct work at plant.</p>	<ul style="list-style-type: none"> <li>• Use heat resistant refractory blanket insulation to seal port once probe is inserted. Use duct tape to further seal the outer flange area of the port.</li> <li>• Use heat resistant blankets to shield workers from hot sources</li> </ul>	<ul style="list-style-type: none"> <li>• Work in tandem with partner to immediately fill sample port with heat resistant refractory insulation</li> <li>• Stand up wind of port when opening. If stack pressure is greater than 2" H<sub>2</sub>O, a face shield is required.</li> <li>• Allow appropriate time to handle probes</li> <li>• Notify all team members at the test location when a probe is removed from a hot source and communicate to all crew members to exercise caution handling or working near the probe</li> </ul>	<ul style="list-style-type: none"> <li>• High temp. gloves</li> <li>• Long gauntlets</li> <li>• Long sleeve shirts</li> <li>• FRC</li> </ul>
Atmosphere	Air concentrations could be above PEL	<ul style="list-style-type: none"> <li>• Probe are to be sealed to prevent stack gases from leaking out</li> <li>• Ventilation, open all doors and window to dilute concentrations in work area</li> <li>• Vent analyzer or meter outside</li> </ul>	<ul style="list-style-type: none"> <li>• Stand up wind of ports</li> <li>• Use a gas monitor to ensure levels of contaminants are below PEL</li> </ul>	<ul style="list-style-type: none"> <li>• Respirator</li> <li>• SAR</li> </ul>
Hearing	Production areas of plants could be high	NA	<ul style="list-style-type: none"> <li>• Set up equipment or trailer as far away as possible from noise producing plant equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Ear plugs</li> <li>• Ear muffs (check with plant contact on exposure levels)</li> </ul>

## Job Site Hazard Mitigation Plan

Hazard	Description	Engineering Controls	Administrative Controls	PPE
Fire	High flue gas temps, chemicals, electricity could cause fire	<ul style="list-style-type: none"> <li>• Fire extinguisher at job location</li> </ul>	<ul style="list-style-type: none"> <li>• Observe proper housekeeping</li> <li>• If conducting hot work, review procedures and permitting with site contact</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
Weather	Conditions may pose significant hazards	<ul style="list-style-type: none"> <li>• Weather App warning</li> </ul>	<ul style="list-style-type: none"> <li>• Lightning policy</li> <li>• JHA review of weather daily</li> <li>• Plant severe weather warning systems</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate clothing for conditions</li> </ul>
Hot Weather	Extreme hot temperatures can cause physical symptoms	<ul style="list-style-type: none"> <li>• Shade</li> <li>• Reduce radiant heat from hot sources</li> <li>• Ventilation fans</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent breaks</li> <li>• Additional water or electrolyte replenishment</li> <li>• Heat Stress Prevention Form</li> <li>• Communication with workers</li> <li>• Share work load</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate clothing for conditions</li> <li>• Sunscreen</li> </ul>
Cold Weather	Extreme cold temperatures can cause physical symptoms	<ul style="list-style-type: none"> <li>• Hand warmers</li> <li>• Heaters</li> <li>• Wind blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate wind chill</li> <li>• Frequent warm up periods</li> <li>• Communication with workers</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate clothing for conditions</li> </ul>
AWP	Overhead and ground hazards pose dangers	<ul style="list-style-type: none"> <li>• Ensure all fall protection equipment has been inspected and is in good working order</li> <li>• Barricade off area where AWP is in use</li> </ul>	<ul style="list-style-type: none"> <li>• AWP pre-use inspection can identify problems with equipment</li> <li>• Site walk through can identify overhead and ground hazards</li> </ul>	<ul style="list-style-type: none"> <li>• Hardhat</li> <li>• Steel toed boots</li> <li>• Safety glasses</li> <li>• Harness/lanyard</li> <li>• Gloves</li> </ul>
Scaffold	Fall hazard	<ul style="list-style-type: none"> <li>• Yellow tagged scaffold may require harness &amp; lanyard</li> <li>• Inspect harness &amp; lanyard prior to use</li> <li>• Barricades</li> <li>• Netting</li> </ul>	<ul style="list-style-type: none"> <li>• Scaffold inspection prior to use can identify if scaffold meets OSHA regulations</li> <li>• Current scaffold training</li> </ul>	<ul style="list-style-type: none"> <li>• Hardhat</li> <li>• Steel toed boots</li> <li>• Safety glasses</li> <li>• Harness/lanyard</li> </ul>

## Job Site Hazard Mitigation Plan

Hazard	Description	Engineering Controls	Administrative Controls	PPE
Chemicals	Chemical fumes or splashing can cause asphyxiation or burns	<ul style="list-style-type: none"> <li>• Chemical containers stored properly</li> <li>• Ventilation</li> <li>• Properly labeled secondary containers</li> </ul>	<ul style="list-style-type: none"> <li>• Spill kit training</li> <li>• Lab SOP</li> <li>• Good housekeeping</li> <li>• Personal hygiene</li> </ul>	<ul style="list-style-type: none"> <li>• Safety glasses</li> <li>• Chemical gloves</li> <li>• Lab coat</li> <li>• Ventilation</li> <li>• Goggles/Face shield as needed</li> </ul>
Sharp edges	Hand cuts, lacerations, abrasions, or punctures from sharp edges on glassware or working surfaces	<ul style="list-style-type: none"> <li>• Sharp edges on broken glassware must be fixed or dulled before reusing</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Check materials for sharp edges before handling them</li> <li>• Glassware prep training</li> <li>• Broken glassware must be covered and labeled "Broken Glassware"</li> <li>• Keep pair of leather gloves with you at all times while on-site</li> <li>• Identify areas at work where sharp edges may be present, hand railings, lab, fixed ladders, ect.</li> <li>• Caution tape material that contains sharp edges</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Cut resistant gloves</li> <li>• Metal mesh gloves</li> <li>• Leather gloves</li> </ul>

## Daily Tool Box Meeting Record

Client: \_\_\_\_\_ Job No.: \_\_\_\_\_ Location: \_\_\_\_\_ Date: \_\_\_\_\_

Scope of Work: \_\_\_\_\_

**Changes in Hazards** Any significant change in Hazards, update Site Specific Plan and sign off.

**Site Specific Plan review**

**Emergency Preparation** \_\_\_\_\_ Rally Point \_\_\_\_\_ Alternate Exits \_\_\_\_\_ Obstacles in Route

**Source** \_\_\_\_\_ Stack Temp. \_\_\_\_\_ Static Pressure \_\_\_\_\_ Flue gas contaminants

**PPE**

_____ Hard Hats	_____ Safety Glasses	_____ Steel Toed Boots	_____ Hearing Protection
_____ Hi-Vis Vests	_____ Harness*	_____ Goggles	_____ Personal Monitor Type: _____
_____ Metatarsals	_____ SRL	_____ Face Shield	_____ Respirator Type: _____
_____ Nomex/FRC	_____ Hot Gloves	_____ 4-Gas Monitor	_____ Other PPE: _____

**Critical Procedures** \_\_\_\_\_ Scaffold \_\_\_\_\_ Aerial Work Platform\* \_\_\_\_\_ Confined Space\*  
 \_\_\_\_\_ LOTO \_\_\_\_\_ Roof Work \_\_\_\_\_ Exposure Monitoring

**Fall Protection** \_\_\_\_\_ Guardrails \_\_\_\_\_ Fall Protection \_\_\_\_\_ Warning Lines

**Working at Heights** \_\_\_\_\_ Barricading \_\_\_\_\_ Tethered Tools \_\_\_\_\_ Netting  
 \_\_\_\_\_ Housekeeping \_\_\_\_\_ Catch Blanket \_\_\_\_\_ Other: \_\_\_\_\_

**Barricades**

_____ Morning Inspection	Printed Name	Signature
_____ EOBD Inspection	Printed Name	Signature

**Communication** \_\_\_\_\_ Adjacent/Overhead Work \_\_\_\_\_ Contractor Contact \_\_\_\_\_ Client Contact

**Weather**

_____ Forecast	_____ Lightning	_____ Wind Speed	_____ Wind Direction
_____ Temperature	_____ Cold	_____ Hot*, above 91° F use Heat Stress Prevention Form	
_____ Fluids Reminder	_____ Proper Clothing	_____ Ice-Rain	_____ Snowy

**Workplace Hazards** \_\_\_\_\_ Dust \_\_\_\_\_ Electrical \_\_\_\_\_ Slips, Trips & Falls \_\_\_\_\_ Thermal Burn \_\_\_\_\_ Lighting

**Chemical** \_\_\_\_\_ Labeling \_\_\_\_\_ PPE \_\_\_\_\_ Cylinders Secured  
 \_\_\_\_\_ Storage \_\_\_\_\_ Ventilation \_\_\_\_\_ Sample Storage

**Surroundings**

_____ Site Traffic	_____ Trucks	_____ Forklifts
_____ Construction	_____ Cranes	_____ Wildlife/Fauna
_____ Machine Guarding	_____ Chemical	_____ Upwind/downwind Hazards

**Harness & Lanyard**

Inspected by:

Printed Name	Signature
Printed Name	Signature
Printed Name	Signature

\_\_\_\_\_  
Tool Box Meeting Leader Signature

Notes:

Test Crew Initials:

_____	_____	_____
_____	_____	_____
_____	_____	_____



**Montrose Air Quality Services -Daily Aerial Lift Inspection Form**

All checks must be completed before operation of the aerial lift. This checklist must be used at the beginning of each shift or after six to eight hours of use.

**General Information (Check All That Apply)**

**Manually Propelled Lift:** \_\_\_\_\_ **Self-Propelled Lift:** \_\_\_\_\_

**Aerial Lift Model Number:** \_\_\_\_\_ **Serial Number:** \_\_\_\_\_

**Make:** \_\_\_\_\_ **Rented Or Owned?** \_\_\_\_\_

**Initial Description** – Indicate by checking “Yes” that an item is adequate, operational, and safe. Check “No” to indicate that a repair or other corrective action is required prior to use. Check “N/A” to indicate “Not Applicable.”

<b>Number Item to be Inspected</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
A. Perform a visual inspection of all aerial lift components, i.e. missing parts, torn or loose hoses, hydraulic fluid leaks, etc. Replace as necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Check the hydraulic fluid level with the platform fully lowered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Check the tires for damage. Check wheel lug nuts for tightness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Check the hoses and the cables for worn areas or chafing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Check for cracked welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Check the platform rails and safety gate for damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Check for bent or broken structural members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Check the pivot pins for security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Check that all warning and instructional labels are legible and secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Inspect the platform control. Ensure the load capacity is clearly marked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**Initial Description – Continued**  
**Number Item to be Inspected**

	<b>Yes</b>	<b>No</b>	<b>N/A</b>
K. Check for slippery conditions on the platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L. Verify that the Manufacturer’s Instruction Manual is present inside the bucket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M. Check the hydraulic system pressure (See manufacturer’s specifications). If the pressure is low, determine the reason and repair in accordance with accepted procedures as outlined in the service manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N. Check the base controls for proper operation. Check switches and push buttons for proper operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O. Check the platform controls for proper operation. Check all switches and push buttons, as well as ensuring that the drive controller returns to neutral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P. Verify that a fire extinguisher is present, mounted, and fully charged and operational inside the bucket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q. Verify that the aerial lift has headlights and a safety strobe-light installed and fully operational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
R. Verify that the aerial lift has a fully functional back-up alarm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

Print Name of Individual Inspecting \_\_\_\_\_ Location \_\_\_\_\_ Date \_\_\_\_\_  
 Aerial Location Date Lift \_\_\_\_\_

## Heat Stress Prevention Form

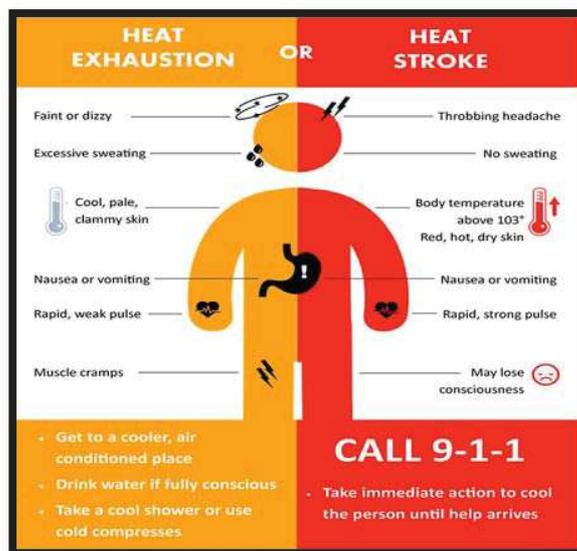
This form is to be used when the Expected Heat Index is above 91 degrees F. Keep the form with project documentation.

Project Location: \_\_\_\_\_

Date: \_\_\_\_\_ Project Manager: \_\_\_\_\_

Expected High Temp: \_\_\_\_\_ Expected High Heat Index: \_\_\_\_\_

1. Review the signs of Heat Exhaustion and Heat Stroke
2. If Heat Index is above 91 degrees F:
  - a. Provide cold water and/or sports drinks to all field staff. Avoid caffeinated drinks and energy drinks which actually increase core temperature. Bring no less than one gallon of water per employee.
  - b. If employee are dehydrated, on blood pressure medication or not acclimated, ensure they are aware of heightened risk for heat illness.
  - c. Provide cool head bands, vests, etc.
  - d. Have ice available to employees.
  - e. Encourage work rotation and breaks, particularly for employees working in direct sunlight.
  - f. Provide as much shade at the jobsite as possible, including tarps, tents or other acceptable temporary structures.
  - g. PM should interview each field staff periodically to look for signs of heat illness.
3. If Heat Index is above 103 degrees F:
  - a. Employees must stop for drinks and breaks every hour (about 4 cups/hour).
  - b. Employees are not permitted to work alone for more than one hour at a time without a break with shade and drinks.
  - c. Employees should wear cool bands and vests if working outside more than one hour at a time.
  - d. PM should interview each field staff every 2 hours to look for signs of heat illness.





Montrose Air Quality Services
Extended Hours Safety Audit

Project Number: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Whenever a project is going to extend past a 14-hourwork day, an Extended Hours Safety Audit to access the condition of their crew and the safety of their work environment must be completed. If a senior tech or a FPM is leading a project, they should confer with the CPM but they will need to get permission to proceed from the DM or RVP. CPMs need to get permission to proceed from the DM or RVP. Technical RVPs can authorize moving forward if they are in the field or if they own the project. DMs and RVPs may make the call in the field.

[ ] Hold test crew meeting. Test Crew Initials:

“Extended or unusual work shifts may be more stressful physically, mentally and emotionally. Non-traditional shifts and extended work hours may disrupt the body’s regular schedule, leading to increased risk of operator error, injuries and/or accidents.”

The test leader should look for signs of the following in their crews:

- Irritability
Lack of motivation
Headaches
Giddiness
Fatigue
Depression
Reduced alertness, lack of concentration and memory

The test leader should assess the environmental and hazardous concerns:

- Temperature and weather
Lighting
Climbing
Hoisting
PPE (respirators, ect.)
Pollutant concentration in ambient air (SO2, H2S, ect.)

[ ] Notify DM or RVP Name:

The test leader must contact either the DM or RVP to discuss the safety issues that may arise due to the extended work period. During this time, they can come to an agreement on how to proceed.

Things to discuss are why the long hours?
Client or our delays?
Production limitations?
Impending Weather?

[ ] Contact client

The test leader, DM or RVP should discuss with client any of our safety concerns, the client’s needs and come to agreement on how to proceed. Discussion should also include the appropriate rest period needed before the next day’s work can begin. The DM and/or a RVP must be kept in the loop on what the final decision is.

What was the outcome?

## SAFE WORK PERMIT

A. WORK SCOPE (to be completed by MEG) – Check relevant box(es) to indicate type(s) of work.														
<input type="checkbox"/> Hot Work	<input type="checkbox"/> Line Break	<input type="checkbox"/> Lock-out Tag-out	<input type="checkbox"/> Other	<table border="1"> <thead> <tr> <th colspan="2">Permit Timing</th> </tr> </thead> <tbody> <tr> <td>Date:</td> <td>Time:</td> </tr> <tr> <th colspan="2">Valid Until</th> </tr> <tr> <td>Date:</td> <td>Time:</td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Permit Timing		Date:	Time:	Valid Until		Date:	Time:		
Permit Timing														
Date:	Time:													
Valid Until														
Date:	Time:													
Specific Location:														
Equipment Worked On:														
Work to be Performed:														
B. POTENTIAL HAZARDS (To be completed by MEG)														
<input type="checkbox"/> Flammable		<input type="checkbox"/> Harmful to breathe		<input type="checkbox"/> Harmful by Skin Contact										
<input type="checkbox"/> Verify process hazards have been reviewed														
C. PERSONAL PROTECTIVE EQUIPMENT (Check all additional equipment that is required)														
<input type="checkbox"/> Tyvek Suit	<input type="checkbox"/> Hearing Protection	<input type="checkbox"/> H2S Monitor	<input type="checkbox"/> Flash Hood											
<input type="checkbox"/> Rain Gear	<input type="checkbox"/> Goggles	<input type="checkbox"/> Safety Harness & Life Line		<input type="checkbox"/> Life Vest										
<input type="checkbox"/> Chemical Resistant Gloves	<input type="checkbox"/> Face shield	<input type="checkbox"/> Tripod ER Escape Unit	<input type="checkbox"/> Supplied Air Respirator											
<input type="checkbox"/> Rubber Boots	<input type="checkbox"/> Organic Vapor Respirator	<input type="checkbox"/> Fall Protection Equipment	<input type="checkbox"/> Dust Respirator											
<input type="checkbox"/> Other:														
D. CHECK LIST (Check what has been completed)														
<input type="checkbox"/> Joint Job Site Visit	<input type="checkbox"/> Electrical Isolation Completed	<input type="checkbox"/> Line Identified	<input type="checkbox"/> Equipment Water Flushed											
<input type="checkbox"/> Equipment Depressurized	<input type="checkbox"/> Isolated and locked out	<input type="checkbox"/> Equipment Identified	<input type="checkbox"/> Equipment Inert Gas Purged											
<input type="checkbox"/> Vents Opened & Cleared	<input type="checkbox"/> Blinds in Place	<input type="checkbox"/> Electrical Equipment Still Live	<input type="checkbox"/> Written JSA Completed											
<input type="checkbox"/> Atmosphere Tested	<input type="checkbox"/> Electrical Equipment Still Live	<input type="checkbox"/> Equipment Still Live	<input type="checkbox"/>											
Other:														
E. PRECAUTIONS (Check what must be completed PRIOR to commencing work)														
<input type="checkbox"/> Cover Sewers	<input type="checkbox"/> Scaffolding Inspection Done	<input type="checkbox"/> Charged Hose/Area Wet	<input type="checkbox"/> Communication Device(s)											
<input type="checkbox"/> Air Mover (Grounded)	<input type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Covered Cable Trays	<input type="checkbox"/> Fire Watch											
<input type="checkbox"/> Barricade/Signs	<input type="checkbox"/> Fire Resistant Blanket	<input type="checkbox"/> Continuous Air Monitoring												
<input type="checkbox"/> Other:														
<input type="checkbox"/> Designated Fire Watch Individual and Start time (30 min after hot work):														
<input type="checkbox"/> Fire Watch Complete (signature and time):														
F. HAZARD ANALYSIS (add additional information to form as necessary)														
	Job Steps	Potential Hazards	Hazard Controls											
1.														
2.														
3.														
4.														
I VERIFY THAT THE ABOVE CHECK LIST "D" HAS BEEN COMPLETED, ALL OTHER CONDITIONS ("B", "C", "E", "F") ARE UNDERSTOOD AND WHEN MET, THE AREA IS SAFE FOR WORK TO COMMENCE.														
Name:		Signature:	Date:	Time:										

## **THIS IS THE LAST PAGE OF THIS DOCUMENT**

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Joe Rubio  
Title: Client Project Manager  
Region: Western  
E-Mail: [JRubio@montrose-env.com](mailto:JRubio@montrose-env.com)  
Phone: (714) 279-6777

Name: Mr. Matt McCune  
Title: Regional Vice President  
Region: Western  
E-Mail: [MMccune@montrose-env.com](mailto:MMccune@montrose-env.com)  
Phone: (714) 279-6777

## José Manuel Bravo Romero

---

**From:** Chris Anderson <canderson@mdaqmd.ca.gov>  
**Sent:** Tuesday, May 28, 2019 4:58 PM  
**To:** Joseph Rubio; Reporting; Sarah Strout  
**Cc:** José Manuel Bravo Romero  
**Subject:** RE: Mojave Solar Protocol

**Caution:** This email has been originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,

Approved as submitted. If the date changes please provide notification and receive approval from the District of any alternate test days prior to testing.

Thanks

Chris A.

**From:** Joseph Rubio <jrubio@montrose-env.com>  
**Sent:** Tuesday, May 28, 2019 3:44 PM  
**To:** Reporting <reporting@mdaqmd.ca.gov>; Chris Anderson <canderson@mdaqmd.ca.gov>; Sarah Strout <sstrout@mdaqmd.ca.gov>  
**Cc:** José Manuel Bravo Romero <jmanuel.bravo@abengoa.com>  
**Subject:** Re: Mojave Solar Protocol

Hello Chris: Attached is the revised protocol that now includes the description you requested. As mentioned in my initial email, the test program will be identical to the previous source test and is tentatively scheduled to be conducted on Thursday, June 27, 2019, pending protocol approval. We are submitting it on behalf of Mr. Jose Manuel Bravo, of Mojave Solar, LLC. We did not send you hard copies of the revised protocol but they can be sent to you if requested. Please let me know if you need anything else.

Best Regards,

Joe Rubio  
Client Project Manager  
Montrose Air Quality Services, LLC  
1631 E. Saint Andrew Place, Santa Ana, CA 92705  
O: 714-332-8486; M: 626-831-7707  
[jrubio@montrose-env.com](mailto:jrubio@montrose-env.com)  
[www.montrose-env.com](http://www.montrose-env.com)



On Fri, May 24, 2019 at 8:27 AM Joseph Rubio <[jrubio@montrose-env.com](mailto:jrubio@montrose-env.com)> wrote:

Good morning: Attached is the electronic copy (PDF) of the source test protocol for the proposed compliance testing on two (2) carbon adsorption units at Mojave Solar facility in Hinkley, Ca. The test program will be identical to the previous source test and is tentatively scheduled to be conducted on Thursday, June 27, 2019, pending protocol approval. We are submitting it on behalf of Mr. Jose Manuel Bravo, of Mojave Solar, LLC. A hard copy of the test plan was also sent out to Mr. Chris Anderson of the MDAQMD. If you have any questions regarding the test plan please contact me.

Best Regards,

Joe Rubio

Client Project Manager

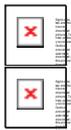
Montrose Air Quality Services, LLC

1631 E. Saint Andrew Place, Santa Ana, CA 92705

O: 714-332-8486; M: 626-831-7707

[jrubio@montrose-env.com](mailto:jrubio@montrose-env.com)

[www.montrose-env.com](http://www.montrose-env.com)



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# **Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## **Appendix I**

### **Air Quality 70**

**2019 AQ-70-05-00. Annual summary VOC emissions report (09-AFC-5C). MDAQMD Facility #3130 Company #1876**

**Mojave Solar Project  
Annual Compliance Report  
San Bernardino County, California**

**2019 Reporting Period**

# Mojave Solar LLC

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## Submitted Electronically

---

**Subject:** 09-AFC-5C  
**Condition:** AQ-70  
**Description:** Summary report of all VOC emissions based on annual test results. Year 2019.  
**Submittal Number:** AQ70-05-00

---

January 6, 2020

Keith Winstead  
Compliance Project Manager  
Siting, Transmission and Environmental Protection  
California Energy Commission  
1516 Ninth Street, MS-2000  
Sacramento, CA 95814  
[keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov)

Christian Anderson, Air Quality Engineer  
Mojave Air Quality Management District  
14306 Park Avenue  
Victorville, California 92392  
[canderson@mdaqmd.ca.gov](mailto:canderson@mdaqmd.ca.gov)

Dear Mr. Winstead and Mr. Anderson,

Pursuant to Condition of Certification AQ-70, following Condition 11 of the Permits to operate numbers C012015 and C012016 attached is the annual summary report of all Mojave Solar LLC, VOC emissions.

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

Sincerely,

Jose Manuel Bravo Romero

Manager  
Permitting, Compliance, Quality & Environmental Department  
**ASI Operations LLC**  
42134 Harper Lake Rd  
Hinkley, CA 92347  
Cell: (303) 378-7302  
[jmanuel.bravo@atlanticayield.com](mailto:jmanuel.bravo@atlanticayield.com)

Attachments: Summary report of all VOC emissions based on annual test results.

2019 Ullage emission - based on 7/21/2019 and 9/11/2019 tests data

	Hours venting			
	Alpha		Beta	
	Expansion	Overflow	Expansion	Overflow
Jan	37.5	51.5	31.625	47
Feb	50.25	61.5	13.25	45.25
Mar	57.875	74	64.25	45.5
Apr	81.875	62	65.375	193.75
May	63.875	68	68.75	104.25
Jun	73.625	182.75	75.625	453.5
Jul	42.25	138	68.875	473
Aug	35.625	169.5	61	464.5
Sep	43.125	62	84	276.5
Oct	63.75	58.75	62.5	42
Nov	45.25	105.25	46	45
Dec	45.25	105.25	46	45
Annual Total	640	1139	687	2235

Mojave Solar LLC

VOCs as C6, lb			
Alpha		Beta	
Expansion	Overflow	Expansion	Overflow
6.28125	3.056525	0.1012	0.05875
8.416875	3.650025	0.0424	0.0565625
9.6940625	4.3919	0.2056	0.056875
13.714063	3.6797	0.2092	0.2421875
10.699063	4.0358	0.22	0.1303125
12.332188	10.846213	0.242	0.566875
7.076875	8.1903	0.2204	0.59125
5.9671875	10.059825	0.1952	0.580625
7.2234375	3.6797	0.2688	0.345625
10.678125	3.4868125	0.2	0.0525
7.579375	6.2465875	0.1472	0.05625
7.579375	6.2465875	0.1472	0.05625
<b>107.2</b>	<b>67.6</b>	<b>2.2</b>	<b>2.8</b>

benzene, lb			
Alpha		Beta	
Expansion	Overflow	Expansion	Overflow
2.925	2.3072	0.00411125	0.00564
3.9195	2.7552	0.0017225	0.00543
4.51425	3.3152	0.0083525	0.00546
6.38625	2.7776	0.00849875	0.02325
4.98225	3.0464	0.0089375	0.01251
5.74275	8.1872	0.00983125	0.05442
3.2955	6.1824	0.00895375	0.05676
2.77875	7.5936	0.00793	0.05574
3.36375	2.7776	0.01092	0.03318
4.9725	2.632	0.008125	0.00504
3.5295	4.7152	0.00598	0.0054
3.5295	4.7152	0.00598	0.0054
<b>49.94</b>	<b>51.00</b>	<b>0.09</b>	<b>0.27</b>

Calculation notes:

- Vent valves are considered close if it is <2% open.
- 15 min average valve positions are used to determine whether each vent valve is open or close.
- In case of bad PI data, the valve position in the previous period is automatically used.

- Alpha expansion vessel vent VOCs emission rate is determined by performance test as 0.1675 lb/hr
- Alpha overflow vent VOCs emission rate is determined by performance test as 0.05935 lb/hr
- Beta expansion vessel vent VOCs emission rate is determined by performance test as 0.0032 lb/hr
- Beta overflow vessel vent VOCs emission rate is determined by performance test as 0.00125 lb/hr

- Alpha expansion vessel vent benzene emission rate is determined by performance test as 0.078 lb/hr
- Alpha overflow vent benzene emission rate is determined by performance test as 0.0448 lb/hr
- Beta expansion vessel vent benzene emission rate is determined by performance test as 0.00013 lb/hr
- Beta overflow vessel vent benzene emission rate is determined by performance test as 0.00012 lb/hr

Annual VOC limit per plant **792.1 lb/yr**  
 Annual benzene limit per plant **507.4 lb/yr**

2019 Source Test results

		Run 1	Run 2	Average			Run 1	Run 2	Average
Alpha	Exp Ves VOC as C6, lb/hr	0.143	0.192	0.1675	Exp Ves Benzene, lb/hr		0.069	0.087	0.078
Alpha	Overflow VOC as C6, lb/hr	0.0686	0.0501	0.05935	Overflow Benzene, lb/hr		5.19E-02	3.77E-02	0.0448
Beta	Exp Ves VOC as C6, lb/hr	0.0032	0.0032	0.0032	Exp Ves Benzene, lb/hr		0.00013	0.00013	0.00013
Beta	Overflow VOC as C6, lb/hr	0.0015	0.001	0.00125	Overflow Benzene, lb/hr		1.30E-04	1.10E-04	0.00012

Annual totals

Project last run 7/21/2019 & 09/11/2019

Alpha projected annual VOC	524.4 lb/yr
Beta projected annual VOC	15.0 lb/yr
Alpha projected annual benzene	302.8 lb/yr
Beta projected annual benzene	1.1 lb/yr

# **Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

Phone: 760 308 0400

## **Appendix J, J1 and J2**

### **2019 Biological Resources Section of the Annual Compliance Report**

#### **Mojave Solar Project Annual Compliance Report San Bernardino County, California**

#### **2019 Reporting Period**

**Mojave Solar Project**

California Energy Commission (09-AFC-5C)

Biological Resources Conditions of Certification

**Biological Resources Section of the Annual Compliance Report**

January 1 – December 31, 2019

Reporting Period

Submitted

February 2020

Prepared for:

**Mojave Solar LLC**

42134 Harper Lake Road  
Hinkley, California 92347

Prepared by:

**AS Industrial Operations LLC**

42134 Harper Lake Road  
Hinkley, California 92347

**Rowe Ecological Consulting**

Phone number: 321-853-5709

[sprowe@gmail.com](mailto:sprowe@gmail.com)

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List of Attachments

- 1 Raven Point Count Raw Data (see separate spreadsheet file)

## 1. Introduction

This Biological Resources Section of the Annual Compliance Report (ACR) is provided to the California Energy Commission (CEC) pursuant to the Biological Resources Conditions of Certification (COCs) and Compliance-7 as required by the Mojave Solar Project (MSP) Commission Decision (09-AFC-5; CEC, 2010).

On December 23, 2014, the facility commenced commercial operations. Also on this date, Abeinsa (AEPC) turned the site over to the owner, Mojave Solar LLC, to manage facility operations. From January 2015 through May 29, 2016, monthly compliance reports were submitted to comply with the CEC COCs, while the Chief Building Official's punch list activities were completed. The CEC issued the Final Certificate of Occupancy on May 29, 2016 when installation of all permanent equipment and structures was completed. MSP has been in the Operations and Maintenance (O&M) phase of the project as of May 30, 2016. This report covers O&M from January 1 to December 31, 2019.

## 2. Annual Report Requirements

Annual reporting requirements during O&M are only referenced in BIO-2, BIO-6, BIO-16, and BIO-17; however, this ACR addresses all Biological Resource COCs (BIO-1 to BIO-21) because BIO-6, the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), covers all Biological Resource COCs.

## 3. Mitigation Measures

Table 1 provides a list of the Biological Resource COCs covered in the BRMIMP.

<b>Table 1 BRMIMP Mitigation Measures</b>	
<b>COC</b>	<b>Brief Description of Condition</b>
BIO-1	Designated Biologist Selection
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
BIO-6	Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance
BIO-7	Impact Avoidance and Minimization Measures

<b>Table 1 BRMIMP Mitigation Measures</b>	
COC	Brief Description of Condition
BIO-8	Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds
BIO-9	Golden Eagle Territory-Specific Management Plan
BIO-10	Documentation of Bald and Golden Eagle Act Compliance
BIO-11	Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan
BIO-12	Mohave Ground Squirrel Clearance Surveys
BIO-13	Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures
BIO-14	American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures
BIO-15	Compensatory Mitigation
BIO-16	Tamarisk Eradication, Monitoring, and Reporting Program
BIO-17	Monitoring Impacts of Solar Collection Technology on Birds
BIO-18	Common Raven Monitoring, Management, and Control
BIO-19	Evaporation Pond Monitoring and Adaptive Management Plan
BIO-20	Harper Dry Lake Marsh Water Delivery
BIO-21	USFWS Biological Opinion

### **3.1 BIO-1: Designated Biologist Selection**

BIO-1 requires the project to select a Designated Biologist (DB) to effectively implement the duties in BIO-2 and other relevant COCs. Approved DB, Sean Rowe performed the duties of DB on the project site during the 2019 reporting period. The qualifications for Sean Rowe and request for DB approval was submitted (under BIO1-19-00 submittal) (CEC, USFWS and CDFW) to the permitting agencies in March 14, 2018, and Mr. Rowe was subsequently approved March 21 (USFWS and CDFW) and March 27 (CEC), 2018 as a BM, Authorized Avian Specialist and desert tortoise Authorized Biologist under the project specific Biological Opinion 8-8-11-F-3 (USFWS, 2011B). Mr. Rowe was subsequently approved as DB on October 12, 2018.

### **3.2 BIO-2: Designated Biologist Duties**

An approved DB was onsite or otherwise available during all O&M activities. The DB advised on compliance with Biological Resource COCs, supervised and conducted biological resource compliance inspections, surveyed sensitive biological resource areas, notified the project owner and the CPM of noncompliance events, responded to CPM inquiries, and maintained compliance records. One Biological Monitor was employed at MSP during the reporting period. During O&M, the DB provided the CPM with written monthly reports for the Evaporation Pond Plan (as required by BIO-19) and took part in the implementation of the BIO-17 Bird Monitoring Study.

### **3.3 BIO-3: Biological Monitor Selection, Qualifications, and Duties**

BIO-3 allows the project to utilize approved Biological Monitors to assist the DB. One Biological Monitor, Sean Rowe, was employed during the reporting period primarily for the BIO17 Bird Monitoring Study and for BIO19 activities.

### **3.4 BIO-4: Designated Biologist and Biological Monitor Authority**

BIO-4 provides the DB and BM authority to halt construction activity in areas specified by the DB if that activity were to potentially harm biological resources or is in violation of any state or federal laws, conditions, permits, or other such agreements made to applicable agencies.

No construction activities took place during the reporting period.

### **3.5 BIO-5: Worker Environmental Awareness Program**

BIO-5 requires that the project owner develop and implement a Worker Environmental Awareness Program (WEAP). On October 22, 2015, the project owner submitted a revised BIO-5 WEAP training for use during operations (MSP, 2015a). The CPM approved the training program for operations on November 17, 2015. On December 9, 2015, the CPM approved immediate use of the operations WEAP for annual refresher training for operations personnel, while still in the construction period. On June 15 2018, MSP submitted a new version of the BIO5 WEAP training for review and approval. The CEC CPM approved it on June 15, 2018.

The WEAP was provided to all new employees, contractors, and subcontractors within a week of hiring new workers and annually for ongoing workers.

### **3.6 BIO-6: Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) Development and Compliance**

BIO-6 requires the project owner to develop and implement a BRMIMP, which covers all Biological Resource COCs as reported herein. BIO-17 (Bird Monitoring Study) was subsequently approved by the CPM on January 27, 2017. BIO-19 (Evaporation Pond Monitoring and Adaptive Management Plan) was resubmitted to the CPM and USFWS in December 2016. Final BIO19

Evaporation Pond Plan, BIO19-00-08 Evaporation Pond Monitoring and Adaptive Management Plan, Rev. 6. (Mojave Solar Project 09-AFC-5C) submittal approved on March 8, 2017, in consultation with the USFWS, CDFW, and Regional Water Quality Control Board (RWQCB), it will be incorporated into the BRMIMP as Appendix I. See Sections 3.17 and 3.19 for more details.

### **3.7 BIO-7: Impact Avoidance and Minimization Measures**

BIO-7 requires the project owner to implement seventeen measures to avoid or minimize impacts to local biological resources, several of which overlap with other COCs and are thus addressed separately. The majority of measures addressed in BIO-7 are construction related and were largely not relevant during this reporting period. No construction activities took place during the reporting period.

Item 11 of BIO-7 requires the project owner to report all inadvertent deaths of sensitive species. An adult female kit fox was discovered dead on the site on November 8, 2017. Suspected cause of death is vehicle collision in the SCA fields, likely at night. Agencies were notified, and the fox carcass was stored in the freezer in the DB's office. cursory necropsy revealed the fox to be an adult female showing no signs of sarcoptic mange. The carcass had been scavenged by canids and ravens. The fox carcass was buried on February 22, 2019 in the southeast corner of Alpha East approximately 6 feet deep to prevent disease transmission as recommended by CDFW biologists.

### **3.8 BIO-8: Nest Surveys and Impact Avoidance and Minimization Measures for Migratory Birds**

BIO-8 requires impact avoidance and minimization measures for birds protected under the Migratory Bird Treaty Act (MBTA). Nest surveys were conducted by the DB onsite for any activities with the potential to effect MBTA-protected bird nests. Nesting surveys were performed in accordance with the procedures set forth in BIO-8. Fifteen active nests were discovered and monitored during this reporting period. No entry buffers were established around active nests and nests were monitored until nestlings fledged or dispersed or nests were otherwise determined inactive. Of the 15 nests, 12 (11 American Avocet and 1 Black-necked Stilt) were associated with the evaporation ponds. Of the 11 avocet nests, at least 4 successfully fledged young. Two additional Avocet nests were suspected to have fledged young as young were seen at the ponds, but it was not possible to determine which nests they resulted from. The single Black-necked Stilt nest also successfully fledged young.

A Common Raven pair initiated nesting in the Alpha power block in late March. The DB attempted to discourage nesting by removing partially constructed nest attempts, however, ultimately the pair was able to nest successfully. Another raven pair attempted to nest on the pipe rack over the wash between Beta East and Beta West. The DB removed the partially constructed nest and the ravens abandoned the site.

Species	Nest ID	Discovery Date	Location	Outcome
Common Raven	01-A-CORA	3/28/19	Alpha Power Block	Nest removed by DB
Common Raven	02-A-CORA	4/11/19	Alpha Power Block	Fledged Young
Common Raven	01-B-CORA	4/23/19	Beta Wash	Nest removed by DB
American Avocet	01-A-AMAV	4/30/19	Alpha Evaporation Ponds	Fledged Young
American Avocet	02-A-AMAV	5/1/19	Alpha Evaporation Ponds	Unknown
American Avocet	03-A-AMAV	5/2/19	Alpha Evaporation Ponds	Fledged Young
American Avocet	04-A-AMAV	5/6/19	Alpha Evaporation Ponds	Unknown
Black-necked Stilt	05-A-BNST	5/22/19	Alpha Evaporation Ponds	Fledged Young
American Avocet	06-A-AMAV	5/29/19	Alpha Evaporation Ponds	Unknown – possibly fledged young
American Avocet	07-A-AMAV	5/29/19	Alpha Evaporation Ponds	Unknown – possibly fledged young
American Avocet	08-A-AMAV	6/13/19	Alpha Evaporation Ponds	Fledged Young
American Avocet	09-A-AMAV	6/13/19	Alpha Evaporation Ponds	Unknown
American Avocet	01-B-AMAV	6/14/19	Beta Evaporation Ponds	Abandoned

American Avocet	02-B-AMAV	6/28/19	Beta Evaporation Ponds	Fledged Young
American Avocet	03-B-AMAV	6/28/19	Beta Evaporation Ponds	Unknown – suspect predation

### **3.9 BIO-9: Golden Eagle Territory-Specific Management Plan**

BIO-9 requires that the project owner conduct Golden Eagle (*Aquila chrysaetos*) surveys and prepare a plan if an occupied territory is found within 10 miles of the project site.

On January 28, 2011, USFWS approved the project owner’s findings that no Golden Eagles were located within 10 miles of the project site, and therefore, the project owner did not need to prepare a BIO-9 Golden Eagle Plan. On March 14, 2011, the project owner submitted USFWS’s findings to CEC (MSP, 2011a). On March 17, 2011, CEC approved USFWS’ letter satisfying the BIO-9 requirement.

### **3.10 BIO-10: Documentation of Bald and Golden Eagle Act Compliance**

BIO-10 requires the project owner document compliance with the Bald and Golden Eagle Protection Act, if required by the BIO-9 survey results.

On March 17, 2011, the CEC via email stated that since a BIO-9 Golden Eagle Plan was not required that the project owner had also met BIO-10 compliance requirements.

### **3.11 BIO-11: Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan**

All permanent desert tortoise exclusion fencing was inspected monthly and during/immediately after major rainfall events. MSP conducted tortoise fence maintenance outside of the perimeter fence of Alpha East in the form of sand removal to bring the tortoise fence height back into compliance. The DB performed monitoring for this short project, which was entirely on MSP property. No tortoises or sign were observed.

During September 2019, MSP conducted testing and flushing of the Beta Well #3. MSP consulted and received permission from CEC and BLM to discharge well water to the BLM Harper Lake wetlands north of Beta east via an existing outfall ditch. The DB performed monitoring for the testing and discharge on BLM land outside of MSP Beta perimeter fence. No tortoise or sign were observed.

No desert tortoises were located onsite and no tortoises were translocated or transmittered during this reporting period.

### **3.12 BIO-12: Mohave Ground Squirrel Clearance Surveys**

BIO-12 requires the project to avoid or minimize impacts to Mojave ground squirrel by conducting a clearance survey once the desert tortoise exclusion fence is completed (BIO12-02-0, November 18, 2011).

No Mohave ground squirrels were observed on the site, therefore no handling, capturing, or relocation was necessary for the duration of this reporting period.

### **3.13 BIO-13: Burrowing Owl Impact Avoidance, Minimization and Mitigation Measures**

BIO-13 requires preparation of Burrowing Owl (*Athene cunicularia*) Monitoring and Mitigation Plan to avoid and minimize impacts to burrowing owls in and near construction areas (if identified during the surveys). Last survey performed and approved on January 26, 2011 BIO13-02-01.

No Burrowing Owls were observed on the site during the reporting period. Due to the project having entered the O&M phase, no specific Burrowing Owl surveys were conducted (BIO17 initial survey conducted on September 2017).

### **3.14 BIO-14: American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures**

BIO-14 requires pre-construction surveys and provides guidance on preconstruction encounters with American badgers and desert kit fox. The MSP site is currently monitored for the presence of desert kit fox and American badger by the DB via observation of tracks, scat, and examination of burrows on or around the site. No signs of American badger have been observed during this reporting period. Kit foxes are ubiquitous in the area and often traverse or reside on site in undisturbed areas.

Desert kit fox den site #9, located in east of the solar collector field in Alpha East, was active during this reporting period. A game camera documented continued use of the den throughout the reporting period. An exclusion buffer was established and maintained around the den to prevent disturbance. This den will continue to be monitored by the DB. No other den sites have

been observed on the premises. Fox tracks and scat were regularly observed across the site and game cameras involved with the BIO-17 avian mortality study regularly capture foxes scavenging on trial specimen carcasses.

### **3.15 BIO-15: Compensatory Mitigation**

To fully mitigate for habitat loss and incidental take of desert tortoise and Mohave ground squirrel as well as burrowing owl, BIO-15 requires the project owner, in fee or in easement, to acquire 118.2 acres of land suitable for desert tortoise, Mohave ground squirrel, and burrowing owl and fund the enhancement and long-term management of these compensation lands.

Compensatory mitigation was satisfied and approved by CEC between 2011 and 2014. On July 19, 2016, to address the final requirement of COC BIO-15, the project owner submitted BIO15-06-00, confirming that project construction was limited to the area described in the Commission Decision, therefore, disturbance to desert tortoise and MGS habitat did not exceed 430 acres, and construction activities did not impact desert tortoise, MGS, and burrowing owl habitat adjacent to work areas. The CPM approved the submittal for Verification of Habitat Disturbance Area on September 15, 2016, which was the final requirement related to this COC.

The Transition Habitat Conservancy (THC) acquired 234 acres of land near MSP in 2014 to satisfy the compensatory mitigation requirements of BIO-15. THC manages and monitors these lands in perpetuity to ensure habitat for desert tortoise, burrowing owl and Mojave ground squirrel is not degraded. THC also works in partnership with the Bureau of Land Management to BLM lands that impact THC mitigation properties.

In 2019 THC continued monitoring, habitat restoration, improvement and research on parcels associated with MSP mitigation as well as other THC parcels in the vicinity. These activities included tortoise surveys, installation of signage, restoration of OHV incursions, implementation of habitat restoration (rainfall collectors and enhancing native forage) and public outreach and law enforcement patrols through the San Bernardino County Sheriff's Department. During systematic tortoise surveys THC located a "hotspot" on MSP mitigation parcels that contained the highest density of tortoise sign of any THC lands and documented at least five live tortoise, including on juvenile, and numerous active burrows.

### **3.16 BIO-16: Tamarisk Eradication, Monitoring, and Reporting Program**

Condition of Certification (COC) BIO-16, Tamarisk Eradication, Monitoring, and Reporting Program, issued by the California Energy Commission (CEC) as a condition of licensing of the Abengoa Mojave Solar Project (MSP) requires the project owner to prepare and implement a Tamarisk Eradication, Monitoring, and Reporting Plan with the objective of preventing the re-invasion of undesirable weeds and/or invasive wildlife for a minimum of five years. The revised Mojave Solar Project Tamarisk Eradication, Monitoring, and Reporting Plan (Tamarisk Plan) was submitted on August 03, 2016.

The Tamarisk Plan, the Staff Assessment, Commission Decision, and guidance provided by CEC staff biologist Ann Crisp via email on May 28, 2014 provide two categories of weed species: invasive and exotic. The DB and BM surveyed for weed species throughout the year as conditions warranted and seasonal germination developed. Biologists coordinated with MSP and the weed control contractor for treatment.

No weed species meeting the definition of invasive were observed onsite in 2019. Three species of exotic weeds, Mediterranean grass (*Schismus arabicus*), Russian thistle (*Salsola tragus*), and redstem filaree (*Erodium cicutarium*) were documented onsite during the reporting period and were treated by a California licensed herbicide applicator.

MSP has contracted with a California-licensed herbicide applicator and has been applying herbicide to exotic and invasive species within the project approximately every six months. Herbicide application has shown to be effective in controlling weeds onsite. During 2019 post-emergent herbicide was applied during spring and pre-emergent during fall.

See **Appendix J1** for a stand along report on the BIO16.

### **3.17 BIO-17: Monitoring Impacts of Solar Collection Technology on Birds**

BIO-17 requires the project owner to develop and implement a Bird Monitoring Study.

Revision 2 of the Bird Monitoring Study was submitted to the CPM on April 15, 2016, to address comments on Revision 1 provided by the CEC staff during a January 27, 2016 meeting. A meeting was held on December 14, 2016 between MSP and CEC to discuss, in part, consistency between the BIO-17 Bird Monitoring Study and BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan. The Bird Monitoring Study was subsequently approved by the CEC on January 27, 2017.

The issuance of the permanent Special Purpose Utility Permit by the USFWS was received on March 3, 2017 and the Scientific Collection Permit from the CDFW was received on August 10, 2017. The late receipt of the latter permit pushed back initiation of the study by two quarters. These two quarters are to be added to the 2019 season.

The BIO-17 Bird Monitoring Study was initiated on September 1, 2017 and fieldwork was completed on August 30, 2019. MSP has contracted Ironwood Consulting and Corvus Biological to provide an avian mortality surveyor, data management and analysis services, and to consult on the overall implementation of the study.

The DB performed all aspects of the carcass persistence trials and searcher efficiency trials, managing the carcass and game camera placement. Currently, 18 biologists are being added to the site's Scientific Collecting Permit, plus the Principal Investigator. Please see BIO17-01-02 SCP (09-AFC-5C) for further information.

Avian Mortality surveys have been ongoing since September 2017. Total number of avian fatalities on the MSP site during the 2019 reporting period (including BIO-19/ Evaporation Pond related deaths) amount to 80. Quarterly reports have been submitted quarterly beginning February 28, 2018. The combined second annual and final project summary report was submitted on December 06, 2019.

### 3.18 BIO-18: Common Raven Monitoring, Management, and Control Plan

BIO-18 requires the project owner to implement measures to manage its construction site in a manner to control Common Raven (*Corvus corax*) populations. In addition, the project owner must develop and implement a Common Raven Monitoring, Management, and Control Plan. BIO18-01-03 reviewed and approved by the CEC on March 26, 2012.

The Common Raven Monitoring, Management, and Control Plan specifies that the project owner will report annually to the California Energy Commission (CEC), United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) during the operation phase of the project. The raven plan requires the Designated Biologist (DB) and/or Biological Monitor (BM) to perform monthly reconnaissance-level surveys for the first five years of the project, unless it is determined that fewer surveys are necessary. In addition, annual breeding season monitoring will be conducted for the life of the project. The DB performed all monthly raven surveys and breeding season nesting surveys during 2019.

The BIO-18 Annual Report for 2019 is attached as **Appendix J2**

### 3.19 BIO-19: Evaporation Pond Monitoring and Adaptive Management Plan

BIO-19 requires the project owner to develop and implement an Evaporation Pond Monitoring and Adaptive Management Plan to define the monitoring and reporting procedures as well as triggers for adaptive management strategies that will be implemented to prevent wildlife fatalities at the evaporation ponds.

The BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan was submitted to CEC and USFWS on February 23. On September 16, the CPM notified MSP that the submittal was not approved. Per CPM recommendations MSP requested for approval on September 27 to

redeploy the cannon deterrents in addition to changing the chip card and keeping the Eagle Eyes™, periodically rotating implementation of these technologies. MSP also proposed installing a water cannon system with high flow in all the ponds to hinder the birds from finding a proper spot in the ponds for perching or staying on the water. After observing the effects of the current evaporators in use at the Alpha ponds, this seems to be a working system for bird deterrents. On October 7, the CEC requested information by email on the water cannons; how many cannons per pond, how would they be triggered to go off, and which particular type of cannon would be installed. On October 11, MSP sent an email response to CEC stating there would be 2 to 6 cannons deployed per pond, depending on final model and layout. They would go off automatically, and would most likely be similar to the Landshark™ model.

A meeting was held on December 14, between MSP and CEC to discuss, in part, the proposed Evaporation Pond and Adaptive Management Plan. Topics discussed were: operation schedule of the water cannons, time of year cannons are to be used, would cannons affect existing evaporators, water flow rates, power source, how many cannons per pond, how they would be turned on, and brand or model type. An email was sent by MSP on December 21 answering all the questions the CEC had from the meeting. There was no final decision made by the CPM by the end of December 2016; therefore, the current approach is as follows: if the adaptive management from a prior quarter's trigger has not yet been implemented, and the trigger is met the subsequent quarter, no additional adaptive management measure would be implemented until the first one is implemented (MSP 2016. BIO-19. Section 4-2).

On September 5, 2017 the adaptive management trigger was met with the discovery of a bird carcass in the Beta Evaporation Pond. Water cannon materials were ordered, and a contractor retained for the construction and deployment of the cannons. The contractor never came to the site and could not be contacted which caused a delay in the deployment of the cannons. An irrigation supply and rental company was contacted to provide a water cannon replacement.

On October 11, 2017, the water cannons were finally deployed and activated. As part of the adaptive management guidelines, daily avian point counts were initiated. During one of these point counts, an injured red-necked phalarope was discovered in the pond. No cause for the injury could be verified, but the DB suspected a possible collision by the bird with one of the water cannon streams. On October 10, 2017, a dead red-winged blackbird was discovered directly under one of the water cannon streams. The carcass showed definite signs of trauma evidenced by a broken neck and missing feathers in the pectoral region. The DB notified the agencies of the find immediately.

On October 26, 2017, the CEC issued a Cease and Desist order on the use of the water cannons. The water cannons were immediately shut off that day and were returned to the rental company some weeks later.

Subsequent consultation with the CEC and USFWS resulted in the recommendation to keep the Bird Gard and Eagle Eyes deterrent systems in place. Additional avian fatalities on October 16 and 17 2017 resulted in the final adaptive management trigger being met. On, January 23, 2018,

the CEC issued a formal letter notifying the MSP that the ponds must be netted. USFWS concluded that the installation of the netting should be delayed for a period of one year to do a comparative study with the netting system at the Genesis solar site.

Avian point counts were reduced to a bi-weekly schedule for the time being, at the request of the CEC.

### 3.20 BIO-20: Harper Dry Lake Marsh Water Delivery

BIO-20 requires the project owner to provide a well with the ability to convey a minimum of 75 acre-feet of water to Harper Dry Lake marsh, prior to decommissioning the on-site well that was serving the marsh.

On August 16, 2012, the project owner completed construction of a new well that meets BIO-20 criteria of providing 75 acre-feet of water to the Harper Dry Lake marsh. In letter to the project owner, the Bureau of Land Management took responsibility for well ownership, including maintenance and electricity. In compliance with the BIO-20 Verification, the project owner submitted all applicable information regarding decommissioning the original well and specifications of the new well to the CPM on September 24, 2012 (MSLLC, 2012).

As noted in the BIO-6 Construction Closure Report, this item was completed in 2012 and no further compliance activities are required related to this COC.

### 3.21 BIO-21: USFWS Biological Opinion

BIO-21 requires the project owner to incorporate the USFWS's Biological Opinion terms and conditions into the BRMIMP.

The USFWS issued the Biological Opinion (8-8-11-F-3) on March 17, 2011 (USFWS, 2011b).

No desert tortoises were encountered onsite in 2019.

BIO21-07-00 Biological Opinion Annual Compliance Report 2019 (09-AFC-5C) submitted on December 19, 2019.

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## **Attachment 1**

Raven Point Count Raw Data (see separate spreadsheet file)