

## DOCKETED

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<b>Project Title:</b>	Compliance - Application for Certification for the (ACE) Argus Cogeneration Expansion AFC
<b>TN #:</b>	221423
<b>Document Title:</b>	Staff Analysis of the Petition to Separate and Terminate Jurisdiction over the Ash Landfill & Use of an On-site Diesel Generator
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**CALIFORNIA ENERGY COMMISSION**

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



**DATE:** October 6, 2017

**TO:** Interested Parties

**FROM:** Keith Winstead, Project Manager

**SUBJECT: Argus Cogeneration Expansion Project (86-AFC-01C) – Staff Analysis of the Petition to Separate and Terminate Jurisdiction over the Ash Landfill and Continue Use of an On-site Diesel Generator**

Attached is the California Energy Commission (Energy Commission) Staff Analysis of the Argus Cogeneration Expansion (ACE) project Petition to Separate and Terminate Jurisdiction over the Ash Landfill and Continue Use of an On-site Diesel Generator. The Staff Analysis found that separation of the ash landfill from the ACE Project and termination of California Energy Commission jurisdiction over the ash landfill would not cause significant impacts to the environment. The related changes to Conditions of Certification **Soil Resources 8-4 D** and **Visual Resources 3-8** would not result in significant environmental impacts or cause the project to not comply with applicable laws, ordinances, regulations, and standards (LORS). Staff's proposed changes to air quality conditions of certification for the use of the on-site diesel generator would ensure the project remains in compliance with applicable LORS related to air quality and ensure no significant air quality impacts would occur.

Because changes to conditions of certification in the 1988 Final Decision for the ACE Project are required, the petition must be processed as a formal amendment to the decision (Cal. Code Regs., tit. 20, § 1769(a)(3)). Energy Commission staff intends to recommend approval of the petition at the November 8, 2017 Energy Commission Business Meeting.

Any person may comment on the Staff Analysis. Please submit comments by 5:00 p.m., November 6, 2017. To use the Energy Commission's electronic commenting feature, go to the Energy Commission's webpage for this facility, cited above, click on the "Submit e-Comment" link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the Energy Commission Dockets Unit reviews and approves your comments, and you will receive an email with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission  
Dockets Unit, MS-4

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1516 Ninth Street  
Sacramento, CA 95814-5512

All filed comments and materials accepted by the Dockets Unit will be added to the proceeding's Docket Log and become publically accessible on the Energy Commission's webpage for the facility.

If you have questions about this notice, please contact Keith Winstead, Project Manager, at (916) 654-5191, or via email at [keith.winstead@energy.ca.gov](mailto:keith.winstead@energy.ca.gov).

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**ARGUS COGENERATION EXPANSION PROJECT  
(86-AFC-01C)  
Petition to Separate and Terminate Jurisdiction over the Ash Landfill and  
Continue Use of an On-site Diesel Generator  
Executive Summary  
Keith Winstead**

## **INTRODUCTION**

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On June 6, 2017, ACE Cogeneration Company (ACC, project owner, or petitioner) filed a petition with the California Energy Commission (Energy Commission) requesting to modify Conditions of Certification **Soil Resources 8-4 D** and **Visual Resources 3-8** to allow a portion of ash landfill cell #5 to remain open; separate the ash landfill from the rest of the Argus Cogeneration Expansion (ACE) Project; and terminate the Commission's jurisdiction over the ash landfill.

On August 9, 2017, ACC requested that the Commission include in its review of the ash landfill separation petition, continued use of an on-site diesel generator to provide primary power to the project. Approving the use of the on-site generator to provide power to the ACE project will allow the project owner 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.

Energy Commission staff has completed its review of all materials received. The analysis below is staff's assessment of impacts the proposed modifications would have on environmental quality and on public health and safety. The analysis includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (Cal. Code Regs., tit. 20, § 1769).

## **PROJECT LOCATION AND DESCRIPTION**

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The ACE project is an existing but non-operable 108-megawatt (MW) coal-fired power plant located on the northwest side of Searles Lake in Trona, San Bernardino County, California. The project is owned by ACC and includes a circulating fluidized bed boiler, turbine generator, related equipment and structures, switchyard, cooling tower, administration building, and ash landfill. When the project was permitted in 1988, the Energy Commission also approved disposal of the fly and bottom ash produced by the project in a landfill located on Searles Lake. The Bureau of Land Management subsequently closed the landfill due to a change in policy. ACC subsequently petitioned the Energy Commission to allow the construction and operation of a new landfill dedicated to handling ACE project ash. The Commission approved the landfill in December 1989. The power plant and relocated ash landfill began operations in January 1991. The ACE coal-fired power plant ceased operations in October 2014.

The ACE ash landfill consists of five cells located on a 65-acre site immediately northwest of the power plant. The only material disposed in the landfill was fly and

bottom ash produced by the power plant and refractory lining from the boiler. When slurried into the landfill during disposal, the ash became a concrete-like material determined by the Lahontan Regional Water Quality Control Board (LRWQCB) to be inert and non-hazardous. The entire ash landfill site is fenced, secured, and monitored. When ACE ceased operations, all ash remaining at the boiler was disposed in the landfill and ash disposal operations terminated. Cells #1 to 4 had previously been closed, capped, and allowed to naturally revegetate. Cell #5 was approximately 80 percent full with solidified ash sloping gently from the two ash disposal locations on the north and south of the cell toward the west. A portion of cell #5 was left open to allow for disposal of boiler refractory lining during demolition.

## **DESCRIPTION OF PROPOSED MODIFICATIONS**

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This petition requests Energy Commission approval to separate the ash landfill from the rest of the ACE project and terminate Energy Commission jurisdiction over the landfill, consistent with the intent of the Commission's approved decommissioning plan for the ACE project. ACC seeks the Commission's approval to operate the on-site diesel generator as the primary source of power for the site.

## **NECESSITY FOR PROPOSED MODIFICATIONS**

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The amendment will allow for the sale of the ash landfill site, reuse of the disturbed industrial site, and provide jobs and economic development benefits to Trona and San Bernardino County.

An equipment failure at the ACE switchyard in October, 2016, forced the project owner 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. This amendment would allow for the continued use of the diesel generator.

## **STAFF'S ASSESSMENT OF THE PROPOSED PROJECT MODIFICATIONS**

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The technical area sections contained in this Staff Analysis include proposed changes to conditions of certification in the 1988 Final Decision and new conditions of certification. Staff believes with the implementation of these revised and new conditions, the project would remain in compliance with applicable LORS and not result in any significant, adverse impacts to the environment (Cal. Code Regs., tit. 20, § 1769). Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**.

**Executive Summary Table 1  
Summary of Impacts for Each Technical Area**

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact or LORS Inconsistency*	Process As Formal Amendment	
Air Quality		X	X	X
Biological Resources		X		
Cultural Resources		X		
Facility Design	X			
Geological & Paleontological Resources	X			
Hazardous Materials Management	X			
Land Use	X			
Noise & Vibration	X			
Public Health	X			
Socioeconomics		X		
Soil and Water Resources		X	X	X
Traffic & Transportation	X			
Transmission Line Safety & Nuisance	X			
Transmission System Engineering	X			
Visual Resources		X	X	X
Waste Management	X			
Worker Safety & Fire Protection	X			

\*There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in, or deletion of, a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (Cal. Code Regs., tit. 20, § 1769 (a) (2)).

Staff has determined that the technical or environmental areas of **Facility Design, Geological & Paleontological Resources, Hazardous Materials Management, Land Use, Noise & Vibration, Public Health, Traffic & Transportation, Transmission Line Safety & Nuisance, Transmission System Engineering, Waste Management and Worker Safety & Fire Protection** are not affected by the proposed modifications.

For the technical areas of **Biological Resources, Cultural Resources, and Socioeconomics**, staff has determined the project would continue to comply with applicable LORS and no changes to any conditions of certification or new conditions of certification are needed to ensure that no significant impacts occur. Staff notes the following for these areas:

**Biological Resources.** As part of the 1989 amendment to change the location of the ACE ash disposal site, the 65-acre ash landfill site was identified as habitat for Mohave ground squirrel (*Xerospermophilus mohavensis*). Loss of this habitat was fully mitigated by the project owner through purchase of sufficient compensating habitat as required by Condition of Certification **Biological Resources 5-11**. The currently proposed amendment to separate the ash landfill site would not result in any physical changes to the environment or changes to any of the existing biological resources conditions of certification (**Biological Resources 5-1 to 5-15**) included in the Final Commission Decision (1988) and amendments approved in 1989 and 1999. The currently proposed modifications to Conditions of Certification **Soils Resources 8-4 D** and **Visual Resources 3-8** would not have an impact on any biological resources.

**Cultural Resources.** Separation of the ash landfill from the rest of the ACE Project would include the removal of all pumps, structures (sheds), and equipment associated with ash disposal operations. The action of separating the ash landfill would not directly or indirectly impact any cultural resources. Staff notes that the ash landfill parcel is located in a culturally sensitive area where cultural resources have previously been recorded. Any proposals of future ground disturbance in the area should take into consideration the high likelihood of encountering cultural resources, and should include appropriate mitigation measures including, but not limited to, the employment of qualified cultural resource professionals and qualified Native American cultural resource monitors.

**Socioeconomics.** The removal activities associated with the ash landfill separation would require two workers and approximately three days to complete. From a socioeconomics standpoint, the proposed amendment would have insignificant workforce-related impacts on housing and community services.

For **Soil and Water Resources** and **Visual Resources**, staff determined that the project owner's proposed changes to Conditions of Certification **Soil Resources 8-4 D** and **Visual Resources 3-8** would not result in significant environmental impacts or cause the project to not comply with LORS. Staff determined that new or modified **Air Quality** conditions of certification are needed to ensure compliance with LORS and to reduce potential air quality impacts to a less than significant level. Staff's analyses in the areas of **Air Quality**, **Soil & Water Resources**, and **Visual Resources**, and the associated changes to the conditions of certification, are provided in the staff analysis sections that follow this summary.

## ENVIRONMENTAL JUSTICE

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When any of the staff in the technical areas of Air Quality, Cultural Resources, Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, and Waste Management conclude the proposed modification affects their technical area, staff considers how the modification could affect an environmental justice population.

## MINORITY

**Environmental Justice – Figure 1** shows 2010 census blocks in the six-mile radius of Argus Cogeneration Expansion with a minority population greater than or equal to 50 percent. The population in these census blocks represents an EJ population based on race and ethnicity as defined in the US Environmental Protection Agency's (EPA) *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

## LOW INCOME

Based on California Department of Education data in **Environmental Justice – Figure 2** and presented in **Environmental Justice – Table 1**, staff concluded that the percentage of those living in the Trona Joint Unified School District (in a six-mile radius of the project site) and enrolled in the free or reduced price meal program is comparable to those in the reference geography, and thus is not considered an EJ population based on low income as defined in EPA's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

**Environmental Justice – Table 1**  
**Low Income Data within the Project Area**

SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals
Trona Joint Unified School District	182	255 <b>71.4%</b>
REFERENCE GEOGRAPHY		
San Bernardino County	288,935	409,053 <b>70.6%</b>
<b>Source:</b> CDE 2016. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2015-2016, < <a href="http://dq.cde.ca.gov/dataquest/">http://dq.cde.ca.gov/dataquest/</a> >.		

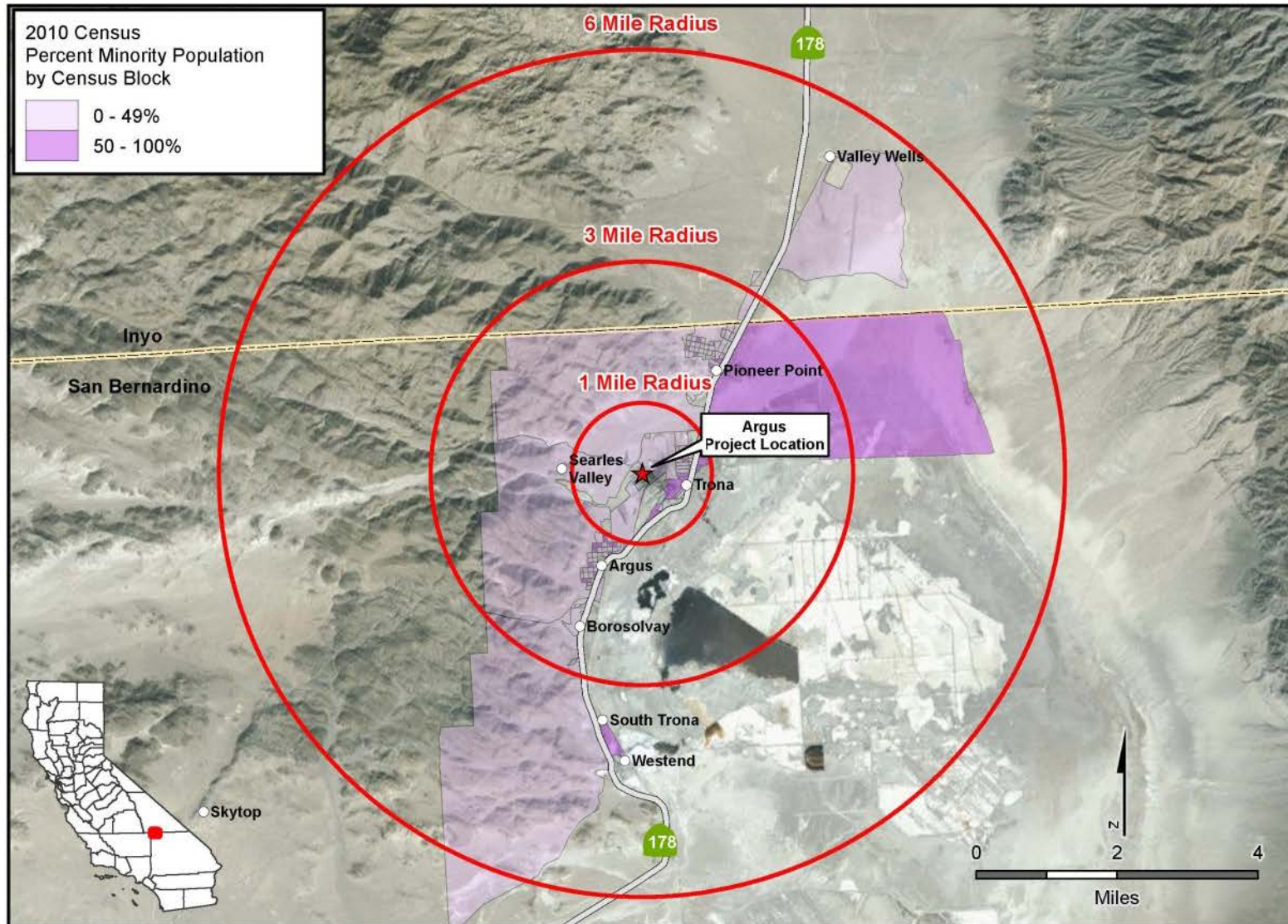
## CONCLUSIONS

In the technical areas of **Air Quality**, **Soil and Water Resources**, and **Visual Resources**, changes to conditions of certification in the Decision and new conditions of certification, are proposed. Staff has determined that by adopting the changes to the conditions of certification and the new conditions of certification, there would be no impacts to any population in the project's six-mile radius, including the Environmental Justice population represented in **Environmental Justice – Figure 1**, **Figure 2**, and **Table 1**.

Staff in the technical areas of **Cultural Resources** and **Socioeconomics** concluded that impacts from the proposed modification would have a less than significant impact on any population, including the Environmental Justice population represented in **Environmental Justice – Figure 1**, **Figure 2**, and **Table 1**.



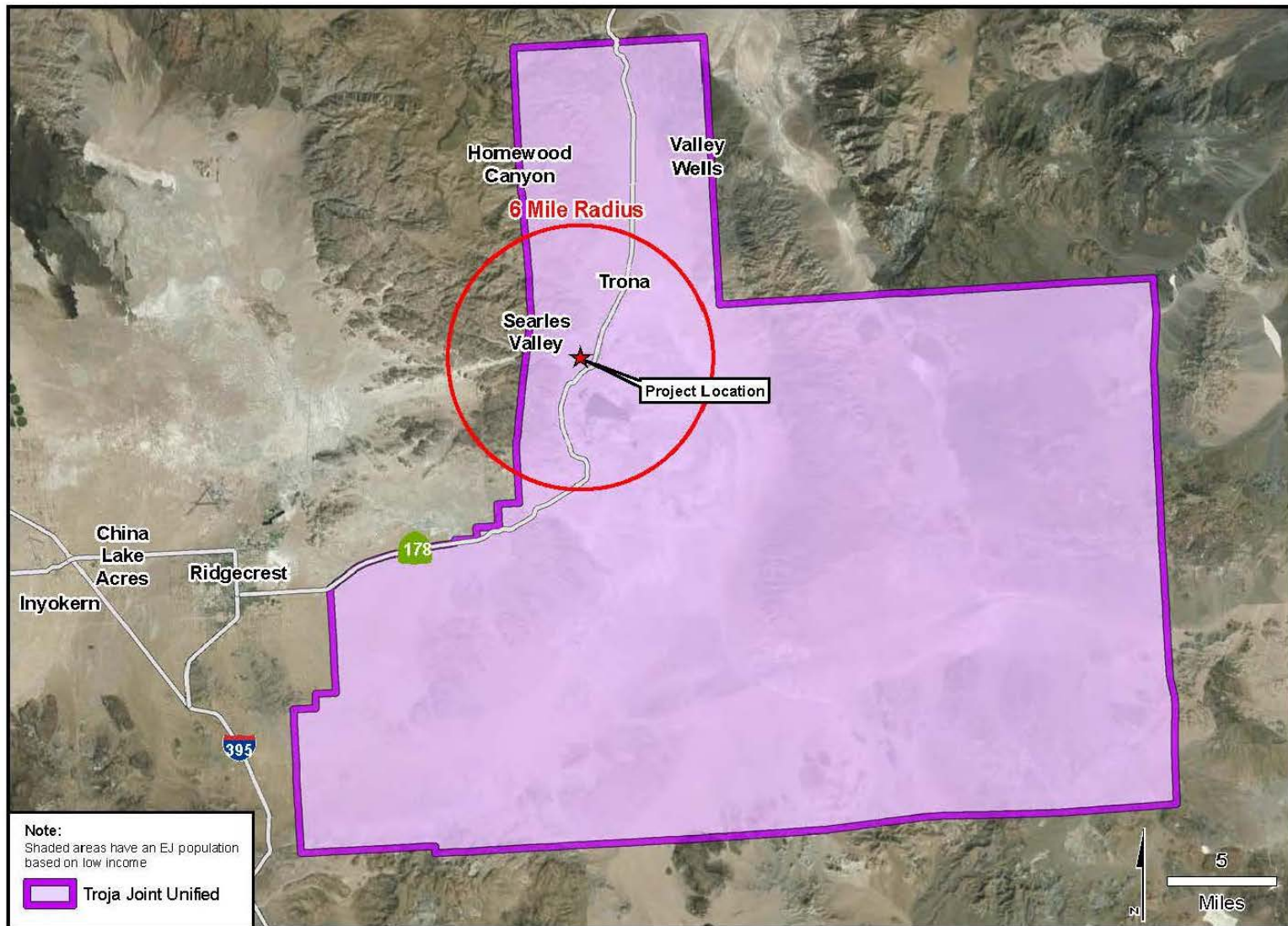
**ENVIRONMENTAL JUSTICE - FIGURE 1**  
 Argus Cogeneration - Census 2010 Minority Population by Census Block



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION  
 SOURCES: Census 2010 PL 94-171 Data, Open Street Map

## ENVIRONMENTAL JUSTICE - FIGURE 2

Argus Cogeneration - Environmental Justice Population Based on Low Income



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCES: TIGER Data, CA Dept. of Education Data Quest



## STAFF RECOMMENDATIONS AND CONCLUSIONS

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Staff concludes that the following required findings, mandated by Title 20, California Code of Regulations, section 1769 (a)(3), can be made, and staff recommends approval of the petition by the Energy Commission:

- The proposed modification would not change the findings in the Energy Commission's Decision pursuant to Title 20, California Code of Regulations, section 1748(b)(5);
  - There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification;
- The facility would remain in compliance with all applicable LORS;
- The proposed modification would be beneficial to the public, because there would be no significant air quality impacts and no minority or low-income populations would be significantly or adversely impacted; and
- The proposed modification is justified because there has been a substantial change in circumstances since the Energy Commission certification

# **ARGUS COGENERATION EXPANSION PROJECT (86-AFC-01C)**

## **Petition to Separate and Terminate Jurisdiction over the Ash Landfill and Continue Use of an On-site Diesel Generator Air Quality Staff Analysis Nancy Fletcher**

### **INTRODUCTION AND SUMMARY**

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On June 6, 2017, the ACE Cogeneration Company (petitioner or ACC) filed a petition (ACC 2017) with the California Energy Commission (Energy Commission) requesting an amendment to the Energy Commission license to separate the ash landfill from the Argus Cogeneration Expansion (ACE) project, and terminate Energy Commission jurisdiction over the ash landfill. ACE is an existing but nonoperational 108-megawatt (MW) coal/petroleum coke-fired power plant consisting of a circulating fluidized bed boiler, turbine generator, switchyard, cooling tower, ash landfill, and other related facilities.

ACE is located on the northwest side of Searles Lake in the unincorporated community of Trona, San Bernardino County, in the Mojave Desert Air Basin (MDAB). The ACE project was originally permitted by the Energy Commission on January 6, 1988 and began commercial operation in January 1991. The project used to supply steam to Searles Valley Minerals, Inc. and electricity to Southern California Edison. The ACE power plant ceased operation in October 2014.

In November 2014, ACC submitted a Project Decommissioning Plan for Energy Commission approval which included closing the ash landfill. The decommissioning plan was approved in June 2015 and three additional conditions of certification, **AQ-SC4**, **AQ-SC5**, and **AQ-SC6** were added to the air quality section as part of the ACE Project Decommissioning Plan (CEC 2015) to minimize air quality impacts.

In September 2015, the plant transferred ownership and demolition was delayed while the new owners evaluated additional options for the plant. ACC concluded the remaining refractory material would not be disposed of in the existing landfill. Therefore, the ash landfill would no longer be required and could be potentially used for other industrial development.

During Energy Commission staff (staff) review of the proposed amendment to separate the landfill, staff contacted the Mojave Desert Air Quality Management District (MDAQMD) to confirm the status of the MDAQMD permits for the ACE project. Representatives from the MDAQMD stated that all the permits were cancelled except for a 168-brake-horsepower (BHP) prime diesel engine permitted by the MDAQMD in 2017. On June 13, 2017, staff requested additional information from the petitioner regarding engine use at the ACE. The petitioner docketed a summary of the discussion and responses on June 29, 2017 (ACC 2017a). Staff discovered the engine had never been reviewed or approved by the Energy Commission, although ACE had received a permit from the MDAPCD. After further discussion, the petitioner filed a supplement to the amendment docketed on August 11, 2017 (ACC 2017g), requesting the Energy

Commission include a review of the diesel generator in the ACC 2017 amendment request.

Staff recommends additional California Environmental Quality Act (CEQA) mitigation measures to ensure air quality impacts from the proposed operation of the prime diesel engine are mitigated to a less than significant level. Therefore, with the proposed mitigation there would be no significant air quality impacts related to ACE and no environmental justice (minority or low-income) populations would be significantly or adversely impacted.

## **LAWS, ORDINANCES, REGULATIONS AND STANDARDS COMPLIANCE**

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Staff contacted the MDAQMD regarding the proposed separation of the landfill and the addition of the prime diesel engine. The landfill is currently not required to be under permit by MDAQMD. In addition, the MDAQMD does not have any record of complaints, including dust and nuisance complaints, from the power plant site including the landfill. Any future use of the landfill would trigger county review and the MDAQMD planning division would be notified of any request. Any future use of the landfill site that may require a permit would be the responsibility of the new owner. Therefore, staff concludes the separation of the landfill would comply with all federal, state, and MDAQMD laws, ordinances, regulations, and standards (LORS).

The addition of the prime diesel engine was evaluated by staff for consistency with the following LORS summarized in **Air Quality Table 1**. The conditions of certification in the Energy Commission Decision and any and all amendments thereafter ensure that the facility would remain in compliance with all applicable LORS.

**Air Quality Table 1**  
**Laws, Ordinances, Regulations, and Standards**

<i>Applicable Law</i>	<i>Description</i>
<b>Federal</b>	<b>U.S. Environmental Protection Agency (EPA)</b>
Title 40 Code of Federal Regulations (CFR) Part 50 (National Primary and Secondary Ambient Air Quality Standards)	National Ambient Air Quality Standards (NAAQS) are set in this part. NAAQS defines levels of air quality necessary to protect public health.
Title 40 CFR Part 51 (Requirements for Preparation Adoption and Submittal of Implementation Plans)	Requires new source review (NSR) facility permitting for construction or modification of specified stationary sources. NSR applies to sources of designated nonattainment pollutants. This requirement is addressed through MDAQMD Regulation XIII.
Title 40 CFR Part 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)	Outlines requirements for stationary diesel engines. The prime diesel engine is a certified Tier 4 interim engine. Continued compliance is expected.

<i>Applicable Law</i>	<i>Description</i>
Title 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)	Establishes National Emission Standards for Hazardous Air Pollutants (NESHAPS) for both major and area sources of Hazardous Air Pollutants (HAPs) emissions. Establishes emission and operating limitations for applicable internal combustion engines. Compliance with Part 60, Subpart IIII satisfies Part 63 Subpart ZZZZ requirements.
<b>State</b>	<b>California Air Resources Board and Energy Commission</b>
California Health & Safety Code (H&SC) §41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.
H&SC §40910-40930 (District Plans to Attain State Ambient Air Quality Standards)	State Ambient Air Quality Standards should be achieved and maintained. The permitting of the source needs to be consistent with the approved clean air plan. The MDAQMD NSR program needs to be consistent with regional air quality management plans.
Title 17 CCR, §93115 Airborne Toxic Control Measure for Stationary Compression Ignition Engines.	Limits types of fuels allowed, establishes maximum emission rates and establishes recordkeeping requirements for stationary compression ignition engines, including diesel-fueled emergency generator and fire water pump engines.
<b>Local</b>	<b>Mojave Desert Quality Management District</b>
Regulation IV Prohibitions Rule 401	Visible Emissions— Limits visible emissions opacity to less than 20 percent (or Ringelmann No. 1). MDAQMD reported there is no indication there would be any visible emission problems per compliance database review.
Regulation IV Prohibitions Rule 402	Nuisance—Prohibits the discharge of air contaminants or other material which could detrimentally impact the public. Nuisance problems are not expected. MDAQMD reported there is no indication of expected nuisance problems per compliance database review.
Regulation IV Prohibitions Rules 403, 403.1	Fugitive Dust Control—Specifies requirements for controlling fugitive dust. The provisions apply to bulk storage, earthmoving, construction and demolitions, and man-made conditions resulting in wind erosion. Any future activities in these areas would be subject to the requirements.
Regulation IV Prohibitions Rule 404	Particulate matter - Concentration— Specifies standards for particulate matter emission concentrations based on exhaust flow rate. The certified particulate matter less than 10 and 2.5 microns (PM10/2.5) plus oxides of sulfur (SOx) emission level (0.019 grains per dry standard cubic feet) is below the rule's allowable limit.
Regulation IV Prohibitions Rule 409	Combustion Contaminants—Establishes restrictions on particulate matter emissions from the turbines to 0.1 grain per cubic foot at 12 percent oxygen. The certified PM10/2.5 plus SOx emission level meets this requirement.

<i>Applicable Law</i>	<i>Description</i>
Regulation IV Prohibitions Rule 431	Sulfur Content of Fuels—Limits the sulfur content to 0.5 percent by weight for any liquid or solid fuel. Continued compliance is expected because the engine burns ultra-low-sulfur diesel fuel content of no more than .0015 percent by weight.
Regulation XIII New Source Review	New Source Review for Criteria Pollutants—This regulation applies to new or modified sources that have increased emissions. The facility is not currently classified as a major source and the addition of the engine does not trigger any major source threshold. The engine does not trigger any Prevention of Significant Deterioration (PSD) threshold, and therefore PSD is not applicable. The engine is a Tier 4 interim 40 CFR 60 Subpart IIII and 17 CCR 93115 compliant engine meeting Best Available Control Technology. Hazardous Air Pollutants emitted from this engine do not meet the federal toxic new source review thresholds. The engine's toxic air contaminants are governed by 17 CCR 93115.

## SETTING

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### AMBIENT AIR QUALITY STANDARDS

The U.S. EPA and the California Air Resources Board (ARB) have both established allowable maximum ambient concentrations of criteria air pollutants. Ambient air quality standards are designed to protect people who are most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The ambient air quality standards are also set to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The California Ambient Air Quality Standards, established by ARB, are typically lower (more stringent) than the federally established NAAQS. See **Air Quality Table 2**. The averaging time for the various ambient air quality standards (the duration of time the measurements are taken and averaged) ranges from one hour to one year. The standards are read as a concentration, in parts per million (ppm), parts per billion (ppb), or as a weighted mass of material per unit volume of air, in milligrams (mg) or micrograms ( $\mu\text{g}$ ) of pollutant in a cubic meter ( $\text{m}^3$ ) of ambient air, drawn over the applicable averaging period.

**Air Quality Table 2**  
**Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O <sub>3</sub> )	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> ) <sup>a</sup>	0.070 ppm (137 µg/m <sup>3</sup> )
	1 Hour	—	0.09 ppm (180 µg/m <sup>3</sup> )
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )
	1 Hour	35 ppm (40 mg/m <sup>3</sup> )	20 ppm (23 mg/m <sup>3</sup> )
Nitrogen Dioxide (NO <sub>2</sub> )	Annual	53 ppb (100 µg/m <sup>3</sup> )	30 ppb (57 µg/m <sup>3</sup> )
	1 Hour	100 ppb (188 µg/m <sup>3</sup> ) <sup>b</sup>	180 ppb (339 µg/m <sup>3</sup> )
Sulfur Dioxide (SO <sub>2</sub> )	24 Hour	—	0.04 ppm (105 µg/m <sup>3</sup> )
	3 Hour	0.5 ppm (1300 µg/m <sup>3</sup> )	—
	1 Hour	75 ppb (196 µg/m <sup>3</sup> ) <sup>c</sup>	0.25 ppm (655 µg/m <sup>3</sup> )
Respirable Particulate Matter (PM <sub>10</sub> )	Annual	—	20 µg/m <sup>3</sup>
	24 Hour	150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>
	24 Hour	35 µg/m <sup>3</sup> <sup>b</sup>	—
Sulfates (SO <sub>4</sub> )	24 Hour	—	25 µg/m <sup>3</sup>
Lead	30 Day Average	—	1.5 µg/m <sup>3</sup>
	Rolling 3-Month Average	1.5 µg/m <sup>3</sup>	—
Hydrogen Sulfide (H <sub>2</sub> S)	1 Hour	—	0.03 ppm (42 µg/m <sup>3</sup> )
Vinyl Chloride (chloroethene)	24 Hour	—	0.01 ppm (26 µg/m <sup>3</sup> )
Visibility Reducing Particulates	8 Hour	—	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Source: ARB 2017b, U.S. EPA 2017 b

Notes: <sup>a</sup> Fourth- highest maximum 8 – hour concentration, averaged over 3 years.

<sup>b</sup> 98<sup>th</sup> percentile of daily maximum value, averaged over 3 years

<sup>c</sup> 99<sup>th</sup> percentile of daily maximum value, averaged over 3 years

## AMBIENT AIR QUALITY ATTAINMENT STATUS

Federal and state ambient air quality attainment status designations have been revised since the Energy Commission Decision. ACE is located in the unincorporated community of Trona, in the northwest corner of San Bernardino County in the very northern portion of the MDAB, under the jurisdiction of the MDAQMD. The ACE ash landfill, approved in 1989, is located on a 65-acre site immediately northwest of the power plant.

For convenience, staff includes **Air Quality Table 3**, which summarizes the area's current attainment status for state and federal ambient air quality standards (AAQS) for the MDAQMD.



**Air Quality Table 3  
MDAQMD Attainment Status**

Pollutants	Attainment Status	
	Federal Classification	State Classification
<b>Ozone (1-hr)</b>	No Federal Standard	<b>Nonattainment</b>
<b>Ozone (8-hr)</b>	<b>Nonattainment<sup>a</sup></b>	<b>Nonattainment</b>
CO	Unclassified/Attainment	Attainment
NO <sub>2</sub>	Unclassified/Attainment	Attainment
SO <sub>2</sub>	Unclassified/Attainment	Attainment
<b>PM10</b>	<b>Nonattainment<sup>b</sup></b>	<b>Nonattainment</b>
<b>PM2.5</b>	Unclassified/Attainment	<b>Nonattainment<sup>a</sup></b>
Lead	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	<b>Nonattainment<sup>c</sup></b>
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particulates	No Federal Standard	Unclassified

Source: MDAQMD 2017 (website) ARB 2017a, U.S. EPA 2017a

Notes: <sup>a</sup> Southwest corner of desert portion of San Bernardino County only

<sup>b</sup> Searles Valley (northwest corner of San Bernardino County) only

<sup>c</sup> San Bernardino County portion only

## ANALYSIS

### OPERATION SUMMARY AND EMISSIONS ANALYSIS

The Energy Commission originally permitted the disposal of the fly and bottom ash produced by the ACE project to be handled in a landfill located on Searles Lake, under the jurisdiction of the Bureau of Land Management. Due to a change in federal policy, this landfill was closed and ACC petitioned the Energy Commission to allow for a change in location for the ACE ash disposal site and a change in the methods of ash handling at the new site. The Energy Commission approved the construction and operation of a new landfill onsite, located immediately northwest of the power plant, dedicated to handling the ACE project ash, in December 1989, prior to the start of plant operations. The onsite landfill consisted of five cells and was used during the entire period of plant operation.

After ACE ceased operations, the remaining boiler ash was disposed of in the onsite landfill and ash disposal operations were terminated. The disposed ash became a concrete-like material and was determined by the Lahontan Regional Water Quality Control Board to be inert and non-hazardous. Four cells have been closed, capped and allowed to naturally revegetate. A portion of the fifth cell was kept open, to allow for the disposal of the boiler refractory lining during demolition. The ACE Decommissioning Plan submitted in 2014 (ACC 2014) and approved by the Energy Commission in 2015 (CEC 2015), assumed the remainder of the refractory material would be disposed of in the onsite ash landfill.

ACC 2017 is now proposing to dispose of the remaining refractory material in another permitted landfill, or relocate it with the boiler. There is an estimated 60 tons maximum of remaining refractory material. ACC estimates it would take only three truck trips to

haul the remaining refractory material to offsite disposal. ACC identified two landfills in San Bernardino County that have the ability and willingness to dispose of the material.

ACC 2014 estimated emissions from off-road equipment exhaust, on-site motor vehicle exhaust, onsite motor vehicle fugitive particulate matter, emissions from entrained dust, off-site motor vehicle exhaust, and offsite motor vehicle fugitive PM emissions from entrained dust. Included in these calculations was an estimated 400 total truck trips to and from the site during the decommissioning of the ACE project. ACC 2014 included a comparison of the estimated emissions from decommissioning with the plant's actual emissions during operation. The 2015 Air Quality analysis of the Decommissioning Plan (CEC 2015a) reviewed the data and concluded that the onsite and offsite emissions from decommissioning would be significantly lower than actual emissions from routine operations for all criteria pollutants as well as greenhouse gas emissions. CEC 2015a also specified offsite truck trips would be substantially lower than truck trips associated with plant operation.

After reviewing the estimated emissions in the Decommissioning Plan, staff concludes that the potential addition of three truck trips to dispose of the boiler refractory liner would not result in a significant increase to the estimated emissions detailed in ACC 2014 and reviewed in CEC 2015a. Staff still expects emissions associated with decommissioning to continue to be below routine operation emissions from the facility when it was still in operation. Operation emissions from 2014 are referenced further in this analysis and included in **Air Quality Table 5**.

Three additional conditions of certification, **AQ-SC4**, **AQ-SC5** and **AQ-SC6**, were added to the air quality section in CEC 2015. **AQ-SC4** was added to ensure that any portable equipment used by the demolition contractor would be registered through the Portable Equipment Registration Program (PERP) established by the California Air Resources Board (ARB). **AQ-SC4** requirements ensure that the state requirements for portable equipment are met. **AQ-SC5** requires equipment used during decommissioning to be maintained in proper operating condition to avoid visible emissions darker than Ringelmann No. 1 for periods greater than 3 minutes in any hour. **AQ-SC5** requirements are based on MDAQMD Rule 401. **AQ-SC6** was added to ensure that a Decommissioning Dust Control Plan is prepared and submitted to the MDAQMD for approval. **AQ-SC6** requirements are based on MDAQMD Rules 403 and 403.1 aimed to control fugitive dust. Rule 403.1 requires any construction and demolition activity in the Searles Valley Planning Area (SVPA) to develop a MDAQMD approved Dust Control Plan.

In ACC 2017a, the petitioner clarified that these additional conditions of certification added to the Decommissioning Plan do not focus solely on the ash landfill. The petitioner also provided a status update on the Dust Control Plan. The petitioner stated that the Dust Control Plan has not yet been prepared or submitted since demolition of the ACE project has not been initiated. The petitioner expects minimal if any dust generation from the closure of the ash landfill. Any activity that would potentially occur on the ACE site would still be subject to the MDAQMD rules and regulations whether the landfill was jurisdictional to the Energy Commission or not. If the landfill was no longer jurisdictional, the MDAQMD and state rules and regulation would still apply,

When the Decommissioning Plan was approved by the Energy Commission in June 2015, the ACE facility obtained electricity by back-feeding power from a transmission system. The electricity was to be used for lights and equipment in an administration building and to power a motor used to rotate the turbine-generator shaft. The regular rotation of the shaft is necessary to prevent damage to the turbine-generator shaft while it is not in operation. In October 2016, an equipment failure at the ACE switchyard resulted in ACC needing to acquire an additional power source for these activities.

According to MDAQMD records, a temporary portable engine was allowed on site for 60 days in 2017 while a stationary permit from the MDAQMD was obtained for the proposed prime diesel engine. The prime diesel engine is a 2014 certified Tier 4i engine. It is also registered through PERP. The California Code of Regulations Title 17, establishes requirements for the PERP program. The legislation establishes the definition of the term “portable” and outlines circumstances for which equipment is not considered portable and circumstances where a district stationary permit is required. The California Air Pollution Control Officers Association has published the following passage explaining policy regarding the use of portable generators as PERP.

*“Use of a portable generator registered under PERP is allowed as the primary or back up source power to a stationary source, but only during unforeseen interruptions of electrical power from the serving utility (e.g. interruptions that are not tied to demand response programs) or maintenance and repair operations. PERP generators may also be used during electrical upgrade operations including startup, shutdown and testing, provided such upgrades do not exceed 60 calendar days. Generators registered under PERP are not allowed to be kept in an operational configuration at a stationary source for emergency backup power without obtaining a permit for the generator from local districts.”*

If an engine is not operated as a portable engine and a district permit is required, the engine can still maintain PERP registration.

According to MDAQMD records, the ACE facility previously held permits for three emergency diesel engines, two emergency generators and one emergency fire pump. At one point, one of the emergency generators (E00369) was replaced with a newer emergency generator (E011451). According to the MDAQMD, ACE submitted a letter dated July 12, 2012 to MDAQMD requesting to cancel all MDAQMD ACE permits, including the emergency diesel engines. ACE did not have any active permits with the MDAQMD when the prime diesel engine permit was issued to ACE in May of 2017. MDAQMD stated that ACE was never issued a permit for a prime diesel engine prior to 2017.

Staff has not been able to locate any record of a request from ACE to use any diesel engines in the original application for certification, or in any subsequent amendment request. On June 6, 2017, ACC submitted to staff a project diagram from the original proceedings (ACC 2017c) indicating the plant had intended to install an emergency generator in the original configuration of the facility. However, there are no conditions of certification pertaining to the diesel engines in the original decision or added in any subsequent amendment.

According to the amendment supplement docketed on August 11, 2017 (ACC 2017g), the engine was placed on a pre-existing pad that previously served an emergency engine. Therefore no significant construction emissions were expected from preparing the site for the proposed prime diesel engine.

**Air Quality Table 4** includes the emission rate, the potential emissions, and the estimated actual emissions for the operation of the proposed prime diesel engine at the ACE facility. The MDAQMD evaluated and permitted the engine to operate on a full time basis of 24 hours per day and 365 days per year. The emissions rates for NOx, CO, and PM10 used by the MDAQMD to calculate the potential emissions are from the ARB executive order (executive order U-R-004-0487) for the proposed engine. MDAQMD assumed the PM2.5 emission rate was 99 percent of the PM10 emission rate and calculated a SOx emission rate based on the use of ultra-low sulfur diesel. The MDAQMD used a MDAQMD default emission rate for CO<sub>2</sub> in the MDAQMD evaluation. The assumptions for the MDAQMD CO<sub>2</sub> emission factor were not discussed in the evaluation. Therefore staff used calculated CO<sub>2</sub> and carbon dioxide equivalent (CO<sub>2</sub>e) emission factors from the U.S. EPA greenhouse gas inventory and global warming potentials from the Intergovernmental Panel on Climate Change (IPCC).

**Air Quality Table 4**  
**ACE 2017 Diesel Engine Emissions**

	NOx	CO	VOC	SOx	PM10	PM2.5	CO <sub>2</sub> e <sup>a</sup>
Emission Rate (g/bhp-hr)	2.312	0.075	0.0001	0.003	0.007	0.007	NA
Potential Daily <sup>b</sup> (pounds/day)	20.503	0.661	0.0007	0.024	0.066	0.065	2,709
Potential Annual (pounds/year)	7,484	241	0.24	9	24	24	988,945
Estimated Annual <sup>c</sup> (pounds/year)	223	7	0.007	0.26	0.72	0.71	29,332
Potential Annual <sup>b</sup> (tons/year)	3.74	0.12	0.0001	0.004	0.007	0.007	494.5
Estimated Annual <sup>c</sup> (tons/year)	0.111	0.004	NEG	0.0001	0.0004	0.0004	14.7

Source: ACC 2017c, MDAQMD 2017a, MDAQMD 2017b, staff analysis

Notes: <sup>a</sup> Based on CO<sub>2</sub>e emissions rates from the U.S. EPA emission factors for greenhouse gas inventories and global warming potentials from Table A-1 of 40 CFR Part 98, Subpart A: CO<sub>2</sub> = 73.96 kilograms per million British thermal units (kg/MmmBtu) and 1, CH<sub>4</sub> = 3.0 grams per million British thermal units (g/mmBtu) and 25, N<sub>2</sub>O = 0.60 g/mmBtu and 298.

<sup>b</sup> Assumes a daily operation of 24 hours per day and 365 days per year.

<sup>c</sup> Based on applicant's expected operation of 5 hours per week.

Significant emissions of hydrogen sulfide associated with the proposed emission units are not expected. Essentially all sulfur in the fuel is oxidized to SO<sub>2</sub>.

NEG = negligible.

**Air Quality Table 5** includes the proposed potential emissions from the 168-BHP prime diesel engine and the expected actual emissions from the proposed diesel prime engine detailed in **Air Quality Table 4**, the projected decommissioning emissions, and the actual ACE facility emissions from 2014 when the plant was operational. The projected decommissioning emissions are from ACC 2014 and are included on a six-month basis

as the duration for the planned decommissioning activities is limited. It is not known if there would be overlap of the decommissioning activities and operation of the diesel engine. Therefore, **Air Quality Table 5** also includes the total of the projected decommissioning emissions with both the potential and actual diesel engine emissions. As demonstrated in **Air Quality Table 5**, the emissions from the proposed engine are expected to be significantly less than the emissions for the plant when it was in operation, even if there is any potential overlap in the prime diesel engine operation with decommissioning activities.

**Air Quality Table 5**  
**ACE Project Emissions Comparison**

Project	NOx	CO	VOC	SOx	PM10	PM2.5	CO <sub>2</sub> e <sup>a</sup>
<b>Annual Emissions (pounds/year)</b>							
Potential Diesel Engine <sup>b</sup>	7,484	241	0.24	9	24	24	988,945
Estimated Actual Diesel Engine <sup>c</sup>	223	7	0.007	0.26	0.72	0.71	29,332
<b>Decommissioning Emissions (pounds/6-month period)</b>							
Projected Decommissioning	12,738	9,806	867	10	2,709	760	2,226,399
<b>Total Emissions (pounds/year plus pounds/6-month)</b>							
Decommissioning plus Potential Diesel Engine	20,222	10,047	867	19	2,733	784	3,215,344
Decommissioning plus Actual Diesel Engine	12,961	9,813	867	10	2,710	761	2,255,731
<b>Annual Emissions (pounds/year)</b>							
2014 ACE Actual	296,000	184,000	2,000	216,000	40,000	23,000	718,528,133

Source: ACC 2014, ACC 2017g, MDAQMD 2017a, MDAQMD 2017b, and staff analysis

Notes: <sup>a</sup> Based on CO<sub>2</sub>e emissions rates from the U.S. EPA Emission Factors for Greenhouse Gas Inventories and global warming potentials from Table A-1 of 40 CFR Part 98, Subpart A: CO<sub>2</sub> = 73.96 kg/mmBtu and 1, CH<sub>4</sub> = 3.0 g/mmBtu and 25, N<sub>2</sub>O = 0.60 g /mmBtu and 298.

<sup>b</sup> Assumes a daily operation of 24 hours per day and 365 days per year.

<sup>c</sup> Based on applicants expected operation of 5 hours per week.

## CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) MITIGATION

Ambient air quality standards are designed to protect people who are most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The ambient air quality standards are also set to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

As documented in **Air Quality Table 3**, the MDAQMD is in non-attainment with the state and federal AAQS for ozone and PM10, and state AAQS for PM2.5 and hydrogen sulfide. Staff evaluated the proposed changes taking into consideration the attainment status and potential populations surrounding the facility. Staff is proposing additional mitigation measures (discussed below in Proposed Condition Changes) to minimize emissions associated with the proposed equipment.

The staff-proposed CEQA mitigation measures noted as conditions of certification would reduce the direct and cumulative air quality impacts of the proposed facility modifications to a less than significant level, including impacts to any environmental justice population represented in **Environmental Justice – Figure 1, Figure 2, and Table 1**. There are no air quality environmental justice concerns related to the proposed facility modifications and no minority or low-income populations would be significantly or adversely impacted.

## PROPOSED CONDITION CHANGES

Staff is proposing the addition of seven Air Quality Conditions of Certification, **AQ-E1, AQ-E2, AQ-E3, AQ-E4, AQ-E5, AQ-E6, and AQ-E7** pertaining to the prime diesel engine. These are standard conditions from the MDAQMD for prime diesel engines. The MDAQMD issued an Authority to Construct permit dated May 18, 2017, including the seven proposed air quality conditions of certification in the **AQ-E** series. Since the permit conditions are all standard conditions, the MDAQMD projects that there would be no changes to the conditions in the final Permit to Operate when it is issued by the MDAQMD. The MDAQMD indicated they would issue the final Permit to Operate for the prime diesel engine after they can schedule an inspector to verify the equipment.

Staff is also proposing the addition of Condition of Certification **AQ-SC7**. There are still emission units remaining onsite at the ACE facility that are no longer permitted for operation. Staff confirmed with the MDAQMD that all permits for the ACE facility had been cancelled with the exception of the proposed prime diesel engine. Air Quality Condition of Certification **AQ-SC7** is a general condition needed to clarify requirements for emission units that currently remain onsite or may be brought onsite in the future.

Staff is proposing to retain Conditions of Certification **AQ-SC4, AQ-SC5, and AQ-SC6**. These three conditions of certification were added to the air quality section in the ACE Project Decommissioning Plan approved in 2015. The decommissioning of the plant has not yet been completed. Therefore, these conditions are still needed to ensure demolition would not result in any significant air quality impacts.

Staff is proposing a minor typographical correction in Air Quality Condition of Certification **AQ-SC5**.

Staff is proposing to delete all other air quality conditions of certification. As previously discussed, all regulatory permits for the emission units associated with the ACE project, with the exception of the prime diesel engine, have been cancelled by MDAQMD. Therefore, only the prime diesel engine is currently permitted for operation at the ACE facility. In addition, staff analysis of the prime diesel engine did not account for any potential overlap of operation with the emission units previously associated with the ACE project, with the exception of emission units required for demolition. Therefore, staff is requesting to retain only the conditions of certification that are relevant to the decommissioning of the facility in addition to the new conditions of certification proposed in this current amendment. If any other emission equipment is proposed for operation at the ACE facility it would need to be evaluated by the relevant regulatory agencies.

## CONCLUSIONS AND RECOMMENDATIONS

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Energy Commission staff recommends approving the separation of the ash landfill from the ACE project. Staff has reviewed the air quality conditions of certification and there are no conditions specific to the ash landfill. Therefore, no changes to the conditions of certification would be needed to approve this part of the requested amendment.

- Staff recommends approving the addition of the prime diesel generator to the ACE project. Staff also recommends adding seven additional Conditions of Certification, **AQ-E1**, **AQ-E2**, **AQ-E3**, **AQ-E4**, **AQ-E5**, **AQ-E6**, and **AQ-E7** pertaining to the operation of the prime diesel engine.
- Staff recommends the addition of **AQ-SC7**.
- Staff recommends a minor typographical correction to **AQ-SC5** and other typographical corrections where needed.
- Staff recommends deleting all other current air quality conditions of certification, with the exception of **AQ-SC4**, **AQ-SC5**, and **AQ-SC6**. These three conditions of certification were added as part of the decommissioning plan and approved by the Energy Commission in June 2015. All of the equipment, with the exception of the prime generator, is non-operational and the permits have been cancelled by the MDAQMD.

With the additional conditions requested by staff, the proposed changes will conform with the applicable LORS related to air quality and will not result in significant air quality impacts.

## PROPOSED AND AMENDED CONDITIONS OF CERTIFICATION

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The proposed conditions of certification are generally divided into two sections; staff recommended conditions of certification and the applicable air quality district's Determination of Compliance (DOC) permit conditions. Staff conditions are additional conditions of certification recommended to provide CEQA mitigation for the project. The staff recommended conditions of certification are identified as the **AQ-SCx** series of conditions. The ACE project included three additional staff conditions identified as requirements 1-3. Requirements 11 through 56 were conditions included in the DOC. The Decision did not include any air quality conditions of certification numbered 4 through 11. Staff recommended conditions of certification pertaining to the prime diesel engine are identified as the **AQ-E** series.

**Bold underline** is used to indicate new language. ~~Strikethrough~~ is used to indicate deleted language. For convenience, a clean version of all the remaining staff conditions reflecting the proposed changes that would become applicable to ACE is included in Appendix A.

## CONDITIONS OF CERTIFICATION

EQUIPMENT: One certified Tier 4i diesel fired internal combustion engine, EPA Family EJDXL06.8210, John Deere Model 4045HFG93A and Serial No. PE4045R080158, After Cooled, Diesel Particulate Filter, Selective Catalytic Reduction, Turbo Charged, producing 168 brake horsepower with 4 cylinders at 1800 rpm while consuming a maximum of 5 gallons of diesel per hour.

AQ-E1 The project owner shall install, operate, and maintain the certified stationary compression-ignited internal combustion engine and its associated emission control systems 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)]

Verification: The project owner shall make the site and records available for inspection by representatives of the Mojave Desert Air Quality Management District (MDAQMD or district), Air Resources Board and Energy Commission Compliance Project Manager (CPM).

AQ-E2 The project owner shall not operate the engine unless all of the following emission control systems are properly functioning:

- a. Diesel Oxidation Catalyst
- b. Electronic Control Module
- c. Exhaust Gas Recirculation System

[40 CFR 60.4211, MDAQMD Rule 1302]

Verification: The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

AQ-E3 The engine shall only be fired on diesel fuel that meets the following requirements, or an alternative fuel approved by the Airborne Toxic Control Measure (ATCM) for Stationary CI Engines:

- a. Ultra-low sulfur concentration of 0.0015% (15 ppm) or less, on a weight basis; and,
- b. A cetane index or aromatic content, as follows:
  - 1. A minimum cetane index of 40; or,
  - 2. A maximum aromatic content of 35 volume percent

[17 CFR 93115.5(a), 40 CFR 80.510, and 40 CFR 60.4207(b)]

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

Verification: The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board and CPM.

AQ-E4 The project owner 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 AQ-E3 (the project owner 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 CFCR 93115.10(a)(3)(D), 17 CFCR 93115.10(f), MDAQMD Rule 132]

Verification: The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board and CPM.

AQ-E5 The engine is subject to the requirements of the 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. In the event of a conflict between these conditions and the ATCM or New Source Performance Standards, the more stringent requirements shall govern.

[MDAQMD Rule 1302]

Verification: The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board and CPM.

AQ-E6 The project owner shall install and maintain a non-resettable four-digit (9,999) hour timer on the engine to indicate elapsed engine operating time.

[17 CCR 93115.10(d)(1)]

Verification: The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board and CPM.

AQ-E7 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.

[MDAQMD Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51 Subpart A]

Verification: The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

#### SPECIAL PETROLEUM COKE TEST-BURN AIR QUALITY CONDITIONS OF CERTIFICATION

**AQ-SC1 Deleted** ~~The project owner may conduct a test to evaluate the effects of burning a petroleum coke/coal blend as a fuel in place of 100 per cent coal.~~

~~The trial burns will be conducted during a three month period starting in the fourth quarter of 1995, with the following conditions:~~

- ~~a. Operation of the facility during this trial burn shall be in accordance with Commission Decision 86-AFC-1 as amended, unless otherwise noted in these special conditions.~~
- ~~b. Notwithstanding the limits specified in Air Quality Condition 1-17, trial burns may be performed at various percentages of petroleum coke versus coal, but the petroleum coke/coal fuel blend shall not exceed 50 per cent petroleum coke (on a Btu basis), 2.5 per cent total sulfur, and 2.5 per cent total nitrogen.~~
- ~~c. The project owner shall notify the District and the CPM when the test period will begin and also when it is completed.~~
- ~~d. The project owner shall provide the District and the CPM copies of the test results following the completion of the test.~~

**Verification:** ~~The project owner shall notify the District and the CPM within ten days of the beginning of the test and within ten days after the test ends. The project owner shall maintain records of the Btu contents of petroleum coke used in the weekly trial burns, and the sulfur and nitrogen content of the weekly fuel blend. These logs and records shall be available for inspection by the District and the CPM during the trial burn and for one year thereafter.~~

~~Sixty days after the conclusion of the test, the project owner shall submit to the District and the CPM copies of the trial burn results.~~

**AQ-SC2 Deleted** ~~During the test of petroleum coke/coal fuel blends, the project owner shall perform compliance tests, as outlined in Air Quality Condition 28 above, in addition to stack source testing for total poly aromatic hydrocarbons (PAH) and heavy metals, when the boiler is operating at the maximum attainable petroleum coke blend ratio (50% or less, on a Btu basis). These tests are to be performed in accordance with the District Compliance Test Procedural Manual.~~

**Verification:** ~~Refer to Air Quality Condition 28.~~

**AQ-SC3 Deleted** ~~During the test of petroleum coke/coal fuel blends, the project owner or its contractor may use the dead fuel storage pile and outside reclaim hopper for unloading, storage and handling of the petroleum coke as follows:~~

- ~~a. The project owner, or its contractor shall spray the petroleum coke pile with a water/surfactant mixture for dust suppression.~~
- ~~b. The project owner or its contractor shall spray all dirt access roads and dirt areas in the dead fuel storage area that are affected by the petroleum coke haul trucks with brackish water.~~
- ~~c. The amount of petroleum coke unloaded, stored and handled during the test is limited to 15,000 tons.~~

- ~~d. The project owner, or its contractor shall notify the District and the CPM when the first truck load of petroleum coke is delivered, and when the last petroleum coke is used.~~
- ~~e. Petroleum coke for the test shall be delivered to the site in covered transport.~~
- ~~f. The project owner shall maintain a daily log of water truck activities, including the number of gallons of water and surfactant used to reduce the dust from petroleum coke hauling, unloading, storage, and handling.~~
- ~~g. The project owner shall maintain weekly records of petroleum coke delivered, used, and stored on site.~~

~~**Verification:** The project owner shall notify the District and the CPM within ten days of delivery of the first petroleum coke and within ten days after the use of the last petroleum coke. Logs and records shall be available for inspection by the District and the CPM during the test and for one year thereafter.~~

**AQ-SC4** The project owner shall ensure that all applicable portable equipment used by the demolition contractor shall be registered through the ARB Portable Equipment Registration Program (PERP).

**Verification:** The project owner will maintain on site records of equipment that is brought on-site. The project owner will furnish these records to the CPM upon request.

**AQ-SC5** The project owner shall ensure that equipment used during decommissioning is maintained in proper operating condition to avoid visible emissions darker than Ringlemann #1 for periods greater than 3 minutes in any hour.

**Verification:** The project owner or their contractor shall maintain records of equipment maintenance activities. These records shall be maintained on-site and furnished to the CPM upon request.

**AQ-SC6** The project owner shall ensure a decommissioning Dust Control Plan is prepared and submitted to the MDAQMD for information and to the CPM for approval.

**Verification:** The project owner or their contractor shall submit the Dust Control Plan to the MDAQMD for information and the CPM for approval, at least 30 days prior to the commencement of demolition activities.

**AQ-SC7 The project owner shall not operate any emission equipment that does not meet the requirements of the rules and regulations of the MDAQMD, the laws and codes of the United States Environmental Protection Agency, California Air Resources Board, and California Energy Commission.**

**Verification: Any addition of equipment subject to licensing requirements, or any changes to the operation of any licensed equipment shall be reported to the CPM.**

~~Requirements 1 through 3 are CEC staff conditions while requirements 11 through 56 are SBCAPCD conditions included in the DOC. (Note: There are no conditions 4-11).~~

~~1-1. Before implementing any major changes in the (1) the basic pollutant generating equipment as described in ACE permit units 1 through 7 of the SBCAPCD's DOC, (2) Air Emissions Control System (AECS), (3) Emissions Monitoring System (EMS), (4) the Computer Control System (CCS), or (5) the emission offsets of Conditions 41, 48, 52, 53, 55, and 56, Kerr McGee Chemical Corporation (KMCC) shall submit the proposed change to the SBCAPCD and Compliance Project Manager for approval. Examples of major changes are the use of an alternative AECS, EMS, or CCS, or a major change to the emissions offset package.~~

~~**Verification:** 60 days before implementing any major change identified above, KMCC shall submit to the SBCAPCD and the Compliance Project Manager design details of the proposed change and a discussion of the potential change in air emissions from the project or the changes to the proposed offsets for the project. KMCC shall receive written approval from the Compliance Project Manager prior to implementing any major change.~~

~~1-2. KMCC shall obtain from the U.S. Environmental Protection Agency (EPA) a Prevention of Significant Deterioration (PSD) permit or exemption.~~

~~**Verification:** Within 30 days of receipt of the PSD permit or PSD exemption notification from the EPA, KMCC shall submit a copy of the PSD permit or exemption notification to the Compliance Project Manager.~~

~~1-3. All areas disturbed by construction in the immediate vicinity, and under KMCC's responsibility during the construction phase, shall be properly and routinely treated for dust control by water application or paving to comply with the requirements of SBCAPCD Nuisance Rule 402 and Fugitive Dust Rule 403.~~

~~**Verification:** 30 days prior to the commencement of construction, KMCC shall notify the SBCAPCD and the Compliance Project Manager of the date of commencement of construction of the ACE Project. KMCC shall make the construction site available to the SBCAPCD and the CEC staff for inspection and monitoring. If any dust suppressant other than water is proposed, KMCC shall obtain approval from the SBCAPCD.~~

~~1-11. The Argus Cogeneration Expansion (ACE) Project must meet the requirements of all of the Rules and Regulations of the San Bernardino County Air Pollution Control District and the laws and codes of the United States Environmental Protection Agency and California Air Resources Board. Operation of this equipment must be conducted in compliance with all data and specifications submitted with the application under which these conditions are issued unless otherwise noted below. The proposed project includes the construction and operation of the ACE facility and the contemporaneous modification or shutdown of existing facilities such that the net emissions increase (except for CO) is less than New Source Review (NSR) threshold levels defined in SBCAPCD Regulation XIII. The emission rates shall be based on averaging periods as indicated in the specific permit conditions. (DOC General Permit Conditions 1 and 2)~~

**Verification:** In the Annual Compliance Report, KMCC shall provide the Compliance Project Manager with copies of all reports related to the ACE project submitted to the SBCAPCD and copies of all notices related to the ACE project received from the SBCAPCD. The SBCAPCD and the CEC staff will, at the request of either party, meet to review the status of project compliance. The CEC staff shall be allowed to review the SBCAPCD's enforcement and project files except for "trade secrets" which will be managed as set forth in SBCAPCD rules.

~~1-12. KMCC shall report to the SBCAPCD any reduction of power output during the initial startup period of the ACE boiler and associated equipment. The initial startup period is the completion of 15 consecutive days of operation of the ACE boiler at 90 percent capacity or greater. Progress toward the achievement of 90 percent capacity will be monitored by the SBCAPCD and the CEC Staff to assure that unwarranted delays do not occur. Any failures of output reductions to a level below 90 percent capacity during the 15 day period must be reported to the SBCAPCD within four hours and fully documented within 48 hours. The effect of such actions (either prior to or during the 15 day period) on the initial startup date will be determined by the SBCAPCD and the CEC Staff. (DOC General Permit Condition 35~~

**Verification:** During the 15 day initial startup period, KMCC shall report any failures or electrical output reductions to a level below 90 percent capacity to the SBCAPCD within four hours and shall submit full documentation of the failure or power reduction within 48 hours. Such reports shall be submitted to the Compliance Project Manager in the Quarterly Compliance Reports.

~~1-13. KMCC shall not exceed at any time subsequent to initial startup, the air pollutant threshold levels, except as allowed by the schedule for completion of the retrofit of the Argus boilers Nos. 25 and 26 as defined in the permit conditions pertaining to same. This requires that all modifications or shutdowns specified in the permits discussed herein shall be in place and verified by compliance tests as required prior to the actual light off (i.e., the first actual firing of the ACE boiler on any fuel), except for the retrofit of the Argus boilers Nos. 25 and 26 for increased NOx control. If the assumed emission rates (i.e., permit emission limits incorporated herein) contained in the SBCAPCD's Determination of Compliance analysis and the CEC staff's analysis are shown to be exceeded during the initial compliance testing of the ACE boiler or of the existing facilities which have been modified contemporaneous (i.e. as per retrofit schedules specified herein) with the ACE boiler initial startup, KMCC shall submit a revised analysis demonstrating compliance with the overall emission reductions which form the basis of this analysis within 50 lbs/day for any air contaminant except for particulate sulfate which shall not change by more than 12 lbs/day. Changes to the permit emission limits must be approved, in writing, by the SBCAPCD Executive Officer and the Compliance Project Manager based on this revised analysis. (DOC General Permit Condition 3)~~

**Verification:** If the emission rates are exceeded at the time of the initial compliance testing, KMCC shall submit within 60 days a revised compliance plan to the SBCAPCD and the Compliance Project Manager. That plan shall demonstrate compliance with the overall emission reductions requirements for any part of the ACE project or the existing

~~modified facilities associated with the ACE project that exceed, as a result of compliance source testing, the pollutant threshold levels set forth in the following conditions. Amendments to the permit emission limits consistent with the new plan (analysis) must be approved, in writing, by the SBCAPCD and Compliance Project Manager on this revised analysis.~~

~~1-14. Emission reductions claimed under this application and submitted with the application under which the permits implementing such emissions reductions are issued cannot be claimed for emission reduction credits against future projects. (DOC General Permit Condition 4)~~

~~**Verification:** Concurrent with submittal of Application for Authorities to Construct to the SBCAPCD that include a modification to the emissions of air contaminants from SBCAPCD permits B000554, B000555, B001916, B001920, B001921, B001922, B001923, B001924, B001926, B000223, B000224, B000225, B000226, B000235 or B001766, KMCC shall include copies of those Authorities to Construct to the Compliance Project Manager.~~

~~1-15. Since air pollution regulatory agencies are considering new toxic substance controls on a continuing basis, such new regulations, as required by federal or State laws or regulations or as adopted by the San Bernardino County Air Pollution Control Board in the future, shall be incorporated as conditions to all the affected permits herein, and compliance tests shall be required. KMCC shall submit a test plan to demonstrate compliance, based on SBCAPCD recommended methodologies or as revised by KMCC, for SBCAPCD approval. (DOC General Permit Condition 5)~~

~~**Verification:** KMCC shall submit the above plan to the SBCAPCD and the Compliance Project Manager, concurrent with the first required submission to any governmental agency and within the time specified in any new toxic substance control regulations. This plan is subject to SBCAPCD approval based on SBCAPCD recommended methodologies or as revised by KMCC and approved by the SBCAPCD.~~

~~1-16. For a period of one year following initial startup, and the completion of all modifications to the Argus 25 and 26 boilers specified in Condition 42, KMCC shall continue ambient air quality monitoring at the current ACE 2 and ACE 3 stations and meteorological measurements at 10 meters and 100 meters at the current ACE 4 station. The particulate measurements shall include PM10 and sulfate determinations. Particulate monitoring (TSP and PM10) shall be continued during construction of the ACE project. (DOC General Permit Conditions 8 and 9)~~

~~**Verification:** KMCC shall submit to the SBCAPCD the ACE 2, ACE 3 and ACE 4 data summary reports 15 days after the end of each month. KMCC shall submit to the Compliance Project Manager the ACE 2, ACE 3 and ACE 4 data summary reports in the quarterly reports.~~

~~**AQ-17** The ACE steam generation system (MDAQMD PTO No. B002120) shall be fired with solid fuel (coal and/or petroleum coke), natural gas, or any combination of solid fuels and natural gas, and high-carbon fly ash from the Argus boilers Nos.~~

~~25 and 26. For the solid fuel (coal and/or petroleum coke), the total sulfur content shall not exceed 4.0 percent by weight. The maximum firing rate shall be 1108 MMBtu/hr (i.e., 100 percent capacity); provided, however, that the maximum firing rate may be increased upon demonstration to the Executive Officer, through compliance tests, that the requirements of Condition AQ-19 are still met.~~

**Verification:** ~~The project owner shall maintain a fuel purchase and consumption log on-site for inspection by the Mojave Desert Air Quality Management District (District), CARB and CEC staff. The log shall contain records of the daily fuel consumed, which may be calculated from daily steam production records and a monthly fuel analysis of the sulfur content based on fuel samples either composited "on delivery" or "as fired." If the project owner changes the fuel sampling method from "on delivery" to "as fired" or vice versa, the project owner shall provide the log records based on both methods for a period of one month following any such change. The fuel log records shall be maintained for a period of at least two years and made available to the District and CEC staff personnel upon request within 10 days. The project owner shall submit the fuel log records to the District on a monthly basis. The project owner shall submit the fuel log records to the Compliance Project Manager with the Annual Compliance Report.~~

~~1-18. The SBCAPCD will consider the firing of other fuels and the injection of materials other than limestone for SO<sub>2</sub> control for short periods consistent with the KMCC Demonstration Plan submitted (dated December 15, 1986) to the CEC. To do this KMCC shall submit to the SBCAPCD, 90 days prior to testing, a detailed test plan including fuel properties and operational scenarios: a review of the implementation plan for in-stack monitoring requirements (Rule 218); an ambient air quality monitoring program; a detailed air modeling assessment of the impacts of combusting the alternate fuel on ambient air quality, calculation of anticipated emissions during startup/restart, full load, and shutdown conditions; and a demonstration of the basis for expecting that the ACE boiler will meet the emission limits shown in Condition 19. The test burn shall commence only after written approval by the SBCAPCD and written approval by the Compliance Project Manager is received. Approval implies the modification of permit conditions for the test period only; however, should any District, State or federal rule or regulation for emission limits or ambient air standards be exceeded, the test shall be terminated or appropriate emissions be offset immediately onsite. If KMCC plans to continue the test burn beyond the intended burn period, KMCC shall submit a new plan for SBCAPCD and CEC Staff approval.~~

- ~~a. To determine whether ambient air quality standards are being violated, KMCC shall monitor the real time gaseous pollutant measurements recorded at the ACE-2 and ACE-3 stations every three hours during the test period.~~
- ~~b. Emission limits contained in SBCAPCD regulations can be exceeded only upon issuance of a Variance by the SBCAPCD Hearing Board in accordance with the provisions of Sections 42350, et seq. of the California Health and Safety Code. (DOC Permit Unit ACE-1 Condition 2)~~

**Verification:** ~~KMCC shall submit to the SBCAPCD and the Compliance Project Manager 90 days prior to testing, the above described test plan. The test burn shall~~

commence only after written approval by both the SBCAPCD and the Compliance Project Manager.

~~1-19.~~ The ACE steam generation system shall not be operated unless all pollution control systems are operational and in use to the extent required to meet MDAQMD rules and regulations and ACE boiler permit conditions, including limestone injection for SO<sub>2</sub> control, ammonia injection for NO<sub>x</sub> control, and the permitted baghouse for particulate control. The total emissions from the ACE boiler stack at any firing rate except during periods of startup, shutdown, or stabilization as addressed in Condition AQ 1-22, shall not exceed the following:

<del>Pollutant</del>	<del>Emission Rate (1)</del>
<del>ROG (as CH<sub>4</sub>)</del>	<del>5 lbs/hr (2)</del>
<del>O</del>	<del>280 lbs/hr (2)</del>
<del>Ox (as NO<sub>2</sub>)</del>	<del>104 lbs/hr (2)</del>
<del>SOx (as SO<sub>2</sub>)</del>	<del>83 lbs/hr (2)</del>
<del>PM</del>	<del>14.6 lbs/hr (3)</del>
<del>PM<sub>10</sub></del>	<del>14.6 lbs/hr (3)</del>
<del>Sulfates</del>	<del>3.7 lbs/hr (3)</del>
<del>ammonia</del>	<del>310 lbs/day</del>
<del>Opacity</del>	<del>20 Percent (4)(5)</del>

**Notes:**

- ~~(1) Prohibitory limits as per SBCAPCD Rules also apply.~~
- ~~(2) Based on a 3-hour rolling average, computed every 15 minutes.~~
- ~~(3) Emission rates determined by required compliance tests referenced in Condition 28 and in Condition 29e and Condition 34.~~
- ~~(4) A maximum 40 percent opacity is permissible for up to two minutes in any hour.~~
- ~~(5) This limit shall apply both to the ACE boiler plume and to the combined plume from any combination of the ACE boiler, Argus boiler 25, and Argus boiler 26. (DOC Permit Unit ACE-1 Conditions 1 and 3)~~

**Verification:** Refer to verification for Condition 28. KMCC shall not exceed at any time subsequent to initial startup the emission thresholds referred to above. If the assumed emission rates (i.e., permit emission limits incorporated herein) contained in the SBCAPCD's DOC analysis are shown to be exceeded during the initial compliance testing of the ACE boiler, KMCC shall submit to the SBCAPCD and the Compliance Project Manager a revised analysis demonstrating compliance with the overall emission reductions which form the basis of this analysis within 50 lbs/day for any air contaminant, except for particulate sulfate which shall not change by more than 12 lbs/day. Amendments to the permit emission limits must be approved, in writing, by the SBCAPCD Executive Officer and by the Compliance Project Manager based on this revised analysis.

~~1-20.~~ At least 90 days prior to operation of the ACE facility, KMCC shall submit to the SBCAPCD and the Compliance Project Manager an emissions monitoring system



~~plan detailing the required systems shown in Condition 21, the data reporting and data retention protocols and the maintenance and calibration program to minimize systematic errors. Written approval of this plan by the SBCAPCD Executive Officer is required before operation of the ACE facility can commence. Quality assurance audits (sampling, analysis, and data processing audits) will be required periodically by the SBCAPCD. (DOC Permit Unit ACE-1 Condition 4)~~

**Verification:** ~~At least 90 days prior to commencement of operation of the ACE project, KMCC shall submit an emission monitoring system plan to the SBCAPCD and the Compliance Project Manager that will include the requirements listed above. KMCC shall receive written approval from the SBCAPCD and the Compliance Project Manager prior to commencement of operation of the emission monitoring system of the ACE project.~~

**1-21.** ~~All continuous monitoring requirements shall be performed as per the following methodologies or others as approved by the SBCAPCD Executive Officer:~~

- ~~1) Continuous monitoring systems to measure stack gas concentrations shall meet EPA monitoring performance specifications (40 CFR 60.13 and 40 CFR 60, Appendix B, Performance Specification 2).~~
- ~~2) A transmissometer system for continuous measurement of the opacity of stack emissions shall meet EPA monitoring performance specifications (40 CFR 60.13 and 40 CFR 60, Appendix B, Performance Specification 1).~~
- ~~3) A continuous monitoring system to measure stack gas volumetric flow rates shall meet EPA monitoring performance specifications (40 CFR Part 52, Appendix E).~~

~~(DOC General Permit Condition 7[b])~~

**Verification:** ~~KMCC shall notify the SBCAPCD and the Compliance Project Manager at least 30 days prior to the date upon which demonstration of the continuous monitoring system commences (40 CFR 60.13[c]). SBCAPCD and Compliance Project Manager approval of the system is required.~~

**1-22.** ~~Emissions of CO, NOX and SOX may exceed the limits contained in Condition AQ 1-19 during startup, shutdown, and stabilization periods within the limits of this condition.~~

~~a. The startup, shutdown and stabilization periods for NOX and SOX are defined as follows:~~

- ~~(1) Startup is when the boiler is being fired, in whole or in part, with natural gas for the purposed of introducing the solid fuel (coal and/or petroleum coke).~~
- ~~(2) Shutdown is when natural gas is introduced to the boiler to bring the unit off line in a controlled fashion.~~
- ~~(3) Stabilization is:~~
  - ~~(a) During startup, the period from when the natural gas is being taken out of service and power output on solid fuel is increasing~~

~~until the boiler is up to a stable operating range and generating more than 40 MWe net;~~

~~(b) During shutdown, the period starting when the natural gas is placed in service to bring the unit off line in a controlled fashion.~~

~~b. The startup, shutdown and stabilization periods for CO are defined as those periods when the boiler is being fired, in whole or in part, with natural gas.~~

~~c. During periods of start-up, shutdown and stabilization, the emissions of CO, NOX and SOX shall not exceed the following based on a 3-hour rolling average:~~

~~CO 2,000 lbs/hr but not for any period longer than 12 hours.~~

~~NOX & SOX 200 lbs/hr of each but not for any period longer than 4 hours.~~

~~d. The total annual emissions, including the emissions allowed in this condition, for CO, NOx, and SOx, when calculated on a 52-week rolling average, shall not exceed the following:~~

~~CO 1,226 tons/year~~

~~NOX 456 tons/year~~

~~SOX 364 tons/year~~

~~Compliance with these emission limits shall be determined by using the CEMs data, and a week is defined as beginning at 0001 hours Monday and ending at 2400 hours on Sunday.~~

**Verification:** ~~When the emission limits above are to be applied, the District is to be informed by phone prior to or as soon as practicable after the subject period occurs. The project owner shall report to the District in the quarterly report when a start-up, shutdown or stabilization period occurred and the actual emissions recorded during that period.~~

**1-23.** ~~A continuous monitoring system must be installed and operated to monitor and record the fuel consumption, which may be calculated from the steam production records, and the molar ratio of calcium/sulfur being fed to the boiler. The instruments must be accurate to within plus or minus five percent of full scale or, if such instrument accuracy is not commercially available, the best available instrumentation shall be used. (DOC Permit Unit ACE 1 Condition 4)~~

**Verification:** ~~KMCC shall include a discussion of the fuel consumption continuous monitoring system with the monitoring system plan required of Condition 20. KMCC shall install and operate the continuous monitoring system after approval by the SBCAPCD and the Compliance Project Manager.~~

**1-24.** ~~A continuous monitoring system must be installed and operated to monitor and record the mass flow rate of ammonia injected into the boiler. The instrument must be accurate to plus or minus five percent of full scale or, if such instrument accuracy is not commercially available, the best available instrumentation shall be used. (DOC Permit Unit ACE 1 Condition 4)~~

**Verification:** ~~KMCC shall include a discussion of the ammonia consumption continuous monitoring system with the monitoring system plan required of Condition 20. KMCC shall install and operate the continuous monitoring system after approval by the SBCAPCD and the Compliance Project Manager.~~

~~1-25. A continuous emissions monitoring system must be installed and operated to measure the concentration in the ACE boiler exhaust for NO<sub>x</sub>, (i.e., NO and NO<sub>2</sub> individually) SO<sub>2</sub>, CO, NH<sub>3</sub>, O<sub>2</sub> and opacity. In addition, the system shall automatically convert the actual concentrations to a corrected value at three percent O<sub>2</sub>, dry basis, and continuously record the actual stack NO<sub>x</sub>, CO, O<sub>2</sub>, SO<sub>2</sub>, and corrected concentrations. This monitoring system shall comply with the requirements of SBCAPCD Rules 218 and 903. (DOC Permit Unit ACE-1 Condition 4)~~

**Verification:** ~~KMCC shall install and operate the continuous monitoring system after approval by the SBCAPCD and the Compliance Project Manager.~~

~~1-26. The operator shall maintain daily records for fuel usage, ammonia usage, and stack outlet emissions (as ppmv at three percent O<sub>2</sub>, dry and lbs/hr) and opacity. Prior to the ACE boiler start up, the protocol for maintaining daily records shall be approved in writing by the SBCAPCD Executive Officer. (DOC Permit Unit ACE-1 Condition 4)~~

**Verification:** ~~90 days prior to ACE boiler startup, KMCC shall submit to the SBCAPCD and the Compliance Project Manager a protocol for the format used by the operator to record daily fuel usage, ammonia usage, stack outlet emissions and opacity. KMCC shall receive approval from the SBCAPCD and the Compliance Project Manager for the protocol prior to the ACE boiler startup. All records shall be maintained on-site and be made available to the SBCAPCD and Project Compliance Manager within 10 days of notification.~~

~~1-27. KMCC shall conduct all required compliance tests in accordance with SBAPCD test procedures and protocols except as noted specifically, and furnish the SBCAPCD written results of such compliance tests within 45 days after testing. 30 days prior to the compliance source tests, KMCC shall provide a written test plan to SBCAPCD and GEC Staff for review and approval. KMCC shall provide to the SBCAPCD and Compliance Project Manager written notice 10 days prior to the compliance tests so that an observer(s) may be present. (DOC General Permit Condition 6)~~

**Verification:** ~~KMCC shall comply with all requirements of the above condition and provide the compliance source tests plan and test results described above to the SBCAPCD. KMCC shall simultaneously submit copies of transmittal letters to the SBCAPCD and all reports described above to the Compliance Project Manager. KMCC shall not conduct such compliance tests until written approval from the SBCAPCD and the Compliance Project Manager is received.~~

~~1-28. All compliance (performance) source tests shall be performed as per the following methodologies or others as approved by the SBCAPCD Executive Officer:~~

~~The emissions of NO<sub>x</sub>, SO<sub>2</sub>, CO, and TSP, including sulfate content, shall be measured and results reported in accordance with the test methods set forth in 40 CFR 60 Appendix A and 40 CFR 60.8 (or the equivalent CARB test method). The following test methods shall be used unless otherwise specified by the SBCAPCD Executive Officer:~~

- ~~1) Compliance tests for the emissions of NO<sub>x</sub> shall be conducted using EPA Methods 1-4 and 7E.~~
- ~~2) Compliance tests for the emissions of SO<sub>2</sub> shall be conducted using EPA Methods 1-4 and 6C.~~
- ~~3) Compliance tests for the emissions of CO shall be conducted using EPA Methods 1-4 and 10.~~
- ~~4) Compliance tests for the emissions of TSP shall be conducted using EPA Methods 1-5, except as follows:~~
  - ~~a) The back half particulate catch will be modified by subtracting the mass of compounds containing NH<sub>4</sub><sup>+</sup> ion, i.e. NH<sub>4</sub>HSO<sub>4</sub>, NH<sub>4</sub>HSO<sub>3</sub>, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> and (NH<sub>4</sub>)SO<sub>3</sub>.~~

~~All other sulfate/sulfite compounds will be considered as particulate emissions.~~

~~For grain loading emissions limits (e.g., 0.005 (or less) grains per actual cubic foot): the emissions are determined based on the filter and probe catch as defined in CARB Source Test Method 5.~~

~~For mass emission limits (e.g., lbs/day): the emissions are determined based on the filter, probe, and impinger catch and the solvent extract, as defined in CARB Source Test Method 5 and as corrected for NH<sub>4</sub><sup>+</sup> ion compounds.~~

~~For consideration of compliance with SBCAPCD Rules 404 and 405 the emissions are determined based on the filter, probe and impinger catch, and the solvent extract, as defined in CARB Source Test Method 5 and as corrected for NH<sub>4</sub><sup>+</sup> ion compounds.~~

~~Compliance tests for the emissions of sulfates (reported as mass emission rate of SO<sub>4</sub> ions) shall be conducted using CARB Method 8, except as follows:~~

- ~~i. The molecular weight used to report the results shall be that of SO<sub>4</sub>, rather than H<sub>2</sub>SO<sub>4</sub>.~~
- ~~ii. The collected concentration will be modified by subtracting the mass of compounds containing NH<sub>4</sub><sup>+</sup> ions, i.e., NH<sub>4</sub>HSO<sub>4</sub>, NH<sub>4</sub>HSO<sub>3</sub>, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, and (NH<sub>4</sub>)SO<sub>3</sub>. All other sulfate/sulfite compounds will be considered as sulfate emissions. Compliance tests for the emissions of ammonia shall be based on a test method to be approved by the SBCAPCD, such as CARB Test Method 5 with appropriate impinger solutions and calculation techniques.~~

~~Compliance tests for the emissions of non-methane hydrocarbons shall be conducted using EPA Methods 1 through 4 and 25.~~

~~Compliance tests for opacity shall be conducted by the SBCAPCD or the California Air Resources Board or an approved third party using EPA Method 9, and by a certified smoke reader's evaluation of plume opacity. (DOC General Permit Condition 7[a])~~

**Verification:** ~~KMCC shall perform the compliance tests according to the methods listed above. Refer to Condition 27. Variations to these test methods must first receive approval from the SBCAPCD and the Compliance Project Manager.~~

~~1-29. Within 60 days after achieving the initial startup of the ACE boiler, KMCC shall conduct compliance tests which will include, but will not be limited to, a test of the exhaust stream within the stack for:~~

- ~~a. Oxides of nitrogen (NO<sub>x</sub> as NO<sub>2</sub> in ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hr).~~
- ~~b. Nonmethane hydrocarbons (ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hr).~~
- ~~c. Oxides of sulfur (SO<sub>x</sub> as SO<sub>2</sub> in ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hr).~~
- ~~d. Carbon monoxide (ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hr).~~
- ~~e. Total Suspended Particulates, sulfates, and PM<sub>10</sub> (as milligrams/cubic meter, at three percent O<sub>2</sub> on a dry basis and as lbs/hr).~~
- ~~f. Flue gas flow rate (SCFM on a dry basis).~~
- ~~g. Ammonia (ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/day).~~
- ~~h. Opacity.~~

~~(DOC Permit Unit ACE-1 Condition 5)~~

**Verification:** ~~Within 60 days after initial start up of the ACE boiler, KMCC shall perform the compliance source tests for the pollutants listed above. Refer to Conditions 27 and 28.~~

~~1-30. KMCC shall conduct quarterly compliance tests in the first year after initial start up and annual tests in the succeeding years, to determine stack outlet emissions as above. (DOC Permit Unit ACE-1 Condition 6)~~

**Verification:** ~~KMCC shall submit the results of the quarterly compliance tests to the SBCAPCD and the Compliance Project Manager on a quarterly basis as available. KMCC shall submit the results of all compliance tests to the SBCAPCD and the Compliance Project Manager as part of the Annual Compliance Report. Refer to verifications for Conditions 28 and 29.~~

~~1-31. Sampling ports must be provided in accordance with SBCAPCD protocols. An equivalent method of emission sampling may be used upon approval of the SBCAPCD. Adequate and safe access must be provided by KMCC. (DOC Permit Unit ACE-1 Condition 7)~~

**Verification:** ~~KMCC shall include in the performance test plan (Condition 27) a description and "Approved for Construction" drawings of the emission sampling ports.~~

~~KMCC shall make the site available for inspection by the SBCAPCD, CARB, and the CEC staff during both construction and operation upon reasonable notice (1 hour for weekdays, and 8 hours for weekends and holidays).~~

~~**AQ-32** The project owner shall report monthly fuel analyses of the sulfur content. The fuel samples can either be composited "on delivery" or "as fired". To satisfy the "as delivered" condition, the project owner may use vendor analyses. Such records shall be maintained on site for a period of at least two years and made available to the District personnel upon request within 10 days.~~

~~**Verification:** Refer to verification to Condition AQ-17.~~

~~**1-33.** The SBCAPCD shall be notified in writing of the construction completion date, the initial light off date, and the start of the initial startup period of the ACE cogeneration system. An application for a permit to operate the ACE cogeneration system and for each air pollution control system must be filed with the SBCAPCD at least 90 days prior to the startup of the cogeneration system. (DOC Permit Unit ACE-1 Condition 9)~~

~~**Verification:** 30 days prior to the initial light off of the ACE boiler, KMCC shall notify the SBCAPCD and the Compliance Project Manager in writing the initial startup date of the ACE cogeneration system. KMCC shall submit to the SBCAPCD its application(s) for Permits to Operate for the ACE cogeneration system and for each Air Pollution Control (APC) system at least 90 days prior to the startup of the cogeneration system. KMCC shall submit a copy of the application(s) to the Compliance Project Manager within 10 days of its submittal to the SBCAPCD. The SBCAPCD shall approve or disapprove the application(s) as prescribed in SBCAPCD rules.~~

~~**1-34.** The fabric dust collector baghouse (SBCAPCD permit ACE-2) of the ACE project must be properly maintained and kept in good operating condition at all times. The baghouse must be operating within specifications at all times during the ACE boiler operations. Flyash collection and disposal shall be handled in such a manner as to minimize entrainment to the atmosphere. Outlet loading of the ACE-2 baghouse shall not exceed either 0.005 grains per actual cubic foot (gr/acf) or 14.6 lb/hour at the nominal maximum flow rate of 341,000 actual cubic feet per minute (ACFM). KMCC shall conduct quarterly compliance tests in the first year and annual tests in the succeeding years, to determine stack outlet emissions as required under Condition 29. KMCC shall submit the quarterly compliance tests to the SBCAPCD and the Compliance Project Manager on a quarterly basis as the test results are available. KMCC shall submit the results of the annual compliance tests to the SBCAPCD and the Compliance Project Manager as part of the annual Compliance Report. (DOC Permit Unit ACE-2 Conditions 1, 2, 3, 4 and 5)~~

~~**Verification:** KMCC shall perform the compliance tests described above and provide the tests results to the SBCAPCD. KMCC shall simultaneously submit copies of transmittal letters to the SBCAPCD and the compliance test results described above to the Compliance Project Manager as part of the annual Compliance Report.~~

~~**1-35.** The cooling tower and cooling water system (SBCAPCD permit ACE-3) must be properly maintained and kept in good operating condition at all times. The use of~~

~~chromium compounds, normally introduced as a corrosion inhibitor additive in many of the KMCC cooling towers, is prohibited in the ACE project cooling tower. Alternative corrosion inhibitors used shall be subject to SBCAPCD and CEC staff approval. (DOC Permit Unit ACE-3 Conditions 1 and 2)~~

**Verification:** ~~KMCC shall make the site available for inspection by the SBCAPCD, CARB, and CEC Staff during both construction and operation upon reasonable notice (1 hour for weekdays, 8 hours for weekend and holidays). KMCC shall submit to the SBCAPCD and Compliance Project Manager verification of KMCC's intent to use Betz DE 1186 or DE 1187 cooling tower additive or their chemical equivalents, at least 90 days before initial firing of the ACE facility. KMCC shall notify the SBCAPCD and Compliance Project Manager of any intention to use alternative corrosion inhibitors at least 90 days before such use. The notification shall include information on the toxicity of such additives together with an assessment of the potential health impacts of worker and public exposure to such additives. The use of alternative corrosion inhibitors is subject to approval by the Compliance Project Manager.~~

~~**1-36** The ACE cooling tower drift rate (determined by these compliance tests as defined below) shall not exceed 0.0015 percent based on a maximum design circulation rate of 64,000 gallons per minute (GPM). The use of chromium compounds as corrosion inhibitors is prohibited and alternatives shall be subject to approval by the MDAQMD (see also Public Health Condition 2-2). The maximum TSP and PM10 emission rates shall not exceed 15 and 13 lbs/hour, respectively.~~

~~The project owner shall maintain records of the weekly blowdown water quality tests for inspection by the MDAQMD. The blowdown water quality tests shall be conducted in accordance with the referenced test methods approved by the MDAQMD. The log of weekly blowdown water quality tests must at least contain the following:~~

- ~~○ Date blowdown water quality test was performed.~~
- ~~○ Concentration of PM and PM10.~~
- ~~○ Circulation flow rate.~~
- ~~○ Mass emission of TSP and PM10 (lbs/hr).~~

~~The MDAQMD, or MDAQMD approved third party, shall inspect the cooling tower periodically. Should excessive drift loss be suspected, the project owner shall make appropriate repairs or conduct a source test to demonstrate compliance. If the MDAQMD has reason to believe emission limits are still exceeded after repairs are completed, a compliance test may be required by the MDAQMD.~~

~~Within 60 working days after achieving the initial startup of the ACE boiler, the project owner shall conduct a compliance test in accordance with test procedures and protocols developed and adhered to during the permitting source tests by the project owner of the existing cooling towers (Reference: KMCC letter dated November 11, 1986, to SBCAPCD) or as amended with written approval of the MDAQMD Executive Officer. The project owner shall then furnish written notice to the MDAQMD and the Compliance Project Manager 10 days prior to the test so~~

~~that an observer(s) may be present. The compliance test will include, but will not be limited to, a test of selected cells for:~~

- ~~○ Drift rate, as a percent of water circulation rate.~~
- ~~○ Water quality, as TDS in ppmw and chemical analysis.~~
- ~~○ Emission rates, in pounds/hour, for PM, PM10 and sulfates.~~

**Verification:** ~~The project owner shall comply with all requirements of the above condition and provide written results of such compliance source tests within 45 days after testing. The project owner shall simultaneously submit the copies of transmittal letters, inspection reports from the MDAQMD and the compliance source tests described above to the Compliance Project Manager.~~

37. ~~The solid fuel unloading, storage and handling equipment must be properly maintained and kept in good operating condition at all times. The basic equipment must not be operated unless all pollution control systems are operational and in use to the extent required to meet District rules and regulations and permit conditions, namely, the baghouses on the storage barn, crusher, transfer house, storage silos, and the new solid fuel truck unloading, storage, and handling system for particulate control. All conveyor systems shall be fully enclosed on at least one side, over the top and within 18 inches of the belt on the open side. Water spray systems which are activated by conveyor motion shall be provided at all transfer points except as those controlled by baghouses. The dead fuel storage shall be compacted and chemically sealed to prevent fugitive dust emissions. Before using this fuel, except on an emergency basis, District approval is required. The rate of turnover to prevent excess deterioration of the fuel shall not exceed once every three years. This constraint limits use to 100,000 tons for any three day period. Interim use shall require compaction and chemical sealing on a daily basis during intrusion. Truck delivery of coal shall be permitted to maintain the dead storage pile. Truck delivery of solid fuel for daily fuel use in the ACE boiler shall not be unloaded or stored outdoors.~~

**Verification:** ~~The owner/operator shall maintain and make available on site for inspection the "Approved for Construction" drawings to the District, CARB, and the CEC staff upon reasonable notice (1 hour for weekdays, 8 hours for weekends and holidays). The owner/operator shall make the site available for inspection by the District, CARB, and CEC staff during both construction and operation upon reasonable notice (1 hour for weekdays, 8 hours for weekends and holidays). The owner/operator shall notify the Compliance Project Manager and obtain the approval from the District 30 days prior to use of fuel from the dead storage pile except in an emergency. The owner/operator shall provide in the Annual Compliance Report a summary of all emergencies requiring the use of coal from the dead storage pile.~~

38. ~~The fabric dust collector baghouses for the fuel storage and handling systems must be properly maintained and kept in good operating condition at all times. These baghouses must be operating within specifications at all times whenever fuels are being unloaded or transferred. Outlet particulate loading shall not~~



~~exceed either 0.003 grains/ACF at the nominal maximum air ventilation rate dependent on the baghouses or the maximum mass emission rates as follows:~~

- ~~— a) Storage Barn — 60,000 ACFM; 1.54 lbs particulate/hour~~
- ~~— b) Crusher — 12,000 ACFM; 0.31 lbs particulate/hour~~
- ~~— c) Transfer House — 1,500 ACFM; 0.039 lbs particulate/hour~~
- ~~— d) Storage Silos — 12,000 ACFM; 0.31 lbs particulate/hour~~

~~Outlet particulate loading shall not exceed either 0.003 grains/dscf at the nominal maximum air ventilation rate dependent on the baghouses or the maximum mass emission rates as follows:~~

- ~~— e) Truck Unloading Station — 17,000 ACFM; 0.44 lbs particulate/hour~~
- ~~— f) New Storage Bin — 4,000 ACFM; 0.12 lbs particulate/hour~~
- ~~— g) New Conveyor Transfer — 1,500 ACFM; 0.044 lbs particulate/hour~~

~~The owner/operator shall conduct compliance tests to verify the above outlet particulate emission rates. The owner/operator shall submit the results of these compliance tests to District and the Compliance Project Manager. Within 60 days after achieving the initial startup of the ACE boiler, the owner/operator shall conduct compliance tests. The owner/operator shall then furnish the District and the Compliance Project Manager written results of such compliance tests within 45 days after testing. Written notice of the compliance tests shall be provided to the District and the Compliance Project Manager 10 days prior to the tests so that an observer(s) may be present. Subsequent to the compliance test, visual inspections will be required quarterly by the District (either by a District inspector or a District approved third party). Should excessive particulate emissions be suspected, the owner/operator shall make appropriate repairs or conduct a source test to demonstrate compliance. Regardless of the repairs made, the District may require a source test to verify compliance. (DOC Permit Unit ACE-5 Conditions 1, 2, 3 and 4)~~

**Verification:** ~~The owner/operator shall comply with all requirements of the above condition and provide the compliance source tests results to the District. The owner/operator shall simultaneously submit copies of transmittal letters, inspection reports from the District and source tests results to the Compliance Project Manager.~~

39. ~~The limestone handling system (SBCAPCD Permit Unit ACE-6) must be properly maintained and kept in good operating condition at all times. The basic equipment must not be operated unless all pollution control systems are operational and in use to the extent required to meet District rules and regulations and permit conditions, namely the baghouse on the truck unloading and crushing system and the baghouse on the storage silo for particulate control. Outlet particulate loading for each baghouse shall not exceed 0.003 grains/ACF at the nominal maximum air ventilation rates of 42,000 ACFM or 1.08 lbs particulate/hour for the baghouse. The owner/operator shall conduct compliance tests to verify the above outlet particulate emission rates. The owner/operator shall submit the results of these compliance tests to District and the Compliance Project Manager.~~

~~Within 60 days after achieving the initial startup of the ACE boiler, the owner/operator shall conduct compliance tests. The owner/operator shall then furnish the District and the Compliance Project Manager written results of such compliance tests within 45 days after testing. Written notice of the compliance tests shall be provided to the District 10 days prior to the tests so that an observer(s) may be present. Subsequent to the compliance tests, visual inspections will be required quarterly by the District (either by a District inspector or a District approved third party). Should excessive particulate emissions be suspected, the owner/operator shall make appropriate repairs or conduct a source test to demonstrate compliance. Regardless of the repairs made, the District may require a source test to verify compliance.~~

**Verification:** ~~The owner/operator shall comply with all requirements of the above condition and provide the compliance source tests results described above to the District. The owner/operator shall simultaneously submit copies of transmittal letters, inspection reports from the District and the source test results described above to the Compliance Project Manager.~~

**~~1-40.~~** ~~The ash handling system (SBCAPCD Permit unit ACE-7) must be properly maintained and kept in good operating condition at all times. The basic equipment must not be operated unless the pollution control system is operational and in use to the extent required to meet SBCAPCD rules and regulations and permit conditions, namely the baghouse on the pneumatic transport system which collects and conveys fly ash from the ACE boiler to the storage silo. Outlet particulate loading for the baghouse shall not exceed 0.003 grains/ACF at the nominal maximum air ventilation rate of 3,000 ACFM or 0.077 lbs particulate/hour. KMCC shall conduct compliance tests to verify the above particulate emission rates. KMCC shall submit the results of these compliance tests to the SBCAPCD and the Compliance Project Manager.~~

~~Within 60 days after achieving the initial startup of the ACE boiler, KMCC shall conduct compliance tests. KMCC shall then furnish the SBCAPCD and the Compliance Project Manager the written results of such compliance tests within 45 days after testing. Written notice of the compliance tests shall be provided to the SBCAPCD ten days prior to the tests so that an observer(s) may be present. Subsequent to the compliance test, visual inspections will be required quarterly by the SBCAPCD (either by a SBCAPCD inspector or a SBCAPCD approved third party). Should excessive particulate emissions be suspected, KMCC shall make appropriate repairs or conduct a source test to demonstrate compliance. Regardless of the repairs made, the SBCAPCD may require a source test to verify compliance. (DOC Permit Unit-7 Conditions 1, 2 and 3)~~

**Verification:** ~~KMCC shall comply with all requirements of the above condition and provide the compliance source tests results described above to the SBCAPCD. KMCC shall simultaneously submit copies of transmittal letters, inspection reports from the SBCAPCD and the source tests results described above to the Compliance Project Manager.~~

~~1-41. The Argus boiler No. 26 (SBCAPCD permit B000554) and Argus boiler No. 25 (SBCAPCD permit B000555) equipment must be properly maintained and kept in good operating condition at all times. The basic equipment shall not be operated unless all pollution control systems are operational to the extent required to meet SBCAPCD rules and regulations and permit conditions, namely, electrostatic precipitators (C000559 on B000554 and C000557 on B000555) for particulate control, wet scrubbers (C000561 on B000554 and C000558 on B000555) for Sox control and appropriate new NOx control equipment to meet emission limitations. This equipment shall meet all SBCAPCD emission limits at all firing rates up to and including a maximum firing rate of 970 MMBtu/hr. Total NOx emissions shall not exceed, after modifications are completed, 442 lbs/hr based on a 3-hour rolling average, computed every 15 minutes. This is equivalent to 165 ppmv at 3 percent O2 on a dry basis at the maximum firing rate. SOx as SO2 emissions shall not exceed 24 ppmv for either boiler at 3 percent O2 on a dry basis (3-hour rolling average, computed every 15 minutes). (DOC Permit Units B000554 and B000555 Conditions 1, 2 and 3)~~

~~**Verification:** 60 days prior to NOx controls modification of the Argus 25 and 26 boilers, KMCC shall submit to the Compliance Project Manager for review and approval the details of the chosen NOx controls of the Argus 25 and 26 boilers. These details shall include, but not be limited to all the information necessary to conclude that the proposed mitigation (either the hydrocarbon injection method or selective catalytic reduction and Lo-Nox burners) will meet the performance criteria specified. Refer to Verification to Condition 45.~~

~~1-42. The retrofit of the Argus Boilers Nos. 25 and 26 to meet the emission limits for NOx specified in Condition 41 shall be scheduled as follows:~~

- ~~(a) For a period not to exceed 90 days after the initial startup of the ACE boiler, total NOx emissions from the ACE boiler, Argus boiler 25 and Argus boiler 26 shall not exceed 892 lbs/hr, based on a 3-hour rolling average, computed every 15 minutes.~~
- ~~(b) For a period not to exceed 180 days after the conclusion of Condition 42a, the ACE boiler and one Argus boiler may operate; however, total NOx emissions from these two boilers shall not exceed 547 lbs/hr based on a 3-hour rolling average, computed every 15 minutes, during that period.~~
- ~~(c) Following the retrofit of the first Argus boiler (Condition 42b), all three boilers may operate for a period not to exceed 90 days; however, total NOx emissions shall not exceed 773 lbs/hr based on a 3-hour rolling average, computed every 15 minutes, during that period. At the end of the 90-day operation of all three boilers, the Argus boiler that was not retrofitted shall be shutdown.~~
- ~~(d) Following this point in time the individual boilers shall not exceed the limits specified in their permits to operate or in SBCAPCD Rules and Regulations.~~

~~During this retrofit period, all other pollutant emission rates shall be in compliance. KMCC shall submit quarterly compliance reports to the SBCAPCD and the Compliance Project Manager to verify the requirements above. These quarterly reports shall present, but not be limited to, the following information: a~~

monthly status report of the operations of the ACE, Argus 25 and Argus 26 boilers, and a status report of compliance with the cumulative NO<sub>x</sub> emission rates for the ACE, Argus 25 and Argus 26 boilers described above. (DOC Permit Units B000554 and B000555 Condition 4)

**Verification:** ~~KMCC shall comply with all requirements of the above condition and provide the quarterly compliance reports to the SBCAPCD. KMCC shall simultaneously submit copies of transmittal letters to the SBCAPCD and the quarterly compliance reports to the Compliance Project Manager.~~

~~1-43. Current Argus 25 and 26 monitoring requirements pertaining to fuel usage (quantity, quality and type), operating parameters, and boiler stack emissions (including NO<sub>x</sub>, NO, NO<sub>2</sub>, CO, SO<sub>2</sub>, O<sub>2</sub> and opacity) shall be continued. Quarterly reports shall be provided to the SBCAPCD and shall present, but not be limited to, the following data on a daily basis: fuel usage, operating parameters, and continuous stack monitoring data including (1) average 24-hour NO<sub>x</sub>, NO<sub>2</sub>, and SO<sub>x</sub> emission rates and concentrations, (2) maximum 15 minute average NO<sub>x</sub>, NO<sub>2</sub>, and SO<sub>x</sub> emission rates and concentrations during steady state operation, and (3) maximum NO<sub>x</sub>, NO<sub>2</sub>, and SO<sub>x</sub> lbs/hr emission rate based on a rolling 3-hour average, computed every 15 minutes, (4) average NO<sub>x</sub>, NO<sub>2</sub>, and SO<sub>x</sub> lbs/hr emission rate based on a 3-hour average, computed every 15 minutes, and (5) total time, in hours, during which the NO<sub>x</sub>, NO<sub>2</sub>, and SO<sub>x</sub> emission rates and concentrations have exceeded the limits specified. Calculation of the NO<sub>x</sub> and SO<sub>x</sub> emission rates from corresponding steam flow data for each boiler may be based on average steam flow versus time data. In this case, the averaging method will be limited to time increments in which the maximum steam flow change is no greater than ten percent. (DOC Permit Units B000554 and B000555 Condition 6)~~

**Verification:** ~~KMCC shall monitor the Argus 25 and 26 boilers for the data specified above and shall submit the results of such data collection to the SBCAPCD. Subsequent to the initial firing of the ACE boiler, KMCC shall simultaneously submit copies of transmittal letters to the SBCAPCD and the quarterly reports described above to the Compliance Project Manager.~~

~~1-44. Steam generation charts must be recorded in a manner that will provide a data recovery record of 98 percent for each quarterly operating period. These charts must be retained for a period of at least two years and must be made available for inspection by SBCAPCD personnel, upon request. (DOC Permit Units B000554 and B000555 Condition 6)~~

**Verification:** ~~Subsequent to the initial firing of the ACE boiler, KMCC shall make the steam generation charts for the Argus boilers Nos. 25 and 26 available on site for inspection by the SBCAPCD upon reasonable notice (1 hour for weekdays, 8 hours for weekends and holidays).~~

~~1-45. Within 360 days of achieving initial startup of the ACE boiler, KMCC shall complete compliance tests on whichever of the retrofitted Argus boilers is to be brought back on-line first. Should the hydrocarbon injection NO<sub>x</sub> control method not be selected, the first retrofitted boiler shall incorporate selective catalytic~~

~~reduction (SCR) as the control method. Should the hydrocarbon injection control method be selected, NACC shall demonstrate that there are no emission increases, cumulative for both Argus boilers, above estimated levels for other affected air contaminants, namely, 12 lbs/hr NMHC, 54.4 lbs/hr CO, 111 lbs/hr TSP, 46.5 lbs/hr sulfate, 90.0 lbs/hr PM10 and 57.6 lbs/hr of directly emitted NO2. Upon completion of the retrofit to the second Argus boiler, the same compliance tests shall be conducted on that boiler within 60 days. These compliance tests will include, but will not be limited to, a test of the stack exhaust from the boilers for the following based on a rolling 3 hour average, computed every 15 minutes, for gaseous pollutants or on a hourly average for particulate except as noted:~~

- ~~a) Oxides of nitrogen (NO<sub>x</sub> as NO<sub>2</sub> in ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hour).~~
- ~~b) Nonmethane hydrocarbons (as lbs/hour).~~
- ~~c) Oxides of sulfur (SO<sub>x</sub> as SO<sub>2</sub> in ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hour).~~
- ~~d) Carbon monoxide (as ppm, at three percent O<sub>2</sub> on a dry basis and as lbs/hour).~~
- ~~e) Particulates, sulfates, and PM10 (as milligrams/cubic meter, at three percent O<sub>2</sub> on a dry basis and as lbs/hour).~~
- ~~f) Flue gas flow rate (SCFM on a dry basis).~~

~~Should the hydrocarbon injection control method be selected, KMCC shall demonstrate that there are no emission increases, cumulative for both Argus boilers, above estimated levels for other affected air contaminants, namely, 1.94 lbs/hr NMHC, 54.4 lbs/hr CO, 111 lbs/hr TSP, 46.5 lbs/hr sulfate, 90.0 lbs/hr PM10 or 57.6 lbs/hr of directly emitted NO2. (DOC Permit Units B000554 and B000555 Condition 5)~~

**Verification:** ~~KMCC shall perform the compliance test for the data specified above and shall submit the results of such data collection within 45 days of completing the compliance tests to the SBCAPCD. KMCC shall simultaneously submit copies of transmittal letters to the SBCAPCD and the compliance tests described above to the Compliance Project Manager.~~

**1-46.** ~~An application for an Authority to Construct and Permit to Operate the modified boilers and air pollution control systems shall be filed with the SBCAPCD for review at least 90 days prior to the start of construction. Authority to construct will be determined within 30 days by the SBCAPCD. (DOC Permit Units B000554 and B000555 Condition 7)~~

**Verification:** ~~At least 90 days prior to beginning modification of the Argus 25 and 26 boilers, KMCC shall submit to the SBCAPCD and the Compliance Project Manager application(s) to modify the Authorities to Construct and Permits to Operate of these boilers. KMCC shall provide copies of the Authorities to Construct and Permits to Operate issued by the SBCAPCD to the Compliance Project Manager.~~

~~1-47. The daily loss of kerosene to the atmosphere due to evaporation shall not exceed 485.6 pounds per day.~~

- ~~a. The Flotation/Air Strip Project (F/ASP) will collect the vapors from the settlers and the Induced Gas Flotation Units (Wemcos) and they will be conveyed to the Argus boilers (25 & 26) for combustion except when operating in accordance with Condition 1-51.~~
- ~~b. The Wemcos will remove kerosene from the effluent for recycling before it is returned to the Searles Lake.~~
- ~~c. Therefore, the loss of kerosene due to evaporation is that amount contained in the effluent and returned to the settling ponds on the Searles Lake.~~

**Verification:** ~~Logs shall be maintained which include the daily flow rate of effluent into the Wemcos. This information shall be maintained on site for a minimum of 2 years and be provided to MDAQMD and/or CEC personnel on request.~~

~~1-48. The Flotation/Air Strip Project (F/ASP) requires that negative pressure be maintained on the LLX basin settlers. The minimum vacuum shall be .2" WC (Water Column).~~

- ~~a. Magnehelic gauges or manometers (Max. range of 1" WC) shall be installed on all eleven (11) areas subject to gas collection. These gauges shall be placed at the opposite ends of the settlers from the gas collection points. Operators shall record readings from these gauges for each shift to operation.~~
- ~~b. All inspection doors and covers on the air stripping and gas collection system shall be kept closed except during essential maintenance.~~
- ~~c. The seals on the loading mixer launders and the inspection doors plus the covers on the air stripping and gas collection system shall be inspected on a monthly basis to ensure that they will be maintained in a good working condition.~~
- ~~d. The containment pit surrounding the LLX basin shall be properly maintained such that any spills or leaks can be readily detected.~~

**Verification:** ~~Logs shall be maintained which include but are not limited to the following:~~

- ~~a. The readings from the magnehelic gauges or manometers per Condition 1-48a above.~~
- ~~b. Results of monthly inspection of seals and covers per Condition 1-48c above.~~

~~This information shall be maintained on site for a minimum of 2 years and be provided to MDAQMD and/or CEC personnel on request.~~

~~1-49. A daily composite of spent brine being returned to the Searles Lake shall be collected and analyzed for concentration of kerosene. The composite shall contain a minimum of one sample taken during each shift and the Kerr-McGee Corporation Analytical Test Procedure 264-GC-5, issued on 3-20-89 and revised on 6-25-90, shall be used for the analyses.~~

**Verification:** ~~Logs shall be maintained which include the following:~~

- ~~a. Results of daily analyses for the kerosene concentration described in Condition 1-49 above.~~
- ~~b. The daily amount of kerosene in pounds being sent to the Searles Lake.~~

~~The amount of kerosene being sent to the Searles Lake each day shall be calculated using the concentration determined in the Condition above and the flow rate of the influent entering the LLX basin. If the maximum allowable daily loss is exceeded, the MDAQMD Compliance Supervisor shall be notified not later than the day following the exceedance.~~

~~This information shall be maintained on site for a minimum of 2 years and be provided to MDAQMD and/or CEC personnel on request.~~

~~**1-50.** If any kerosene other than UNOCAL Solvent 23396 or Shell solvent 140 HT is to be used in this process, prior written approval from the MDAQMD shall be obtained.~~

**Verification:** ~~If NACC intends to use a hydrocarbon fluid other than those identified above in the LLX basin operations, ACE shall submit to the MDAQMD and the Compliance Project Manager an analysis of this fluid and how this fluid will comply with the requirements of MDAQMD Rule 442.~~

~~**1-51.** The vapors that are collected in accordance with Condition 1-47 may be vented to the atmosphere:~~

- ~~a. When both Boiler 25 and 26 have a planned outage at the same time.~~
- ~~b. When there is an emergency shutdown of both Boilers 25 and 26 at the same time.~~

**Verification:** ~~For Condition 1-51a, the MDAQMD must be notified in writing of the scheduled outage 30 days in advance. The owner/operator shall state what the facilities expected emissions will be while under this mode of operation. For Condition 1-51b, the MDAQMD is to be notified per Rule 430 of the breakdown. The owner/operator is to notify the MDAQMD in writing within ten (10) working days after normal operation is resumed giving the net effect upon emissions while in this mode of operation.~~

~~**1-52.** The Argus (SBCAPCD permit B001920), Trona No. 14 (permit B001921, Westend Sulfate Nos. 1 through 4 and Westend Borax (permits B001922, B001923, B001924, B001925, and B001926) cooling towers must be properly maintained and kept in good operating condition at all times. Chromium compounds, which are introduced as a corrosion inhibitor additive in many of the KMCC cooling towers, shall be eliminated from use in all cooling towers. Alternative corrosion inhibitors used shall be subject to SBCAPCD and CEC approval. (DOC Permit Units Cooling Towers Conditions 1 and 2)~~

**Verification:** ~~KMCC shall make the site available for inspection by the SBCAPCD, CARB, and CEC Staff during both construction and operation upon reasonable notice (1 hour for weekdays, 8 hours for weekend and holidays). KMCC shall submit to the~~

SBCAPCD and Compliance Project Manager verification of KMCC's intent to use Betz DE-1186 or DE-1187 cooling tower additive or their chemical equivalents in the existing cooling towers described above at least 90 days before initial firing of the ACE facility. KMCC shall notify the SBCAPCD and Compliance Manager of any intention to use alternative corrosion inhibitors at least 90 days before such use. The notification shall include information on the toxicity of such additives together with an assessment of the potential health impacts of worker and public exposure to such additives. The use of alternative corrosion inhibitors is subject to approval by the Compliance Project Manager.

~~1-53.~~ Prior to achieving initial startup on the ACE boiler, KMCC shall conduct compliance tests in accordance with test procedures and protocols developed and adhered to during the permitting source tests by KMCC of the existing cooling towers (Reference: KMCC letter dated November 11, 1986, to SBCAPCD) or as amended with written approval of the Mojave Desert Air Quality Management District (MDAQMD) Executive Officer. The compliance test will include, but will not be limited to, a test of the exhaust stream from selected cells for:

- ~~○ Drift Rate, as percent of water circulation rate.~~
- ~~○ Water Quality, as TDS in ppmw and chemical analysis.~~
- ~~○ Emission Rates, in pounds/hour, for PM, PM10 and sulfates.~~

The drift rate (determined by compliance tests as described above) shall not exceed 0.002 percent based on the maximum circulation rate listed below for each cooling tower. Also, the concentration of total dissolved solids (TDS) in the cooling tower blowdown water shall not exceed the value shown with a maximum sulfate content as indicated. The maximum PM10 combined total emissions for all cooling towers permitted, as determined by the referenced compliance test, shall not exceed 29 lbs/hour.

	Maximum Circulation Rate (GPM)	TDS (ppmw)	Sulfate (ppmw)
Argus	30,000	30,000	30,000
Trona No. 14	24,000	60,000	12,000
Westend Borax	3,000	30,000	3,000
Westend Sulfate No. 1	3,500	40,000	4,000
Westend Sulfate No. 2	3,500	40,000	4,000
Westend Sulfate No. 3	3,500	40,000	4,000
Westend Sulfate No. 4	9,360	40,000	4,000

The compliance test shall commence prior to achieving initial startup of the ACE boiler. KMCC shall furnish the MDAQMD and the Compliance Project Manager the written results of such tests 45 days after testing. Written notice of the compliance tests shall be provided to the MDAQMD and the Compliance Project Manager 10 days prior to the test so that an observer(s) may be present.

Weekly tests shall be conducted in accordance with the test procedures referenced in Condition 28. The product of the actual TDS value (ppmw) times



~~the recirculation rate (GPM) shall not exceed that value determined by the maximums given in the table above. Inspections will be required periodically by the MDAQMD (either by a MDAQMD inspector or a MDAQMD approved third party). Appropriate access in compliance with OSHA codes shall be provided by KMCC for these inspections. Should excessive drift loss be suspected, KMCC shall make appropriate repairs or conduct a source test to demonstrate compliance. If the MDAQMD have reason to believe emission limits are still exceeded after repairs are completed, a compliance test may be required by the MDAQMD.~~

**Verification:** ~~KMCC shall comply with all requirements of the above condition and provide the results of the compliance source tests described above to the MDAQMD. KMCC shall simultaneously submit copies of transmittal letters, inspection reports from the MDAQMD and the source test results described above to the Compliance Project Manager. KMCC shall maintain records of the weekly blowdown water quality test for inspection by the MDAQMD.~~

~~**1-54.** No more than one unit train supplying fuel to KMCC facilities shall operate in the Southeast Desert Air Basin (SEDAB) during any one calendar day. (DOC Non-Permit Unit Conditions 1 and 2)~~

~~**Verification:** Subsequent to the initial firing of the ACE boiler, KMCC shall report monthly to the SBCAPCD a summary of fuel unit train operations. Should more than one fuel unit train operate in the SEDAB during a given day, KMCC shall notify the SBCAPCD within 24 hours. A compilation of these notification reports shall be included in the Annual Compliance Report to the Compliance Project Manager.~~

~~**1-55.** Permits to operate such equipment, taken out of service to effect an emission reduction, shall be surrendered at the time the new, affected permit unit or source is issued a Permit to Operate. All of the units proposed for shutdown are at the Westend Facility (WE). The shutdown unit are as follows:~~

- ~~—SBCAPCD permit B000223—Soda Ash Process Train No. 7 (WE)~~
- ~~—SBCAPCD permit B000224—Soda Ash Process Train No. 6 (WE)~~
- ~~—SBCAPCD permit B000225—Soda Ash Process Train No. 5 (WE)~~
- ~~—SBCAPCD permit B000226—Soda Ash Process Train No. 4 (WE)~~
- ~~—SBCAPCD permit B000235—Lime Processes Rotary Kiln (WE)~~
- ~~—SBCAPCD permit B000235—Carbonation Tower H<sub>2</sub>S Scrubbers (WE)~~
- ~~—SBCAPCD permit B000235—Lime Processes Raw Rock Screening (WE)~~
- ~~—SBCAPCD permit B001766—Lime Shipping (WE)~~
- ~~—No SBCAPCD permit—Lime Cooling Tower (WE)~~

~~(DOC Permit Units B000223, B000224, B000225, B000226, B000235, B001766, and Lime Cooling Tower Conditions)~~

**Verification:** ~~KMCC shall surrender to the SBCAPCD the SBCAPCD Permits to Operate for the equipment listed above when the ACE boiler project is issued a Permit to Operate. In the first quarterly compliance report following the issuance of the ACE boiler Permit to Operate, KMCC shall send copies of the surrendered Permits to Operate of the equipment listed above to the Compliance Project Manager.~~

**AQ-56** ~~The boiler unit at the Trona Facility, MDAQMD permit B000483 (Boiler No. 22), will be put on cold standby prior to the commencement of operation of the ACE boiler. The Trona Boiler No. 22 will be subject to the following permit conditions:~~

- ~~a) Periodic maintenance periods shall be limited to a total of 72 hours for the boiler per six month period.~~
- ~~b) When one or more of the Argus boiler Nos. 25 and 26 and ACE are shutdown, the Trona boiler may be fired within the constraint that the net NOx and SOx emissions for the combined set of boilers, i.e. Argus boilers (No. 25, No. 26, and ACE) and the Trona boiler (No. 22) do not exceed the allowable limits of 547 lbs/hr for NOx and 172 lbs/hr for SOx. To provide data for this emissions determination, the owner/operator shall either provide CEM for NOx and SOx or perform compliance tests for NOx and SOx on a periodic basis during a testing and maintenance period prescribed by the MDAQMD. Based on these results, compliance of the Trona boiler will also be determined.~~
- ~~c) The MDAQMD shall be notified 30 days in advance, in writing of the dates for a scheduled Argus boiler outage and subsequent operation of the Trona boiler. This notification shall present data and/or calculations to substantiate compliance with item b) above. Prior to start up, written approval by the MDAQMD Executive Officer is required.~~
- ~~d) If the boiler is fired due to a breakdown of Argus boilers (Nos. 25 & 26 or the ACE boiler, the owner/operator shall comply with the provisions of Rule 430. (DOC Permit Unit B000483).~~

**Verification:** ~~The owner/operator shall submit quarterly fuel use records of the Trona Boiler No. 22 to the MDAQMD and the Compliance Project Manager. The owner/operator shall, 30 days in advance, submit in writing to the MDAQMD a notice of scheduled Argus boiler outage and subsequent Trona boiler operation. The owner/operator shall follow the requirements of Condition d) above if a breakdown of the Argus or ACE boiler occurs. The owner/operator shall summarize the reports made under the notification requirements of Condition d) in the Annual Compliance Report to the Compliance Project Manager. The owner/operator shall provide copies of the information as it becomes available required in Condition c) to the Compliance Project Manager in the Annual Compliance Report.~~

# **AIR QUALITY APPENDIX A**

## **Conditions of Certification (Clean Version)**

**EQUIPMENT:** One certified Tier 4i diesel fired internal combustion engine, EPA Family EJDXL06.8210, John Deere Model 4045HFG93A and Serial No. PE4045R080158, After Cooled, Diesel Particulate Filter, Selective Catalytic Reduction, Turbo Charged, producing 168 brake horsepower with 4 cylinders at 1800 rpm while consuming a maximum of 5 gallons of diesel per hour.

**AQ-E1** The project owner shall install, operate, and maintain the certified stationary compression-ignited internal combustion engine and its associated emission control systems 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)]

**Verification:** The project owner shall make the site and records available for inspection by representatives of the Mojave Desert Air Quality Management District (MDAQMD), Air Resources Board, and Energy Commission Compliance Project Manager (CPM).

**AQ-E2** The project owner shall not operate the engine unless all of the following emission control systems are properly functioning:

- a. Diesel Oxidation Catalyst
- b. Electronic Control Module
- c. Exhaust Gas Recirculation System

[40 CFR 60.4211, MDAQMD Rule 1302]

**Verification:** The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

**AQ-E3** The engine shall only be fired on diesel fuel that meets the following requirements, or an alternative fuel approved by the Airborne Toxic Control measure (ATCM) for Stationary CI Engines:

- a. Ultra-low sulfur concentration of 0.0015% (15 ppm) or less, on a weight basis; and,
- b. A cetane index or aromatic content, as follows:
  1. A minimum cetane index of 40; or,
  2. A maximum aromatic content of 35 volume percent.

[17 CFR 93115.5(a), 40 CFR 80.510, and 40 CFR 60.4207(b)]

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

**Verification:** The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

**AQ-E4** The project owner 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 **AQ-E3** (the project owner 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 CFR 93115.10(a)(3)(D), 17 CFR 93115.10(f), MDAQMD Rule 132]

**Verification:** The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

**AQ-E5** The engine is subject to the requirements of the 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. In the event of a conflict between these conditions and the ATCM or New Source Performance Standards, the more stringent requirements shall govern.

[MDAQMD Rule 1302]

**Verification:** The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

**AQ-E6** The project owner shall install and maintain a non-resettable four-digit (9,999) hour timer on the engine to indicate elapsed engine operating time.

[17 CCR 93115.10(d)(1)]

**Verification:** The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

**AQ-E7** 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.

[MDAQMD Rule 107(b), H&S Code 39607 & 44341-44342, and 40 CFR 51 Subpart A]

**Verification:** The project owner shall make the site and records available for inspection by representatives of the MDAQMD, Air Resources Board, and CPM.

**AQ-SC1 Deleted**

**AQ-SC2 Deleted**

**AQ-SC3 Deleted**

**AQ-SC4** The project owner shall ensure that all applicable portable equipment used by the demolition contractor shall be registered through the ARB Portable Equipment Registration Program (PERP).

**Verification:** The project owner will maintain on site records of equipment that is brought on-site. The project owner will furnish these records to the CPM upon request.

**AQ-SC5** The project owner shall ensure that equipment used during decommissioning is maintained in proper operating condition to avoid visible emissions darker than Ringelmann #1 for periods greater than 3 minutes in any hour.

**Verification:** The project owner or their contractor shall maintain records of equipment maintenance activities. These records shall be maintained on-site and furnished to the CPM upon request.

**AQ-SC6** The project owner shall ensure a decommissioning Dust Control Plan is prepared and submitted to the MDAQMD for information and to the CPM for approval.

**Verification:** The project owner or their contractor shall submit the Dust Control Plan to the MDAQMD for information and the CPM for approval, at least 30 days prior to the commencement of demolition activities.

**AQ-SC7** The project owner shall not operate any emission equipment that does not meet the requirements of the rules and regulations of the MDAQMD, the laws and codes of the United States Environmental Protection Agency, California Air Resources Board, and California Energy Commission.

**Verification:** Any addition of equipment subject to licensing requirements, or any changes to the operation of any licensed equipment shall be reported to the CPM.

## REFERENCES

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- ACC 2014** – Ace Cogeneration Company – ACE Decommissioning Plan (TN 203376) November 25, 2014
- ACC 2017** – Ace Cogeneration Company – ACE Cogen – 2017 PTA Landfill Separation (TN 217880) June 6, 2017
- ACC 2017a** – Ace Cogeneration Company – ACE ACE Ash Landfill Separation Amendment (TN 219971) June 29, 2017
- ACC 2017b** – Ace Cogeneration Company – ACE Ash Landfill Separation Amendment –Generator Supplement (TN 220692) June 6, 2017
- ACC 2017c** – Ace Cogeneration Company – Attachment 2 -ACE Project One-Line Diagram -Signed (TN 220693) June 6, 2017
- ACC 2017d** – Ace Cogeneration Company – Attachment 3 -ACE Generator Permit 1995 (TN 220694) August 11, 2017
- ACC 2017e** – Ace Cogeneration Company – Attachment 3 -2005 Permit to Operate (TN 220695) August 11, 2017
- ACC 2017f** – Ace Cogeneration Company – Attachment 5 2015 Permit to Operate Inactive (TN 220696) August 11, 2017
- ACC 2017g** – Ace Cogeneration Company – ACE Cogen – ACE Cogeneration Expansion Project Ash Landfill Separation Amendment –Generator Supplement (TN 220697) August 11, 2017
- ARB 2017a** - California Air Resources Board. Air Designation Maps available on ARB website. <http://www.arb.ca.gov/desig/adm/adm.htm> Accessed August 2017.
- ARB 2017b** - California Air Resources Board. California Ambient Air Quality Data Standards available on ARB website. <http://www.arb.ca.gov/research/aags/aags.htm> Accessed August 2017
- CEC 2015** – California Energy Commission – Order Approving a Petition to Decommission the Argus Cogeneration Expansion Project (TN 205028) June 15, 2015
- CEC 2015a** – California Energy Commission – Argus Cogeneration Expansion Project Decommissioning Staff Analysis (TN 204090) March 8, 2015
- MDAQMD 2017**– Mojave Desert Air Quality Management District – Attainment Status available on MDAQMD website [.http://www.mdaqmd.ca.gov/home/showdocument?id=1267](http://www.mdaqmd.ca.gov/home/showdocument?id=1267) Accessed August 2017

**MDAQMD 2017a** – Mojave Desert Air Quality Management District – Authority to Construct (TN 220955) August 30, 2017

**MDAQMD 2017b** – Mojave Desert Air Quality Management District – Engineering Evaluation (TN 220956), docketed August 30, 2017

**U.S. EPA 2017a** – United States Environmental Protection Agency. The Green Book Nonattainment Areas for Criteria Pollutants website. <https://www.epa.gov/green-book> Accessed August 2017.

**U.S. EPA 2017b** - United States Environmental Protection Agency. National Ambient Air Quality Data Standards available on U.S. EPA website. <https://www.epa.gov/criteria-air-pollutants/naaqs-table> Accessed August 2017.





# ARGUS COGENERATION EXPANSION PROJECT (86-AFC-01C)

## Petition to Separate and Terminate Jurisdiction over the Ash Landfill and Continue Use of an On-site Diesel Generator Soil and Water Resources Staff Analysis Christopher Dennis, PG, CHg

### INTRODUCTION

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The Argus Cogeneration Expansion (ACE) project is an existing, non-operable, 108-megawatt, coal-fired power plant. ACE is located adjacent to Searles Valley Minerals processing plant near Searles Lake in Trona, San Bernardino County, California. The project owner's petition requests modification of Condition of Certification **Soil Resources 8-4**. This modification would allow the project owner to separate the ash landfill from the ACE cogeneration plant and terminate California Energy Commission jurisdiction over the ACE ash landfill (ACE 2017). The project owner stated the reason for this request is to allow the project owner to sell the ash landfill and retain the power plant site property.

The ash landfill was designed to contain waste ash generated during operation of ACE. When ACE was operating, solid fuel (coal and/or petroleum coke) was burned using the circulating fluidized bed combustion process to generate electricity and provide steam. As part of the combustion process, ACE generated a non-hazardous inert ash waste stream. The ash waste stream consists of a combination of dry fly and bottom ash. The ash landfill does not contain the boiler refractory material. This material would be disposed of in either another landfill or transferred with the boiler if the boiler is sold, dismantled, or relocated (ACE 2017a).

To landfill the ash, the ash waste stream was mixed with brackish water to form ash slurry. The slurry was gravity fed into unlined landfill disposal cells. The slurry material solidified into a concrete-like material and chemical constituents in the ash become fixed during the solidification process. The process was shown to reduce leaching potential of metals found in the ash wash waste stream (RWQCB 2000).

There are currently four closed ash landfill cells (cells 1 thorough 4) and one that is still open (cell 5). Cells 1, 2, and 4 had been capped and allowed to revegetate. Cell 3 was not capped because it was covered with excess soil to be used for capping cell 5 (ACE 2017b). The petition proposes to leave 'as-is' cells 3 and 5 by adding an additional compliance requirement to Condition of Certification **Soil Resources 8-4**.

### ANALYSIS

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The project owner requested addition of Item H to **Soil Resources 8-4**. Item H would allow for any unfilled landfill cells to remain open provided no erosion occurs and would read as follows:

*H. Following closure of the ash landfill, any unfilled cells may remain open provided the material in the open portion of the cells is treated to avoid or minimize wind or water erosion.*

Energy Commission staff (staff) provide the following analysis of potential environmental impacts by the proposed addition of Item H to Condition of Certification **Soil Resources 8-4**.

As discussed above, cells 1 through 4 were filled and closed, and a portion of cell 5 filled, in accordance with Lahonton Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDRs) Order Number No. 6-00-92 (RWQCB 2000; RWQCB 2017). Capping and revegetation of cells 1, 2, and 4 was completed in accordance with applicable conditions of certification. Specifically, these cells were closed in accordance with Item D of **Soil Resources 8-4**, which requires the following after filling a landfill cell:

*D. After a disposal cell is filled to capacity, it shall be capped with a 2-foot soil layer and the exposed surfaces revegetated with native plants to minimize wind erosion over the long term. The erosion control plan shall identify the type of plants that shall be used for revegetation, seeding rates, number and spacing of container plants or saplings, the type and amount of soil amendments and mulches, and amount and timing of irrigation.*

**Soil Resources 8-4** Item D and the RWQCB WDRs were designed to protect soil and water resources, ensuring none of the following are significant:

1. Increase soil erosion, especially along the inward sidewalls of the landfills;
2. Impacts to surface water quality from storm water runoff; and
3. Degradation of groundwater quality due to leaching of landfilled material.

The proposed addition of Item H would allow for the open portion of Cell 5 to remain open without the treatment required in Item D and the excess soil on cell 3 to remain in place. To evaluate erosion potential without placement of the 2-foot soil layer as a cap, staff assessed the condition of the landfill cells. Staff compared photos of the landfill sidewalls and caps from 2015, January 2017, and June 2017. Throughout all three time periods, the landfill slopes appear stable with no evidence of erosion, even after the record rains of 2017. The landfill cells, including their sidewalls, consist of hardened ash that is inert.

The soil caps on the closed landfill cells support sparse natural vegetation given the length of time the caps have been in place. The vegetation in the area is naturally sparse. Attempts to revegetate the caps led to limited success due to the impermeable and hardened nature of the ash. For these reasons, it was agreed by the Energy Commission compliance project manager and the project owner that the requirement to revegetate could be abandoned (CEC 2014).

Staff also evaluated the potential impact of wind and storm water erosion on the landfill cell tops and side slopes. There is no visual evidence of significant soil erosion by wind or water on the landfill exterior slopes. All storm water runoff is contained entirely within

the landfill, by design, and allowed to percolate and evaporate, including the open portion of cell 5. The project owner stated that the disposed ash is a solid, concrete-like material not subject to wind or water erosion and the disposed ash has been certified inert and non-hazardous by the RWQCB (RWQCB 2000; RWQCB 2017; ACE 2017b). Staff has verified these observations during site visits and coordination with the RWQCB. Therefore, staff concludes that there is no impact related to increased soil erosion or storm water runoff by modifying **Soil Resources 8-4**.

On January 11, 2017, the RWQCB rescinded the WDRs for Order Number No. 6-00-92. These WDRs were designed to protect groundwater from potential leaching of landfill material to the groundwater (RWQCB 2017). The RWQCB stated that testing performed on samples collected from the ash waste since 1997 supported the designation that the ash is inert. California Code of Regulations (CCR), Title 27 § 20230 defines inert waste as "... subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste." In addition, to the waste being inert, the RWQCB stated that the semi-annual monitoring reports submitted in compliance with the WDRs, which include monitoring data from the unsaturated zone, indicate the waste is not a threat to groundwater quality. Supporting the conclusion that the waste is not a threat to groundwater quality is the beneficial use designation of the groundwater in Searles Valley as limited to Industrial Service Supply (IND).

Based on the findings by the RWQCB and staff analysis, staff concludes that there would be no significant increase in soil erosion, impacts to surface water quality from storm water runoff, or degradation of groundwater quality due to leaching of landfilled material. Staff concludes that the current condition of the landfill cells is stable and that there is no significant threat of impact to soil and water resources. Modifying condition of certification **Soil Resources 8-4** to add Item H would ensure that if the remaining cell is not capped according to Item D, there would be no impacts to soil and water resources.

In addition, section 5.5.3.2, page 5-26, of the *ACE Project Decommissioning Plan* states that the boiler refractory material will be disposed of in the ash landfill cell 5 (ACE 2014). Because the project owner now proposes to separate the ash landfill from the ACE project, the refractory material would not be disposed of in the ash landfill. Instead, the refractory material would remain under Energy Commission jurisdiction until it is disposed of in another landfill or transferred with the boiler if the boiler is sold, dismantled, or relocated (ACE 2017b). Due to this change in handling of refractory material, the *ACE Project Decommissioning Plan*, dated November 25, 2014, needs to be updated. As set forth in **Waste-11**, the project owner is required to develop a Construction Waste Management Plan for demolition wastes generated during decommissioning of the facility, which staff reviews and approves. This Waste Management Plan is the appropriate document to update the *Project Decommissioning Plan*. Staff will require the project owner to revise the Waste Management Plan as necessary to reflect the change in management of the refractory waste. The revisions will need to include a written notice of the refractory material disposal method and

location to the Energy Commission compliance project manager (CPM) and County of San Bernardino.

## **LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE**

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San Bernardino County (SBCo), Division of Environmental Health Services, as the Local Enforcement Agency (LEA), issued a Standardized Non-hazardous Ash Solid Waste Facility Permit (No. 36-AA-0311) on December 6, 2011 for landfill operation. The project owner notified SBCo of cessation of landfill operation and completion of site restoration activities on June 22, 2017. The permit issued by SBCo expired on July 22, 2017 (SBCo 2017). The permit termination requires compliance with CCR Title 14 § 18105.11 and 14 § 17379.1 (parts b and c). CCR Title 14 § 17379.1 (b-c) states that all nonhazardous ash transfer/processing operations and disposal/monofill facilities shall meet the following requirements:

- a) The operator(s) and owner(s) shall provide site restoration necessary to protect public health, safety, and the environment.
- b) The operator shall ensure that the following site restoration procedures are performed upon completion of operation and termination of service:
  - 1) the operation or disposal/monofill facility grounds, excluding the disposal area, shall be cleaned of all nonhazardous ash, construction scraps, and other materials related to the operation or disposal/monofill facility, and these materials legally recycled, reused, or disposed of;
  - 2) all machinery shall be cleaned of nonhazardous ash prior to removal from the facility; and
  - 3) all remaining structures shall be cleaned of nonhazardous ash.

Section 18105.11 sets forth a termination date for standardized permits of 30 days after cessation of facility operations and a noticing requirement to inform the issuing authority, at least 15 days in advance, of the facility shut down. Given ACE has not operated in several years, the requirements of 18105.11 have either been met or are no longer applicable.

SBCo staff conducted a site visit on July 5, 2017 to verify compliance with these regulations. SBCo staff concluded that the requirements had been addressed to their satisfaction. The project owner has removed all existing facilities related to the landfill operation and ensured no loose or erodible waste remains onsite which mitigates any potential impact to the environment. Fencing with a locked gate is also maintained to ensure no unauthorized access thus protecting public health and safety. Staff therefore concludes the project owner is in compliance with applicable LORS for closure of the landfill.

## CONCLUSIONS

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The proposed modification to condition of certification **Soil Resources 8-4** to add Item H is consistent with the intent of the Energy Commission's approved decommissioning plan for the ACE project and would ensure no significant impacts to soil or water resources. Allowing the unfilled portion of cell 5 to remain open and all of cell 5 to remain uncapped would not significantly impact soil and water resources. The proposed condition of certification modification would also be in compliance with all other applicable soil and water resources conditions of certification and LORS. No other new permits or other new conditions of certification would be required. The changed conditions would have no significant impact on any population, including the Environmental Justice population represented in **Environmental Justice Figure 1, Figure 2, and Table 1.**

## PROPOSED CHANGES OR MODIFICATION TO CONDITIONS OF CERTIFICATION

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Staff recommends modifying **Soil Resources 8-4** as proposed by the project owner as follows. **Bold underline** is used to indicate new language.

### CONDITION OF CERTIFICATION SOIL RESOURCES 8-4

Soil Resources 8-4: ACC shall submit a combined grading and erosion control plan for the ACE ash disposal site. Mitigation shall include all of the following:

- A. Runoff generated on the interior faces of an active disposal cell shall be collected at one location and allowed to evaporate and/or percolate.
- B. The slope of the closed disposal cells shall be no steeper than 2:1. To ensure the finished cell slopes do not become severely eroded, an erosion maintenance program shall be implemented which shall restore any eroded slopes at least once annually and/or following any major (more than 1/2 inch) storm that occurs at the project site.
- C. Static excavated soil piles shall be compacted and treated with a chemical dust suppressant or protected with a fabric cover to minimize wind erosion.
- D. After a disposal cell is filled to capacity, it shall be capped with a 2 foot soil layer and the exposed surfaces revegetated with native plants to minimize wind erosion over the long term. The erosion control plan shall identify the type of plants that shall be used for revegetation, seeding rates, number and spacing of container plants or saplings, the type and amount of soil amendments and mulches, and amount and timing of irrigation.
- E. Trailers used to transport ash to the site shall be pneumatically sealed to minimize the generation of particulate matter emissions during loading and unloading.

- F. The ACE Project ash silos shall incorporate retractable loading chutes to bulk load ash trucks to reduce particulate matter emissions.
- G. The ash/water mixing system shall increase the average water content of the ash to 40% by weight in order to control particulate emissions during batch unloading to the ash cells and to minimize wind erosion from the ash stored in the cells.
- H. **Following closure of the ash landfill, any unfilled cells may remain open provided the material in the open portion of the cells is treated to avoid or minimize wind or water erosion.**

**Verification:** Sixty days prior to commencing site preparation, ACC shall submit the grading and erosion control plan to the Commission's compliance project manager (CPM) and the San Bernardino County Building and Safety or Inyo County Building Department, depending upon the site selected, for review and approval. Within 30 days after receipt of the combined plan, the Commission and appropriate county shall notify ACC of the acceptability of the plan.

## REFERENCES

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- ACE 2014. ACE Project Decommissioning Plan, November 25, 2014, California Energy Commission Docket No. 86-AFC-1C, Publication No. TN203376 (November 25, 2014).
- ACE 2017a. Letter from Larry Trowsdale, ACE Cogeneration Compny. LP, to Mahdiyeh Kargar, County of San Bernardino, Public Health Administration, Notice of Cessation of Operations at ACE Ash Landfill and Request to Terminate the Solid Waste Facility Permit (Facility No. 36-AA-0311), dated April 18, 2017, <http://www.calrecycle.ca.gov/SWFacilities/Directory/36-AA-0311/Document>
- ACE 2017b. ACE Cogeneration Expansion Project - Ash Landfill Separation Amendment, June 6, 2017, California Energy Commission Docket No. 86-AFC-1C, Publication No. TN 217880-1 (June 6, 2017).
- CEC 1989. Kerr McGee Chemical Corporation's Argus Cogeneration Expansion Project, Order Approving Amendment of Project Description, Docket Number 86-AFC-1C, Publication No. P800-88-001 (November 29, 1989).
- RWQCB 2000. California Regional Water Quality Control Board, Lahontan Region, Board Order No. 6-00-92, WDID No. 6B368907002, Revised Waste Discharge Requirements for Ace Cogeneration Company; IMC Chemical, Inc., Ace Power Plant Industrial Wastewater Discharge (November 15, 2000).
- RWQCB 2017. California Regional Water Quality Control Board, Lahontan Region, Board Order No. R6V-2017-0004, WDID No. 6B3689070002, Rescission of Waste Discharge Requirements, Board Order No. 6-00-92, for ACE Cogeneration Company Ash Landfill (January 11, 2017).

SBCo 2017. Letter from Mahdiyeh Kargar, County of San Bernardino, Public Health Administration to Virginia Rosales, Department of Resources, Recycling and Recovery, Permitting and Assistance Branch, ACE Cogeneration Company (SWIS# 36-AA-0311), Notice of Cessation of Operation and Completion of Site Restoration, dated June 27, 2017, <http://www.calrecycle.ca.gov/SWFacilities/Directory/36-AA-0311/Document>



# ARGUS COGENERATION EXPANSION PROJECT (86-AFC-01C)

## Petition to Separate and Terminate Jurisdiction over the Ash Landfill and Continue Use of an On-site Diesel Generator Visual Resources Staff Analysis John Hope

### INTRODUCTION

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The project owner requests to separate the ash landfill from the ACE project and terminate Energy Commission jurisdiction as part of the ACE decommissioning plan. The project owner, ACE Cogeneration Company (ACC), intends to sell the ash landfill site to be used for a new industrial use. ACC would remove all pumps, structures (sheds), and equipment associated with ash disposal operations. An existing office building and water pipe structure would remain on the site.

### ANALYSIS

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The proposed amendment would have no significant visual impacts. The project owner requests revising Condition of Certification **Visual Resources 3-8** in the January 1988 Energy Commission Decision to close the landfill and keep open any unfilled cells (including Cell 5) with the requirement that the unfilled cells not be visible from surrounding parcels and create minimal contrast with the natural setting.

The unfilled portion of Cell 5 would not be visible because the ash landfills are located at a higher elevation than surrounding areas and the berms block views. Berms surrounding Cell 5 are not completely vegetated. However, based on the project owner's previous experience with revegetating other nearby berms (e.g., Cell 1), the desert environment will naturally revegetate the berms over time without the need for human intervention. During a site visit on June 27, 2017, Visual Resources staff observed the natural revegetation that has occurred on the adjacent Cell 1. Even with the lack of full vegetation, the berms create a minimal visual contrast with the surrounding natural desert environment.

The proposed amendment would have no significant visual impacts. The requested revision to Condition of Certification **Visual Resources 3-8** would not hinder or diminish the original intent of the condition to protect and minimize visual contrast of the landfill with the surrounding natural setting.

The project modification would not affect any population including the Environmental Justice population as shown in **Environmental Justice — Figure 1, Figure 2, and Table 1**.

## PROPOSED CHANGES OR MODIFICATION TO CONDITIONS OF CERTIFICATION

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Staff recommends modifying **Visual Resources 3-8** as proposed by the project owner as follows. New text is shown in **bold and underlined**.

### CONDITION OF CERTIFICATION VISUAL RESOURCES 3-8

**Visual Resources 3-8:** ACC shall cover the ash disposal site with soil and revegetate the outer berm slopes with native plants so as to minimize visual contrast with the natural setting of the site. **Upon closure of the landfill, any unfilled cells may remain open provided they are not readily visible from surrounding parcels and present minimal contrast with the natural setting of the area.**

**Verification:** In the monthly compliance report ACC shall notify the California Energy Commission (CEC) Compliance Project Manager (CPM) when each phase has been completed and is ready for inspection.