

## DOCKETED

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

**CALIFORNIA ENERGY COMMISSION**

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

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

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

The modifications proposed in the revised petition to amend would:

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

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

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

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

### **STAFF RECOMMENDATION**

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

### **ENERGY COMMISSION FINDINGS**

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

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

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

## CONCLUSION AND ORDER

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

## CONDITIONS OF CERTIFICATION

### DISTRICT CONDITIONS

District Preliminary Decision Conditions (MDAQMD 2014)

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

### EQUIPMENT DESCRIPTION

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

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

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

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

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

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

a. ~~NOx as NO<sub>2</sub>:~~

~~0.237 lb/hr operating at 100% load (based on 9.0 ppmvd corrected to 3% O<sub>2</sub> and averaged over one hour)~~

b. ~~CO:~~



0.817 lb/hr operating at 100% load (based on 50 ppmvd corrected to 3% O<sub>2</sub> and averaged over one hour)

c. ~~VOC as CH<sub>4</sub>:~~

0.231 lb/hr operating at 100% load

d. ~~SO<sub>x</sub> as SO<sub>2</sub>:~~

0.0126 lb/hr operating at 100% load

e. ~~PM<sub>10/2.5</sub>:~~

0.159 lb/hr operating at 100% load

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

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

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

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

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

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

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

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

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

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

a. ~~NO<sub>x</sub> as NO<sub>2</sub> in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).~~

b. ~~VOC as CH<sub>4</sub> in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).~~

- ~~c. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).~~
- ~~d. PM10/2.5 in mg/m<sup>3</sup> at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).~~
- ~~e. Flue gas flow rate in dscf per minute.~~
- ~~f. Opacity (measured per USEPA reference Method 9).~~

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

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

- ~~a. NOx as NO<sub>2</sub> in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).~~
- ~~b. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).~~

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

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

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

**AQ-1 (Deleted)**

**AQ-2 (Deleted)**

**AQ-3 (Deleted)**

**AQ-4 (Deleted)**

**AQ-5 (Deleted)**

**AQ-6 (Deleted)**

**AQ-7 (Deleted)**

**AQ-8 (Deleted)**

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

**EQUIPMENT DESCRIPTION**

Two HTF ullage/expansion systems.

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

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

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

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

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

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

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

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

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

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



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

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

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

**AQ-13 (Reserved)**

**AQ-14 (Reserved)**

**AQ-15 (Reserved)**

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

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

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

- ~~a. VOC as CH<sub>4</sub> in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).~~
- ~~b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).~~



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

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

- ~~a. VOC as CH<sub>4</sub> in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).~~
- ~~b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).~~

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

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

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

- ~~a. VOC as CH<sub>4</sub>—4.55 lb/day, verified by compliance test.~~
- ~~b. Benzene—1.9 lb/day, verified by compliance test.~~

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

**AQ-17 (Reserved)**

**AQ-18 (Reserved)**

**AQ-19 (Reserved)**

**AQ-20 (Reserved)**

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

## **EQUIPMENT DESCRIPTION**

Two - 490 HP 2,280kW diesel fueled emergency generator engines, each driving a generator.

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

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

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

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

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

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

**AQ-37 (Reserved)**

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

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

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

**EQUIPMENT DESCRIPTION**

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

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

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

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

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

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

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

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

#### **AQ-46 (Reserved)**

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

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

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

#### **EQUIPMENT DESCRIPTION**

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

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

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

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

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

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

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

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

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

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

- a. Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks shall be conducted per **current ARB Executive Orders** ~~EO VR-401-A Exhibit 4~~, and,
- b. Phase I Adapters, Emergency Vents, Spill Container Drain Valve, Dedicated gauging port with drop tube and tank components, all connections, and fittings shall NOT have any detectable leaks; test methods shall be per **current ARB Executive Orders** ~~EO VR-401-A Table 2-1~~, and
- c. Liquid Removal Test (if applicable) per TP-201.6, and

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



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

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

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

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

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

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

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

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

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

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

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

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

**AQ-59** The project owner shall install, maintain, and operate **Enhanced Vapor Recovery (EVR) Phase I and Phase II** in compliance with ~~CARB Executive Order VR 401-A, and Phase II vapor recovery in accordance with G 70-116-F132-A~~ **current ARB Executive Orders with the exception that hanging hardware shall be EVR Balance Phase II type hanging hardware (Vapor Systems Technologies [VST] or other ARB Approved EVR Phase II Hardware)**. In the event of conflict between these permit conditions and/or the referenced EO's the more stringent requirements shall govern. **[Rule 204]**

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

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

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

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

## **EQUIPMENT DESCRIPTION**

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

a. Date and time of VOC monitoring;

b. Results of VOC monitoring; and

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

**IT IS SO ORDERED.**

**CERTIFICATION**


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

AYE:    Weisenmiller, Douglas, Hochschild, Scott

NAY:    None

ABSENT:    McAllister

ABSTAIN:    None

  
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Harriet Kallemeyn,  
Secretariat