

Memorandum

Date: July 2, 2010
 Telephone: (916) 654-4781
 File: 09-AFC-5

To: Commissioner Anthony Eggert, Presiding Member
 Commissioner James Boyd, Associate Member
 Kourtney Vaccaro Hearing Officer

DOCKET**09-AFC-5**

DATE JUL 02 2010

RECD. JUL 02 2010

From: California Energy Commission - Craig Hoffman
 1516 Ninth Street Siting Project Manager
 Sacramento, CA 95814-5512

Subject: **ABENGOA MOJAVE SOLAR 09-AFC-5**
ENERGY COMMISSION STAFF'S ERRATA TO THE SUPPLEMENTAL STAFF
ASSESSMENT PART B - AIR QUALITY SECTION - (EXHIBIT 305)

This document presents minor changes to the Conditions of Certification, both staff conditions and the Mojave Desert Air Quality Management District's (District) conditions, but does not impact the staff's findings as presented in the Supplemental Staff Assessment. The substantive requirements under the conditions have not changed except to the extent they reflect new requirements in the District's revised Final Determination of Compliance (FDOC). The revisions to the proposed staff conditions and to the District conditions and equipment descriptions are provided in underline/strikeout.

The format revisions in staff's conditions are based on comments from Energy Commission legal staff, and these revisions are primarily made based on California Environmental Quality Act requirements that the substantive requirements remain in the conditions rather than the verifications of the conditions. There are a few other minor revisions that have been completed to address consistency issues between the current projects being licensed by the Energy Commission.

The District has revised its FDOC primarily to address consistency issues with the conditions for the Heat Transfer Fluid piping system and gasoline tank (MDAQMD 2010c). These revisions do not change the District's or staff's findings regarding compliance with laws, ordinances, regulations and standards.

cc: Proof of Service List
 Docket 09-AFC-5

PROOF OF SERVICE (REVISED 6/8/10) FILED WITH
 ORIGINAL MAILED FROM SACRAMENTO ON 7/2/10

TKG

AIR QUALITY ERRATA

Testimony of William Walters, P.E.

INTRODUCTION

This document presents minor changes to the Conditions of Certification (CoCs), both staff conditions and the Mojave Desert Air Quality Management District's (District) conditions, but does not impact the staff's findings as presented in the Supplemental Staff Assessment. The substantive requirements under the conditions have not changed except to the extent they reflect new requirements in the District's revised Final Determination of Compliance (FDOC). The revisions to the proposed staff conditions and to the District conditions and equipment descriptions are provided in underline/strikeout.

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REVISED PROPOSED CONDITIONS OF CERTIFICATION

The CoCs with proposed revisions are provided below. The other proposed conditions remain as provided in the Supplemental Staff Assessment.

STAFF CONDITIONS OF CERTIFICATION

AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report that demonstrates compliance with the Air Quality Construction Mitigation Plan (AQCMP) mitigation measures for the purposes of minimizing fugitive dust emission creation from construction activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in **AQ-SC4** from leaving the project site. The following fugitive dust mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by **AQ-SC2**, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval.

~~**Verification:** The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions:~~

~~A. A summary of all actions taken to maintain compliance with this condition;~~

~~B. Copies of any complaints filed with the District in relation to project construction; and~~

~~C. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.~~

~~The following fugitive dust mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by **AQ-SC2**.~~

- a. The main access roads through the facility to the power block areas will be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction in the main power block area, and delivery areas for operations materials (chemicals, replacement parts, etc.) will be paved or treated prior to taking initial deliveries.
- b. All unpaved construction roads and unpaved operation and maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent that can be determined to be both as efficient as or more efficient for fugitive dust control as than ARB approved soil stabilizers, and ~~that~~ shall not increase any other environmental impacts, including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. All other disturbed areas in the project and linear construction sites shall be watered as frequently as necessary during grading (consistent with **BIO-7**~~Bio-7~~); and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods, in order to comply with the dust mitigation objectives of Condition of Certification **AQ-SC4**. The frequency of watering can be reduced or eliminated during periods of precipitation.
- c. No vehicle shall exceed 10 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.
- d. Visible speed limit signs shall be posted at the construction site entrances.
- e. All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.
- f. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- g. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.
- h. All construction vehicles shall enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.

- i. Construction areas adjacent to any paved roadway below the grade of the surrounding construction area or otherwise directly impacted by sediment from site drainage shall be provided with sandbags or other equivalently effective measures to prevent run-off to roadways, or other similar run-off control measures as specified in the Storm Water Pollution Prevention Plan (SWPPP), only when such SWPPP measures are necessary so that this condition does not conflict with the requirements of the SWPPP.
- j. All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.
- k. At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads en route from the construction site or construction staging areas shall be swept as needed (less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff resulting from the construction site activities is visible on the public paved roadways.
- l. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.
- m. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
- n. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

Verification: The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions:

- A. A summary of all actions taken to maintain compliance with this condition;
- B. Copies of any complaints filed with the District in relation to project construction; and
- C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (A) off the project site and within 400 feet upwind of any regularly occupied structures not

owned by the project owner or (B) 200 feet beyond the centerline of the construction of linear facilities indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed;~~described in the verification below and how they will be implemented to meet these fugitive dust control performance standards.~~

Verification: ~~The AQCMM shall provide the CPM a Monthly Compliance Report to include:~~

- ~~A. A summary of all actions taken to maintain compliance with this condition;~~
- ~~B. Copies of any complaints filed with the District in relation to project construction; and~~
- ~~C. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.~~

~~The AQCMP shall include the following additional mitigation measure implementation procedures that will be used to ensure that the performance standards of this condition are met:~~

- ~~The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that visible dust plumes as defined above are observed:~~
 - Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.
 - Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1, specified above, fails to result in adequate mitigation within 30 minutes of the original determination.
 - Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2, specified above, fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The project owner may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, if the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

Verification: The AQCMM shall provide the CPM a Monthly Compliance Report to include:

- A. A summary of all actions taken to maintain compliance with this condition;

- B. Copies of any complaints filed with the District in relation to project construction; and
- C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related emissions. The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2, and aAny deviation from the AQCMP mitigation measures shall require prior and CPM notification and approval.

Verification: ~~The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions:~~

- ~~A. A summary of all actions taken to control diesel construction related emissions;~~
- ~~B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and~~
- ~~C. Any other documentation deemed necessary by the CPM, and the AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.~~

~~The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2.~~

- a. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.
- b. All construction diesel engines with a rating of 50 hp or higher and lower than 750 hp shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. Engines larger than 750 hp shall meet Tier 2 engine standards. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50400 hp and smaller than 750 hp, that equipment shall be equipped with a Tier 2 engine, or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 2 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" for the following, as well as other, reasons.

1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or
 2. The construction equipment is intended to be on site for 10 days or less.
 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical.
- c. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and that a replacement for the equipment item in question meeting the controls required in item "b" occurs within 10 days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists :
1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.
 2. The retrofit control device is causing or is reasonably expected to cause engine damage.
 3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public.
 4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.
- d. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
- e. All diesel heavy construction equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.
- f. Construction equipment will employ electric motors when feasible.

Verification: The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions:

A. A summary of all actions taken to control diesel construction related emissions;

- B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and
- C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC8 The project owner shall provide the CPM copies of all District issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) documents for the facility.

The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project federal air permit. The project owner shall submit to the CPM any modification to any federal air permit proposed by the District or U.S. Environmental Protection Agency (U.S. EPA), and any revised federal air permit issued by the District or U.S. EPA, for the project.

Verification: The project owner shall submit any ATC, PTO, and proposed federal air permit modifications to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified ATC/PTO documents and all federal air permits to the CPM within 15 days of receipt.

DISTRICT CONDITIONS

District Revised Final Determination of Compliance Conditions (MDAQMD 2010c)

Application No. 00010906 and 00010907 (Two - HTF Ullage/Expansion TankSystem)

EQUIPMENT DESCRIPTION

Two HTF ullage/expansion systemstanks.

- AQ-16** The project owner shall establish an inspection and maintenance program to determine, repair, and log leaks in HTF piping network, ~~storage tanks,~~ ~~distillation units~~ and expansion tanks. Inspection and maintenance program and documentation shall be available to District staff upon request.
 - a. All pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be electronically, audio, or visually inspected once every operating day.
 - b. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane.

- ~~c. VOC leaks greater than 100 ppmv shall be tagged (with date and concentration) and repaired within seven calendar days of detection.~~
- c. Inspection frequency for accessible components, except pumps, compressors and pressure relief valves, may be changed from quarterly to annual when two percent or less of the components within a component type are found to leak during an inspection for five consecutive quarters.
- d. Inspection frequency for accessible components, except pumps, compressors and pressure relief valves, shall be increased to quarterly when more than two percent of the components within a component type are found to leak during any inspection or report.
- e. If any evidence of a potential leak is found the indication of the potential leak shall be eliminated within 7 calendar days of detection.
- ~~df. VOC leaks greater than 10,000-ppmv shall be tagged and repaired within 24-hours of detection.~~
- ~~g. The project owner shall maintain record of the amount of HTF degradation products removed from system on a monthly basis for a period of five (5) years~~
- g. After a repair, the component shall be re-inspected for leaks as soon as practicable, but no later than 30 days after the date on which the component is repaired and placed in service.
- ~~h. Any detected leak exceeding 100 ppmv and not repaired in 7 days and 10,000 ppmv not repaired within 24 hours shall constitute a violation of this Authority to Construct (ATC)/Permit to Operate (PTO).~~
- eh. The project owner shall maintain a log of all VOC leaks exceeding 10,000-ppmv, including location, component type, date of leak detection, emission level (ppmv), method of leak detection, date of repair, date and emission level of reinspection after leak is repaired, and repair made.
- ~~i. The project owner shall place an adequate number of isolation valves in the Heat transfer Fluid (HTF) pipe loops so as to be able to isolate a solar panel collector loop in the event of a leak of fluid. These valves shall be actuated automatically, manually, and remotely, or locally as determined during detailed engineering design. The detailed engineering design drawings showing the number, location, and type of isolation valves shall be provided to the District for review and approval prior to the commencement of the solar array construction.~~
- i. The project owner shall maintain records of the total number of components inspected, and the total number and percentage of leaking components found, by component types made.

- fj. The project owner shall maintain record of the amount of HTF replaced on a monthly basis for a period of five (5) years.

Verification: The inspection and maintenance plan shall be submitted to the CPM for review and approval at least 30 days before taking delivery of the HTF. As part of the Annual Compliance Report, the project owner shall provide the quantity of used HTF fluid removed from the system and the amount of new HTF fluid added to the system each year. The project owner shall make the site available for inspection of HTF piping Inspection and Maintenance Program records and HTF system equipment by representatives of the District, ARB, and the Energy Commission.

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 CH₄ in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent).
- b. Benzene in ppmvd at 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.

Application No. 00010712 and 00010713 (Two - 4,190 HP Emergency IC Engine)

EQUIPMENT DESCRIPTION

Two - ~~Tier II~~ 4,190 HP diesel fueled emergency generator engines, each driving a generator.

Application No. 00010714 and 00010715 (Two - 346 HP Emergency IC Engine)

EQUIPMENT DESCRIPTION

Two - ~~Tier III~~ 346 HP diesel fueled emergency generator engines, each driving a fire suppression water pump.

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.

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 shall be available to the District upon request. Records of Maintenance, Tests, Inspections, and Test Failures shall be maintained and available to District personal upon request; record form shall be similar to the Maintenance Record form indicated in EO VR-401-A, Figure 2N.

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 ~~The gasoline~~ Pursuant to EO VR-401-A, vapor vent pipe(s) are to be equipped with Husky 5885 pressure relief valve(s) ~~per applicable CARB requirements.~~

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 accordance with the applicable CARB following test methods/procedures:

- a. Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks shall be conducted per 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 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 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.

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 for EVR Phase I, and Standing Loss requirements:

<http://www.arb.ca.gov/vapor/eos/eo-vr401/eo-vr401a/eo-401a.pdf>.

Additionally, Phase II Vapor Recovery System shall be installed and maintained per G-70-116-F with the exception that hanging hardware shall be EVR Balance Phase II type hanging hardware (VST or other CARB Approved EVR Phase II Hardware).

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: Maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by OPW Certified Technicians.

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, Maintenance Intervals for OPW; Tank Gauge Components; Dust Caps Emergency Vents; Phase I Product and Vapor Adapters, and Spill Container Drain Valve, shall be conducted by an OPW trained technician annually.

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

AQ-5558 The annual throughput of gasoline shall not exceed 25600,000 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.

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-5659 The project owner shall install, maintain, and operate, ~~and maintain CARB approved EVR Phase I and in compliance with CARB Executive Order VR-401-A, and Phase II vapor recovery in accordance with G-70-116-F. In the event of conflict between these permit conditions and/or the referenced EO's the more stringent requirements shall govern.~~ systems on the proposed facility gasoline tank and dispensing system. The Phase I and Phase II vapor recovery systems will meet all applicable CARB standards at the time of installation for the systems selected.

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 The California Air Resources Board (CARB) has established a timeline for Aboveground Storage Tanks (AST) Enhanced Vapor Recovery (EVR) system

implementation. Pursuant to CARB requirements and State mandated retrofits, the project owner shall ensure that this tank meets all the applicable requirements within the designated timeframes. Prior to conducting any modifications the project owner shall obtain a District approved Authority to Construct (ATC) Permit. See the following link for AST-EVR Timeline: http://o3.arb.ca.gov/vapor/asttimeline_123009.pdf

Verification: — The project owner shall provide the District and the CPM documentation, at least 30 days prior to installation, showing that the tank at the time of installation will meet appropriate ARB-EVR requirements.

REFERENCES

MDAQMD 2010c - Mojave Desert Air Quality Management District / A. De Salvo.
Abengoa Mojave – Final Decision/Determination of Compliance, Revision A,
dated 7/1/2010. Submitted to CEC on 7/1/2010.

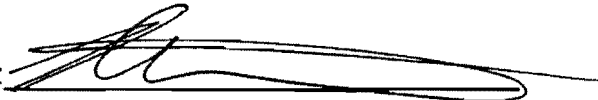
DECLARATION OF
Testimony of William Walters, P.E.

I, **William Walters**, declare as follows:

1. I am presently employed by Aspen Environmental Group, a contractor to the California Energy Commission's Siting, Transmission and Environmental Protection Division, as a senior associate in engineering and physical sciences.
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.
3. I helped prepare the staff testimony on **Air Quality Errata** for the **Abengoa Mojave Solar** project (09-AFC-5) based on my independent analysis of the Application for Certification and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 2, 2010

Signed: 

At: Agoura Hills, California

WILLIAM WALTERS, P.E.
Air Quality Specialist

ACADEMIC BACKGROUND

B.S., Chemical Engineering, 1985, Cornell University

PROFESSIONAL EXPERIENCE

Mr. Walters has over 20 years of technical and project management experience in environmental compliance work, including environmental impact reports, emissions inventories, source permitting, energy and pollution control research RCRA/CERCLA site assessment and closure, site inspection, and source monitoring.

Aspen Environmental Group

2000 to present

Responsible as lead technical and/or project manager of environmental projects. Specific responsibilities and projects include the following:

- **Engineering and Environmental Technical Assistance to Conduct Application for Certification Review for the California Energy Commission:**
 - Preparation and project management of the air quality section of the Staff Assessment and/or Initial Study and the visual plume assessment for the following California Energy Commission (CEC) licensing projects: Hanford Energy Park; United Golden Gate, Phase I; Huntington Beach Modernization Project (including Expert Witness Testimony); Woodland Generating Station 2; Ocotillo Energy Project, Phase I; Magnolia Power Project; Colusa Power Project; Inland Empire Energy Center; Rio Linda/Elverta Power Plant Project; Roseville Energy Center; Henrietta Peaker Project; Tracy Peaking Power Plant Project (including Expert Witness Testimony); Avenal Energy Project; San Joaquin Valley Energy Center (including expert witness testimony); Salton Sea Unit 6 Project (including expert witness testimony); Modesto Irrigation District Electric Generation Station (including expert witness testimony); Walnut Energy Center (including expert witness testimony); Riverside Energy Resource Center (including expert witness testimony); Pastoria Energy Facility Expansion; Panoche Energy Center; Starwood Power Plant; and Riverside Energy Resource Center Units 3 and 4 Project (in progress).
 - Preparation and project management of the visual plume assessment for the following California Energy Commission (Energy Commission) licensing projects: Metcalf Energy Center Power Project (including Expert Witness Testimony); Contra Costa Power Plant Project (including Expert Witness Testimony); Mountainview Power Project; Potrero Power Plant Project; El Segundo Modernization Project; Morro Bay Power Plant Project; Valero Cogeneration Project; East Altamont Energy Center (including expert witness testimony); Russell City Energy Center; SMUD Cosumnes Power Plant Project (including expert witness testimony); Pico Power Project; Blythe Energy Project Phase II; City of Vernon Malburg Generating Station; San Francisco Electric Reliability Project; Los Esteros Critical Energy Facility Phase II; Roseville Energy Park; City of Vernon Power Plant; South Bay Replacement Project; Walnut Creek Energy Park; Sun Valley Energy Project; Highgrove Power Plant; Colusa Generating Station; Russell City Energy Center; Avenal Energy Project; Carlsbad Energy Center; Community Power Project; Panoche Energy Center; San Gabriel Generating Station; Sentinel Energy Project; and Victorville 2 Hybrid Power Project.
 - Assistance in the aircraft safety review of thermal plume turbulence for the Riverside Resources Center; Russell City Energy Center Amendment (including expert witness testimony); Eastshore Energy Power Plant (including expert witness testimony); Carlsbad Energy Center (in progress), Riverside Energy Resource Center Units 3 and 4 Project; Victorville 2 Hybrid Power Project; and the Blythe Energy Power

Plant and Blythe Energy Project Phase II (including expert witness testimony) siting cases. Assistance in the aircraft safety review of thermal and visual plumes of the operating Blythe Energy Power Plant. Preparation of a white paper on methods for the determination of vertical plume velocity determination for aircraft safety analyses.

- Preparation and instruction of a visual water vapor plume modeling methodology class for the CEC.
- Preparation and project management of the public health section of the Initial Study for the Woodland Generating Station 2 Energy Commission licensing project.
- Preparation of project amendment or project compliance assessments, for air quality or visual plume impacts, for several licensed power plants, including: Metcalf Energy Center; Pastoria Power Plant; Elk Hills Power Plant; Henrietta Peaker Project; Tracy Peaker Project; Magnolia Power Project; Delta Energy Center; SMUD Cosumnes Power Plant; Walnut Energy Center; San Joaquin Valley Energy Center; City of Vernon Malburg Generating Station; Otay Mesa Power Plant; Los Esteros Critical Energy Facility; Pico Power Project; Riverside Energy Resource Center; Blythe Energy Project Phase II; Inland Empire Energy Center; Salton Sea Unit 6 Project; and Starwood Power-Midway Peaking Power Plant.
- Preparation of the air quality section of the staff paper "A Preliminary Environmental Profile of California's Imported Electricity" for the Energy Commission and presentation of the findings before the Commission.
- Preparation of the draft staff paper "Natural Gas Quality: Power Turbine Performance During Heat Content Surge", and presentation of the preliminary findings at the California Air Resources Board Compressed Natural Gas Workshop and a SoCalGas Technical Advisory Committee meeting.
- Preparation of the staff paper "Emission Offsets Availability Issues" and preparation and presentation of the Emission Offsets Constraints Workshop Summary paper for the Energy Commission.
- Preparation of information request and data analysis to update the Energy Commission's Cost of Generation Model capital and operating cost factors for combined and simple cycle gas turbine projects. Additionally, performed a review of the presentation for the revised model as part of the CEC's 2007 Integrated Energy Policy Report workshops, and attended the workshop and answering Commissioner questions on the data collection and data analysis.
- **For the Los Angeles Department of Water and Power (LADWP):**
 - Preparation of the Air Quality Inventory for the LADWP River Supply Pipeline Project EIR.
 - Project management and preparation of the Air Quality Section for the LADWP Valley Generating Station Stack Removal IS/MND support project.
- **For the U.S. Army Corps of Engineers (Corps):**
 - Preparation of the Air Quality Section and General Conformity Analysis for the Matilija Dam Ecosystem Restoration Project EIS/R for the Corps.
 - Preparation of emission inventory and General Conformity Analysis of the Murrieta Creek Flood Control Project and the Joint Red Flag exercise to be conducted in the Nevada Test and Training Range.
 - Emission inventory for the construction activities forecast for the San Jose/Old San Jose Creeks Ecosystem Restoration project for the Corps.
- **Other Projects:**
 - Preparation of the Air Quality Section of the LAUSD New School Construction Program EIR and provided traffic trip and VMT calculation support for the Traffic and Transportation Section.

- Preparation of the draft staff paper "Natural Gas Quality: Power Turbine Performance During Heat Content Surge", and presentation of the preliminary findings at the California Air Resources Board Compressed Natural Gas Workshop and a SoCalGas Technical Advisory Committee meeting.
- Preparation of the Air Quality Section of the Environmental Information Document in support of the Coastal Consistency Determinations for the suspension of operation requests for undeveloped units and leases off the Central California Coast.
- Preparation of comments on the Air Quality, Alternatives, Marine Traffic, Public Safety, and Noise section of the Cabrillo Port Liquefied Natural Gas Deepwater Port Draft EIS/EIR for the City of Oxnard.
- Preparation of the emission estimates used in the Air Quality Sections for the DWR Tehachapi Second Afterbay Project Initial Study and EIR.

Camp Dresser & McKee, Inc.

1998 to 2000

Mr. Walters was responsible as lead technical and/or project manager of environmental projects. Specific responsibilities and projects include the following:

- Preparation of emission inventories and dispersion modeling for criteria and air toxic pollutants for the Los Angeles International Airport Master Plan (LAXMP) EIS/EIR.
- Project Manager/Technical lead for the completion of air permit applications and air compliance audits for two Desa International fireplace accessory manufacturing facilities located in Santa Ana, California.
- Project manager/technical lead for the completion of Risk Management Plans (RMPs) for four J.R. Simplot food processing facilities in Oregon, Idaho, and Washington and the Consolidated Reprographics facility located in Irvine, California.

Planning Consultants Research

1997 to 1998

Mr. Walters was responsible as lead technical and/or project manager of environmental projects. Specific responsibilities and projects include the following:

- Project Manager for a stationary source emission audit of the entire Los Angeles International Airport complex for Los Angeles World Airports (LAWA) in support of the LAXMP.
- Review of the Emission Dispersion Modeling System (EDMS) and preparation of a report with findings to the Federal Aviation Administration for LAWA in support of the LAXMP.
- Project manager for the ambient air monitoring and deposition monitoring studies performed for LAWA in support of the LAXMP, including the selection of the monitoring sites and specialty sub-contractor, and review of all monitoring data.

Aspen Environmental Group/Clean Air Solutions

1995 to 1996

Mr. Walters was responsible as lead technical and/or project manager of environmental projects. Specific responsibilities and projects include the following:

- Manager of the Portland, Oregon, office of Clean Air Solutions from March 1995 to December 1995, with responsibilities including Project Management, Business Development, and Administration.
- Control technology assessment, engineering support and Notice of Intent to construct preparation for J.R. Simplot's Hermiston, Oregon, food processing facility. Review and revision of an Air Contaminant Discharge Permit application, Title V permit application, and PSD modeling analysis for J.R. Simplot's Hermiston facility.

- Air quality compliance report including an air emission inventory, regulation and permit compliance determination, and recommendations for compliance for Lumber Tech, Inc.'s Lebanon, Oregon, wood products facility.

Fluor Daniel, Inc.

1990 to 1995 and 1996 to 1997

Mr. Walters was responsible as lead technical or project manager for major environmental projects for both government and private clients. His projects included:

- Prepared several air permit applications for the ARCO Los Angeles Refinery Polypropylene Plant Project; Phase I environmental assessments for properties located in Southern California; and a site investigation and RCRA closure plan for a hazardous waste storage site in Vernon, California.
- Project manager of the Anaconda Smelter site for the U.S. Environmental Protection Agency's (EPA) Alternative Remedial Contract System (ARCS) project during the conclusion of technical activities and project closeout. Prepared a cost recovery report for the project.
- Performed environmental analysis for the Bonneville Power Authority, including air pollution BACT analysis, wastewater analysis, and evaluation of secondary environmental effects of electric power producing technologies.

Jacobs Engineering Group

1988 to 1990

Mr. Walters was responsible for a wide range of air pollution regulatory and testing projects, including the following:

- Project manager of air toxic emission inventory reports prepared for U.S. Borax's boron mining and refining facility and the Naval Aviation Depot (N. Island Naval Base, San Diego, California).
- Prepared air permit applications and regulatory correspondence for several facilities including the U.S. Department of Energy's Feed Material Production Center uranium processing facility in Fernald, Ohio; Evaluation of a sludge dewatering process at Unocal's Wilmington, California, Refinery; and United Airlines blade repair facility at the San Francisco Airport.
- Characterized and quantified air emissions for offshore oil and gas development activities associated with Federal oil and gas Lease Sale 95, offshore southern California, for the U.S. Minerals Management Service.

CERTIFICATIONS

- Chemical Engineer, California License 5973
- CARB, Fundamentals of Enforcement Seminar
- EPA Methods 1-8, 17; Training Seminar

AWARDS

- California Energy Commission Outstanding Performance Award 2001