



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE

APPLICATION PROCESSING AND CALCULATIONS

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AES REDONDO BEACH, LLC
P.O. BOX 210307
DALLAS, CA 975211

FACILITY ID: 115536

EQUIPMENT LOCATION: 1100 N. Harbor Dr
Redondo Beach, CA 90277

Contact: Stephen O’Kane, Manager Sustainability and Regulatory Compliance (562-493-7840)

TITLE V RENEWAL APPLICATION

BACKGROUND

AES Redondo Beach, LLC (ID 115536), a wholly owned subsidiary of AES Southland, LLC (“AES”), operates the Redondo Beach Generating Station (RBGS) that produces electrical power. The facility currently has four operating utility boilers with a combined gross generating capacity of 1310 MW (Units 5, 6, 7, and 8), four retired utility boilers (Units 1, 2, 3, and 4), a steam boiler (No. 17) that is not being operated, two aqueous ammonia tanks (29 wt %), a pressure washer, and Rule 219 exempt equipment. Each of the operating utility boilers is controlled by its own selective catalytic reduction system (SCR). These boilers are permitted to burn a combination of natural gas and refinery fuel gas; however refinery fuel gas is no longer used as a fuel.

The initial Title V facility permit under A/N 340556 was issued on 8/19/99 and expired on 8/18/04. Since the application was timely submitted at least 180 days before the expiration of the Title V permit, the facility operated under a Title V application shield until the first Title V renewal permit was issued. The first Title V renewal permit under A/N 426093 was issued on 2/27/09 and will expire on 2/26/14.

On 9/13/13, the facility submitted A/N 556151 for the second Title V renewal under expedited permitting. Since the application was not timely submitted at least 180 days before the expiration of the Title V permit, the facility is not operating under a Title V application shield. The application package was prepared by Yorke Engineering.

PENDING PERMIT REVISION

On 10/2/13, a “minor permit revision” under A/N 549522 was submitted to EPA for 45-day review. The revision is for change of permit condition to convert Boiler No. 17 to a RECLAIM non-operated major source. The 45-day review period will end on 11/18/13. The Title V renewal permit will incorporate the revisions approved for Boiler No. 17.



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PENDING APPLICATIONS FOR PROPOSED FUTURE CHANGES

On 11/20/12, AES submitted an Application for Certification (AFC) to the California Energy Commission (CEC) seeking approval to construct and operate a power generation facility, the Redondo Beach Energy Project (RBEP), to replace the existing RBGS. On 11/27/12, applications were submitted to the SCAQMD for permits to construct and operate the RBEP.

The proposed RBEP project consists of a natural-gas-fired, combined-cycle, air-cooled electrical generating facility with a gross generating capacity of 530 MW (rating being confirmed), that will replace, and be constructed on the 50-acre site of the RBGS. The development of RBEP includes the demolition and removal of the existing RBGS.

RBEP is proposed to consist of one 3-on-1 combined-cycle gas turbine power block with three natural-gas-fired combustion turbine generators (CTG), three heat recovery steam generators (HRSG) with natural gas duct burners, one steam turbine generator (STG), air-cooled condenser, and related ancillary equipment. Three selective catalytic reduction (SCR) systems and CO oxidation catalysts will be utilized for control of NOx and CO/VOC emissions, respectively. One 12,000-gallon ammonia (NH₃) storage tank will store 19% aqueous ammonia which is the reducing agent in the SCRs. An oil water separator will be used to collect equipment washwater and rainfall.

The proposed RBEP project has not been approved. The evaluation and permitting of that project is separate from the Title V renewal under evaluation.

Draft Title V Renewal Permit

The following changes were made to the current Title V facility permit. *(The current facility permit included in Appendix C of the application package is marked up to show these changes.)*

1. Section D

a. Facility Wide Conditions

1. Rule 431.2

The following standard Rule 431.2 conditions will be added.

F14.1 The operator shall not use fuel oil containing sulfur compounds in excess of 0.05 percent by weight.

[RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000]

F14.2 The operator shall not purchase diesel fuel containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

This condition shall become effective on or after June 1, 2004.

[RULE 431.2, 9-15-2000]



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2. Acid Rain Conditions

Yorke Engineering contacted the EPA Clean Air Markets and reported that EPA’s position continues to be that the allowances are not necessary to be listed on the Title V permit. However, if shown, the allowances and text should be updated to reflect the allowances for 2010 and beyond. The changes below reflect the allowances for 2010 and beyond shown in Table 2—Phase II Allowance Allocations found in 40 CFR §73.10 – Initial allocations for phase I and phase II.

F18.1 Acid Rain SO2 Allowance Allocation for affected units are as follows:

Device ID	Boiler ID	Contaminant	Tons in any Year
20	Boiler No. 5	SO2	80 <u>126</u>
23	Boiler No. 6	SO2	105 <u>103</u>
6	Boiler No. 7	SO2	554 <u>483</u>
8	Boiler No. 8	SO2	596 <u>496</u>
72	Boiler No. 17	SO2	0 <u>6</u>

- a). The allowance allocation(s) shall apply to calendar years ~~2000 through 2009~~ **2010 and beyond.**
- b). *No change.*

[40 CFR 73 Subpart B, 1-11-1993]

F21.1 Acid Rain SO2 Allowance Allocation for retired units are as follows:

Boiler ID	Contaminant	Tons in year
Boiler No. 11	SO2	36 <u>4</u>
Boiler No. 12	SO2	0 <u>2</u>
Boiler No. 13	SO2	0 <u>4</u>
Boiler No. 14	SO2	0 <u>4</u>
Boiler No. 15	SO2	0 <u>3</u>
Boiler No. 16	SO2	0 <u>5</u>

[40 CFR 73 Subpart B, 1-11-1993]

- a). The allowance allocation(s) shall apply to calendar years ~~2000 through 2009~~ **2010 and beyond.**



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- b). *No change.*
- c). *No change.*
- d). *No change.*
- e). *No change.*

b. Process 8: Rule 219 Exempt Equipment [Subject to Source Specific Rules]

The equipment listed on the Form 500-B—Title V List of Exempt Equipment and in Table 5-1: List of Exempt Equipment on pg. 11 of the application package were compared against the equipment listed under Process 8: R219 EXEMPT EQUIPMENT SUBJECT TO A SOURCE-SPECIFIC RULE on the current facility permit.

The following equipment with associated conditions will be added.

i. Air conditioning units

Rule 219(d)(1) exempts comfort air conditioning or ventilating systems which are not designed or used to remove air contaminants generated by, or released from, specific equipment units, provided such systems are exempt pursuant to paragraph (b)(2).

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
PROCESS 8 : R219 EXEMPT EQUIPMENT SUBJECT TO A SOURCE-SPECIFIC RULE					
RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS	E85				H23.4

The following condition is from the “Rule 219 Equipment” document prepared by the Title V Administration Team for alternative format Title V permits.

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Refrigerant	District Rule	1415
Refrigerant	40 CFR 82 SUBPART	F

[RULE 1415, 12-3-2010; 40 CFR 82 SUBPART F, 5-4-1993]

[Devices subject to this condition: E85]



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- ii. Abrasive blasting equipment, glove-box, <=53 ft3, with dust filter
 Rule 219(f)(2) exempts manually operated abrasive blast cabinet, vented to a dust-filter where the total internal volume of the blast section is 1.5 cubic meters (53 cubic feet) or less, and any dust filter exclusively venting such equipment.

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
PROCESS 8 : R219 EXEMPT EQUIPMENT SUBJECT TO A SOURCE-SPECIFIC RULE					
RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, <= 53 FT3, WITH DUST FILTER	E86			PM: (9) [RULE 1140, 2-1-1980; RULE 1140, 8-2-1985; RULE 404, 2-7-1986; RULE 405, 2-7-1986]	D322.1, D381.1, K67.5

- | | |
|--|--|
| (1) Denotes RECLAIM emission factor | (2) Denotes RECLAIM emission rate |
| (3) Denotes RECLAIM concentration limit | (4) Denotes BACT emissions limit |
| (5)(5A)(5B) Denotes command & control emission limit | (6) Denotes air toxic control rule limit |
| (7) Denotes NSR applicability limit | (8)(8A)(8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc) |
| (9) See App B for Emission Limits | (10) See Section J for NESHAP/MACT requirements |

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

The Emissions and Requirements” limits, and the following permit conditions are the same as those for the abrasive blasting equipment at AES Alamitos, LLC (ID 115394) and AES Huntington Beach (ID 115389).

D322.1 The operator shall perform annual inspection of the equipment and filter media for leaks, broken or torn filter media, and improperly installed filter media.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition : E86]

D381.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on an annual basis, at least, unless the equipment did not operate during the entire annual period. The routine annual inspection shall be conducted while the equipment is



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in operation and during daylight hours. If any visible emissions (not including condensed water vapor) are detected, the operator shall take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit. The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

- 1). Stack or emission point identification;
- 2). Description of any corrective actions taken to abate visible emissions; and
- 3). Date and time visible emission was abated.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition : E86]

K67.5 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

the name of the person performing the inspection and/or maintenance of the dust collector,

the date, time and results of the inspection, and

the date, time and description of any maintenance or repairs resulting from the inspection.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition : E86]

iii. Negative Air Machines

The consultant added these to the list as a precautionary measure because due to the age of the facility, asbestos is known to be present. The facility does not own a Negative air machines/HEPA, however, and clarified that the equipment should not be added to the permit at this time.

c. Tagged Rules

The rules tagged for the “Emissions and Requirements” and the permit conditions were updated to include the federally enforceable version, if any, and the most recent



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nonfederally enforceable version if more recent than the SIP-approved version or if there is no federally enforceable version.

2. Section K—Title V Administration

a. Rules Update

The existing rules in Section K will be updated to include the federally enforceable version, if any, and the most recent nonfederally enforceable version if more recent than the SIP-approved version or if there is no federally enforceable version.

Further, two new Rule 219 exempt equipment will be added to Process 8, as discussed above. The rules tagged for the “Emissions and Requirements” requirements and permit conditions will be automatically added to Section K.

b. Form 500-C1—Compliance Status Report, 12/2010 Version

The rules designated as applicable in Form 500-C1 were reviewed for applicability to this facility.

i. Section II-Applicable Requirements, Test Methods, & MRR Requirements

aa. The following rules will be added to Section K:

- 442—Usage of Solvent
Federally-enforceable (F/E): 12-15-2000
- 431.2—Sulfur Content of Liquid Fuels
Non F/E: 9-15-2000; F/E: 5-4-1990
- 405—Solid Particulate Matter—Weight
F/E: 2/7/1986
- 404—Particulate Matter – Concentration
F/E: 2/7/1986

Rules 404 and 405 apply to abrasive blasting equipment, glove-box, exempt per Rule 219(f)(2). Abrasive blasting equipment will be added as E86 in Process 8.

- 109—Recordkeeping for Volatile Organic Compound Emissions
F/E: 5-2-2003
- 1140—Abrasive Blasting
F/E: 2/1/1980; Non F/E: 8-2-1985



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- 40 CFR 82 Subpart F—Recycling and Emissions Reduction
F/E: 5/14/1993

Rule applies to refrigerants in air conditioning units, exempt per Rule 219(d)(1). Air conditioning units will be added as E85 in Process 8.

- 476—Steam Generating Equipment
F/E: 10/8/1976
- 481—Spray Coating Operations
F/E: 1-11-2002

bb. The following rule will not be added:

- 1146—Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.

Rule does not apply to RECLAIM facilities.

ii. Section IV—SIP-Approved Rules That Are Not The Most Current AQMD Rules

The SIP-approved version of all rules selected in this section will have been included as a result of the steps above to update the current rules in Section K and to add rules pursuant to Section II. (Some of the SIP-approved dates in this table are outdated.)

iii. Section V –AQMD Rules That Are Not Sip-Approved

aa. All applicable rules will have been included as a result of the above steps.

bb. The following rules will not be added to Section K:

- Rule 429—Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen
Rule provides an exemption from the NOx limits in Rules 1109, 1134, 1146, and 1159, none of which are applicable to RECLAIM facilities.



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- Rule 1403—Asbestos Emissions from Demolition/Renovation Activities
The facility clarified that it does not own any negative air machines at this time.

3. Appendix A—NOx and SOx Emitting Equipment Exempt from Written Permit Pursuant to Rule 219

The following equipment will be added:

- BARBEQUE, PROPANE (exempt per Rule 219(b)(2))
- ICE, DIESEL, PERP (exempt per Rule 219(r)(1)).

4. Appendix B—Rule Emission Limits

The rule amendment dates for Rules 1113 and 1171 are automatically updated when the rule amendment dates for Rule 219 Exempt Equipment, Coating Equipment, Portable, Architectural Coating (E77) are updated.

5. Section I—Plans and Schedules

Only the compliance plan for the SIP-approved rules may be included. None of the Regulation XIV rules, such as Rule 1472, are SIP-approved.

Typically, the Rule 1146 compliance plan is included. This facility, however, is not subject to Rule 1146, because RECLAIM facilities are exempt from Rule 1146.

6. Facility Permit Program--IM Help Request

Two help requests have been submitted to IM regarding the facility permit: (1) Remove ghost tags, Rule 1113, 11-8-1996, and Rule 1113, 5-14-1999, from Device E77; and (2) add Rule 1113, 9-6-2013, to Device E77. (Rule 1113, 9-6-2013, cannot be added as a rule tag until the emission limits have been entered into the table for Appendix B by the Coatings Team.)

RECOMMENDATION

I recommend issuing the renewal Title V facility permit, following the 30-day public review period and the 45-day EPA review period, subject to any comments received during these periods.