

## DOCKETED

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# **ACE Cogeneration Expansion Project - Ash Landfill Separation Amendment Supplement**

Submitted to the

**California Energy Commission**

Prepared by

**ACE Cogeneration Company**

**August 9, 2017**

**Docket No. 86-AFC-1C**

# **ACE Cogeneration Expansion Project – Ash Landfill Separation Amendment Supplement**

## **Requested Action**

The ACE Cogeneration Company (ACC) requests that the California Energy Commission (CEC) include in its review of the ash landfill separation amendment filed in June 2017 use of an on-site diesel generator to provide primary power to the project. Approving use the on-site generator to provide power to the ACE Project will allow ACC to continue rotating the turbine-generator shaft. This will prevent damage to the shaft and increase the potential that it and other equipment from the ACE Project can be sold and reused.

## **Background**

The Argus Cogeneration Expansion (ACE) Project was permitted by the California Energy Commission (CEC) in 1988 and began commercial operations in 1991. Although not discussed in the Commission's Application for Certification Decision (CEC, Commission Decision Application for Certification for Kerr McGee Chemical Corporation's Argus Cogeneration Expansion Project, January 1988), construction diagrams submitted to and reviewed by the delegate Chief Building Official show that the project was designed and built with an on-site diesel generator to provide emergency power and black-start capability (see Attachment 1). The unit was located behind the turbine-generator building near the fence separating the ACE Project from the adjacent Searles Valley Minerals industrial operations (see Figure 1 – Location of ACE Diesel Generator). The San Bernardino County Air Pollution Control District (SBCAPCD) or its successor agency, the Mojave Desert Air Quality Management District (MDAQMD), permitted the initial generator and subsequent replacements (see Attachments 2, 3, and 4 for examples of annual Permits to Operate for the original and subsequent on-site diesel generators).

In October 2014, the ACE Cogeneration Company (ACC) ceased operations at the ACE Project and, in June 2015, the CEC approved ACC's Decommissioning Plan for the power plant and related facilities. When operations ceased, ACC obtained electricity for the ACE Project by back-feeding power from the SCE transmission system. ACC primarily used electricity to rotate the turbine-generator shaft and power the Administration Building four to five hours a week. In October 2016, an equipment

**FIGURE 1**  
**LOCATION ON ON-SITE DIESEL GENERATOR**



**LOCATION OF ON-SITE GENERATOR**

failure at the ACE switchyard forced ACC switch to using an on-site diesel generator for power. The Tier 4 diesel generator located at the site of the original emergency diesel generator (see Figure 2 – Existing On-Site Diesel Generator) and permitted by the MDAQMD (see Attachment 5) currently serves this purpose.

## **Amendment Supplement**

ACC filed an Amendment with the CEC in June 2017 seeking to separate the ACE ash landfill from the rest of the ACE Project. With this supplement, ACC seeks the CEC's approval to operate the on-site diesel generator as the primary source of power for the site. Previously the on-site diesel generator had only been used to provide power in the event of an emergency. Although the current generator is located in the same location as previous generators, it will serve a different function with a different operating profile.

This supplemental filing is made pursuant to Section 1769 of the Energy Commission's Power Plant Siting Regulations. The regulations require a project owner to provide specific information summarized below:

### **(A) A complete description of the proposed modifications, including new language for any conditions that will be affected.**

The modification, if approved, will approve ACC's use of the on-site diesel generator as the primary source of power for the ACE Project. The generator will typically be operated four to five hours a week to provide power to the Administration Building and motors for turning the turbine-generator shaft.

No physical changes will occur to the site or facilities. The diesel generator is located where previous diesel generators have been located. The only change will be in the primary function and monthly hours of operation of the generator. This modification has been permitted by the MDAQMD, will not result in any environmental impacts, and is consistent with applicable LORS.

In issuing the Authority to Construct/Permit to Operate for the current diesel generator, the MDAQMD established the following conditions:

1. This certified stationary compression-ignited internal combustion engine and its associated emission control systems shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of air contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit. [40 CFR 60.4211(a)]

**FIGURE 2**  
**ON-SITE DIESEL GENERATOR AT LOCATION OF PREVIOUS GENERATORS**



2. This engine shall not be operated unless all of the following emission control systems are properly functioning:
  - a. Diesel Oxidation Catalyst
  - b. Electronic Control Module
  - c. Exhaust Gas Recirculation System.

Furthermore, no changes shall be made to any of the above systems unless done so by a factory certified technician. [40 CFR 60.4211, MDAQMD Rule 1302]

3. This equipment shall only be fired on diesel fuel that meets the following requirements, or an alternative fuel approved by the ATCM for Stationary CI Engines:
  - a. Ultra-low sulfur concentration of 0.0015% (15 ppm) or less, on a weight per weight basis; and,
  - b. A cetane index or aromatic content, as follows:
    - i. A minimum cetane index of 40; or,
    - ii. A maximum aromatic content of 35 volume percent. [17 CCR 93115.5(a), 40 CFR 80.510, and 40 CFR 60.4207(b)]

Note: Use of CARB certified ULSD fuel satisfies the above requirements.

4. The owner/operator shall maintain an operations log for this engine current and on-site (or at a central location) for a minimum of three (3) years, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the following information:
  - a. Date of each maintenance action or repair;
  - b. Description of each maintenance action or repair;
  - c. Fuel sulfur concentration as required by condition #3 (the owner/operator may use the supplier's certification of sulfur content if it is maintained as part of this log);
  - d. Results of any source testing conducted on the engine; and,
  - e. Calendar year operation in terms of total hours. [17 CCR 93115.10(a)(3)(D)] [17 CCR 93115.10 (f), MDAQMD Rule 1302]
5. This engine is subject to the requirements of Title 17 CCR 93115, the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines and 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (NSPS). In the event of a conflict between these conditions and the ATCM or NSPS, the more stringent requirements shall govern. [District Rule 1302]

6. A non-resettable four-digit (9,999) hour timer shall be installed and maintained on this unit to indicate elapsed engine operating time. [17 CCR 93115.10(d)(1)]
7. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request. [District Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51, Subpart A] (Mojave Air Quality Management District, Authority to Construct B012765, May 2017)

In approving this request, the ACC recommends the CEC establish one or more conditions on the ACE Project that:

- Authorize the project owner to install and operate an on-site diesel generator for the purpose of providing power to the project site prior to the completion of decommissioning for the purposes of operating essential facilities and equipment at the project and
- Require the project owner to obtain and maintain all necessary permits from the applicable air pollution control district, comply with all requirements associated with those permits, and provide copies of the permits in the Annual Compliance Report.

This approach clearly establishes the CEC's jurisdiction over the generator as a part of the approved project and delegates the details of issuing annual operating permits and monitoring compliance to the appropriate air pollution control district.

**(B) A discussion of the necessity for the proposed modifications.**

As discussed in Background above, ACC obtained electricity for the ACE Project after the power plant ceased operations by back-feeding power from the SCE transmission system. An equipment failure at the ACE switchyard in October 2016, however, forced ACC to use an on-site diesel generator to provide power for the motors required to rotate the turbine-generator shaft and for the Administration Building. The generator is used four to five hours a week and is located at the site of the original on-site diesel generator used to provide emergency power and black-start capability to the project.

**(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time.**

The project owner did not anticipate the ACE switchyard failure nor expect to use



an on-site diesel generator to provide limited power to the facility following cessation of plant operations either during the certification proceeding in 1988 or decommissioning plan amendment proceeding in 2015.

**(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted.**

The use of an on-site diesel generator does not change or undermine the assumptions, rationale, findings, or of the bases of the final decision on the AFC or the decommissioning plan. The modification only provides a different source of primary power to the project for limited activities until the remaining equipment is sold and/or demolished.

**(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts.**

The use of an on-site diesel generator to provide power to the ACE facility for limited activities will not result in changes to the environment or significant adverse environmental impacts. The generator is located at the site of the on-site diesel generator used to provide emergency power and black-start capability and required no new construction of ground disturbing activities.

As noted in the Authority to Construct from the MDAQMD, the generator is a Tier 4i diesel engine:

- EPA Family EJDXL06.8210
- Engine Code 4045HFG93A
- EPA Certificate # EJDXL06.8210-020
- CARB Executive Order EO# U-R-004-0487
- 2014 model year with factory installed emission control devices/systems:
  - Electronic/Electric EGR - Cooled,
  - Non-standard Non-After Treatment Device installed,
  - Electronic Control,
  - Smoke Puff Limiter,
  - After Treatment Devices: PTOX-DFP-Active, Diesel Oxidation Catalyst installed

(Mojave Air Quality Management District, Authority to Construct B012765, May 2017).

Although ACC expects to operate the diesel generator approximately 5 hours a week, the MDAQMD permit allows the generator to operate 24 hours a day, 365

days a year. Estimated emissions from the generator are shown in Table 1.

**TABLE 1  
ESTIMATED EMISSIONS FROM ON-SITE DIESEL GENERATOR**

<b>Emission Type</b>	<b>Estimated Emission Rate - Max Load 1/ (gm/bhp-hr)</b>	<b>Allowed Annual Emissions 2/ (pounds)</b>	<b>Estimated Actual Annual Emissions 3/ (pounds)</b>
<b>CO</b>	0.075	7477	224.3
<b>GHG</b>	286.050		
<b>NOx</b>	2.312	0	0
<b>PM10</b>	0.007	9	0.3
<b>PM2.5</b>	0.007	241	7.3
<b>SOx</b>	0.003	24	0.7
<b>VOC</b>	0.0001	24	0.7

Notes:

- 1/ Estimated by MDAQMD (Mojave Air Quality Management District, Authority to Construct B012765, May 2017)
- 2/ Calculated by MDAQMD assuming the generator is operated 24 hours a day, 365 days a year (Mojave Desert Air Quality Management District, Engineering Evaluation, Diesel IC Engine, Generator, Permit B012765, May 2017)
- 3/ Estimated by ACC assuming the generator is operated 5 hours a week.

These emissions are significantly less than on-site emissions from the ACE project when it was operational as shown in Table 2.

**TABLE 2  
COMPARISON OF ANNUAL ACE PROJECT OPERATIONAL EMISSIONS  
AND ESTIMATED ON-SITE DIESEL GENERATOR EMISSIONS**

<b>EMISSION TYPE</b>	<b>ACE PROJECT (2014, pounds per year) 1/</b>	<b>ON-SITE GENERATOR - PERMITTED (pounds per year) 2/</b>	<b>ON-SITE GENERATOR - ESTIMATED ACTUAL (pounds per year) 3/</b>
<b>CO</b>	184,000	7477	224.3
<b>GHG</b>	718,528,133		
<b>NOx</b>	296,000	0	0
<b>PM10</b>	40,000	9	0.3
<b>PM2.5</b>	23,000	241	7.3
<b>SOx</b>	216,000	24	0.7
<b>VOC</b>	2,000	24	0.7

Notes:

- 1/ ACE Cogeneration Company, ACE Project Decommissioning Plan, November 25, 2014
- 2/ Calculated by MDAQMD assuming the generator is operated 24 hours a day, 365 days a year (Mojave Desert Air Quality Management District, Engineering Evaluation, Diesel IC Engine, Generator, Permit B012765, May 2017).
- 3/ Calculated from MDAQMD engineering evaluation assuming the generator is operated 5 hours a week.

**(F) A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards.**

The modification will comply with all applicable LORS. The use of the on-site diesel generator for limited power to the project will not result in any physical changes to the site or surrounding area. It will change the emissions of the project as discussed above. Use of the on-site diesel generator has been permitted by the MDAQMD (see Attachment 5).

**(G) A discussion of how the modification affects the public.**

The modification will have no direct or indirect impact on the public.

**(H) A list of property owners potentially affected by the modification.**

A list of property owners is provided in Attachment 6.

**(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.**

The modification will have no impact of nearby property owners.

**ATTACHMENT 6**  
**Mailing List of Property Owners within 1000 feet of the ACE Facility**

<b>Assessor's Parcel Number</b>	<b>Property Owner</b>	<b>Contact and Mailing Address</b>
0485031100000	Government Land – Bureau of Land Management	Carl B. Symons, Field Manager Bureau of Land Management Ridgecrest Field Office 300 S. Richmond Rd. Ridgecrest, CA 93555
0485021120000 0485031060000	San Bernardino County Flood Control District C/O R/W Engineer	Kevin Blakeslee, Deputy Director, Flood Control District County of San Bernardino Department of Public Works 825 E. 3 <sup>rd</sup> Street San Bernardino, CA 92415
0485021210000	County of San Bernardino, C/O County Service Area No. 82	San Bernardino County Special Districts Department 157 West 5 <sup>th</sup> Street, 2 <sup>nd</sup> Floor San Bernardino, CA 92415-0450
0485041280000	County of San Bernardino CSA 82, C/O CSA 82 Water/Sanitation Division	San Bernardino County Special Districts Department 157 West 5 <sup>th</sup> Street, 2 <sup>nd</sup> Floor San Bernardino, CA 92415-0450
0485021130000 0485031140000 0485021220000 0485031070000 0485041290000 0485041300000 0485031180000 0485031170000 0485041350000 0485031130000 0485031160000 0485031150000 0486061330000 0486061340000 0485041310000 0485041360000 0485041370000 0485041380000 0486061040000 0486061050000	Searles Valley Minerals Operations Inc.	Burnell Blanchard Searles Valley Minerals 13200 Main Street P.O. Box 367 Trona, CA 93562

