South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

March 2, 2011

Mr. Gerardo Rios
Chief – Permits Office
U. S. EPA, Region IX
75 Hawthorne Street, Air 3
San Francisco, CA 94105

Subject: AES Redondo Beach, LLC (ID 115536) – Title V Permit Revision

Dear Mr. Rios:

AES Redondo Beach, LLC has proposed to revise its Title V permit under Application No. 517404 by the following action.

| Application # | Device # | Section # | Proposed Actions |
|---|---|---|---|
| 511883 | D84 | D | Addition of pressure washer |

This proposed permit revision is considered as a "minor permit revision" to their Title V permit. Attached for your review are the permit evaluation and proposed Section D. With your receipt of the proposed Section D today, we will note that the EPA 45-day review period begins on March 2, 2011.

If you have any questions or need additional information regarding the proposed permit revision, please call Mr. Kenneth L. Coats (909) 396-2527.

Very truly yours,

Brian L. Yeh
Senior Manager
Mechanical, Chemical, and Public Services

cc: RaNae Loveland, AES Redondo Beach, LLC

BLY:AYL:JTY:KLC
Attachments

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

| Equipment | ID No. | Connected To | RECLAIM Source Type/ Monitoring Unit | Emissions * And Requirements | Conditions |
|---|---|---|---|---|---|
| **Process 1: EXTERNAL COMBUSTION** | | | | | |
| BOILER, NO. 5, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, FRONT FIRED, WITH STAGED COMBUSTION, OXYGEN CONTENT CONTROL, 1785 MMBTU/HR WITH<br>A/N: 408714<br><br>BURNER, SIXTEEN, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, MODEL 5R21-1 / 5R3-1, WITH STAGED COMBUSTION, 1785 MMBTU/HR<br><br>GENERATOR, 175 MW | D20 | C79 | NOX: MAJOR SOURCE** | **CO**: 500 PPMV (5) **[RULE 1303(b)(2)-Offset, 5-10-1996]**; **CO**: 2000 PPMV (5A) **[RULE 407, 4-2-1982]**; **NOX**: 7 PPMV (5B) [RULE 2009, 5-11-2001]; **PM10**: 0.01 GRAINS/SCF (5A) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **PM10**: 0.1 GRAINS/SCF (5) **[RULE 409, 8-7-1981]**; **PM10**: 11 LBS/HR (5B) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]** | A195.2, A305.1, B59.1, B61.3, C1.1, D12.2, D28.2, D90.1, E193.2, K40.1 |
| SELECTIVE CATALYTIC REDUCTION, SERVING BOILER NO. 5, IN-DUCT TYPE, CORMETECH, TITANIA-VANADIA HONEYCOMB EXTRUSION, 1871 CU.FT. WITH<br>A/N: 376879<br><br>AMMONIA INJECTION, TWO INJECTION GRIDS | C79 | D20 | | **NH3**: 10 PPMV (4) **[RULE 1303(a)(1)-BACT, 5-10-1996]** | A195.1, D12.5, D12.6, D12.7, D28.4, E179.1, E179.2, E193.2 |

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and 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.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

| Equipment | ID No. | Connected To | RECLAIM Source Type/ Monitoring Unit | Emissions * And Requirements | Conditions |
|---|---|---|---|---|---|
| **Process 1: EXTERNAL COMBUSTION** | | | | | |
| BOILER, NO. 6, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, FRONT FIRED, WITH STAGED COMBUSTION, OXYGEN CONTENT CONTROL, 1785 MMBTU/HR WITH<br>A/N: 408716<br><br>BURNER, SIXTEEN, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, MODEL 5R21-1 / 5R3-1, WITH STAGED COMBUSTION, 1785 MMBTU/HR<br><br>GENERATOR, 175 MW | D23 | C81 | NOX: MAJOR SOURCE** | **CO**: 500 PPMV (5) **[RULE 1303(b)(2)-Offset, 5-10-1996]**; **CO**: 2000 PPMV (5A) **[RULE 407, 4-2-1982]**; **NOX**: 7 PPMV (5B) [RULE 2009, 5-11-2001]; **PM10**: 0.01 GRAINS/SCF (5A) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **PM10**: 0.1 GRAINS/SCF (5) **[RULE 409, 8-7-1981]**; **PM10**: 11 LBS/HR (5B) **[RULE 475, 10-8-1976;** *RULE 475, 8-7-1978*]; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]** | A195.2, A305.2, B59.1, B61.3, C1.1, D12.2, D28.2, D90.1, E193.2, K40.1 |
| SELECTIVE CATALYTIC REDUCTION, SERVING BOILER NO. 6, IN-DUCT TYPE, CORMETECH, TITANIA-VANADIA HONEYCOMB EXTRUSION, 1871 CU.FT. WITH<br>A/N: 376881<br><br>AMMONIA INJECTION, TWO INJECTION GRIDS | C81 | D23 | | **NH3**: 10 PPMV (4) **[RULE 1303(a)(1)-BACT, 5-10-1996]** | A195.1, D12.5, D12.6, D12.7, D28.4, E179.1, E179.2, E193.2 |

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(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and 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.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

| Equipment | ID No. | Connected To | RECLAIM Source Type/ Monitoring Unit | Emissions * And Requirements | Conditions |
|---|---|---|---|---|---|
| **Process 1: EXTERNAL COMBUSTION** | | | | | |
| BOILER, NO. 7, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, OPPOSED FIRING, SUPERCRITICAL, WITH STAGED COMBUSTION, FLUE GAS RECIRCULATION, OXYGEN CONTENT CONTROL, 4752.2 MMBTU/HR WITH<br>A/N: 408717<br><br>BURNER, THIRTY TWO, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, MODEL UP-24, WITH STAGED COMBUSTION, 4752.2 MMBTU/HR<br><br>GENERATOR, 480 MW | D6 | C26 | NOX: MAJOR SOURCE** | **CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **NH3**: 20 PPMV (4) [**RULE 1303(a)(1)-BACT, 5-10-1996**]; **NOX**: 5 PPMV (5B) [RULE 2009, 5-11-2001]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SO2**: (9) [**40CFR 72 - Acid Rain Provisions, 11-24-1997**] | A195.3, B59.1, B61.1, C1.1, D12.2, D90.1 |
| SELECTIVE CATALYTIC REDUCTION, VANADIUM PENTOXIDE CATALYST BED, WITH 3475 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 30 FT ; HEIGHT: 35 FT ; LENGTH: 58 FT WITH<br>A/N: 339759<br><br>AMMONIA INJECTION, INJECTION GRID, WITH A TOTAL OF 1880 INJECTION NOZZLES | C26 | D6 | | | D12.1, D12.4, D28.1, E73.1, E193.1, K48.1, K67.3 |

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and 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.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

| Equipment | ID No. | Connected To | RECLAIM Source Type/ Monitoring Unit | Emissions * And Requirements | Conditions |
|---|---|---|---|---|---|
| **Process 1: EXTERNAL COMBUSTION** | | | | | |
| BOILER, NO. 8, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, OPPOSED FIRING, SUPERCRITICAL, WITH STAGED COMBUSTION, FLUE GAS RECIRCULATION, OXYGEN CONTENT CONTROL, 4752.2 MMBTU/HR WITH<br>A/N: 408719<br><br>BURNER, THIRTY-TWO, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, MODEL UP-24, WITH STAGED COMBUSTION, 4752.2 MMBTU/HR<br><br>GENERATOR, 480 MW | D8 | C28 | NOX: MAJOR SOURCE** | **CO**: 2000 PPMV (5) **[RULE 407, 4-2-1982]**; **NH3**: 20 PPMV (4) **[RULE 1303(a)(1)-BACT, 5-10-1996]**; **NOX**: 5 PPMV (5B) [RULE 2009, 5-11-2001]; **PM**: 0.1 GRAINS/SCF (5) **[RULE 409, 8-7-1981]**; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]** | A195.3, B59.1, B61.1, C1.1, D12.2, D90.1 |
| SELECTIVE CATALYTIC REDUCTION, VANADIUM PENTOXIDE CATALYST BED, WITH 3475 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 40 FT 6 IN; HEIGHT: 23 FT 8 IN; LENGTH: 60 FT 8 IN WITH<br>A/N: 339760<br><br>AMMONIA INJECTION, INJECTION GRID, WITH A TOTAL OF 1880 INJECTION NOZZLES | C28 | D8 | | | D12.1, D12.4, D28.1, E73.1, E193.1, K48.1, K67.3 |

* (1) (1A) (1B) Denotes RECLAIM emission factor
(2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and 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.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

| Equipment | ID No. | Connected To | RECLAIM Source Type/ Monitoring Unit | Emissions * And Requirements | Conditions |
|---|---|---|---|---|---|
| **Process 1: EXTERNAL COMBUSTION** | | | | | |
| BOILER, NO. 17, NATURAL GAS, BABCOCK AND WILCOX, 514.14 MMBTU/HR<br>A/N: 408720 | D72 | | NOX: MAJOR SOURCE** | **CO**: 2000 PPMV (5) **[RULE 407, 4-2-1982]**; **NOX**: 90 PPMV (5B) [RULE 2009, 5-11-2001]; **PM**: 0.1 GRAINS/SCF (5) **[RULE 409, 8-7-1981]**; **SO2**: (9) **[40CFR 72 - Acid Rain Provisions, 11-24-1997]** | A195.4, C1.2 |
| BOILER, PRESSURE WASHER TYPE, 0.104 MMBTU/HR, PORTABLE, DIESEL FUEL, GOODWAY, MODEL HPW-2600-G, WITH A 7,0 BHP GASLOLINE FIRED IC ENGINE DRIVING A PUMP<br>A/N: | D84 | | | **NOX**: 469 LBS/1000 GAL DIESEL (1) **[RULE 2012, 5-6-2005]** | C1.3, C1.4, H23.3, I296.1, K67.4 |
| **Process 5: INORGANIC CHEMICAL STORAGE** | | | | | |
| STORAGE TANK, UNDERGROUND, AQUEOUS AMMONIA, DOUBLE WALLED, 20000 GALS; DIAMETER: 10 FT ; LENGTH: 32 FT<br>A/N: 339764 | D18 | | | | C157.1, E57.1 |
| STORAGE TANK, FIXED ROOF, NO. 2, WITH A VAPOR RETURN LINE, AQUEOUS AMMONIA 29%, 20000 GALS<br>A/N: 376877 | D83 | | | | C157.2, E144.1, E193.2 |
| **Process 8: R219 EXEMPT EQUIPMENT SUBJECT TO A SOURCE-SPECIFIC RULE** | | | | | |
| RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS | E77 | | | **ROG**: (9) **[RULE 1113, 11-8-1996;** *RULE 1113, 7-13-2007;* **RULE 1171, 11-7-2003;** *RULE 1171, 2-1-2008*] | K67.1 |

* (1) (1A) (1B) Denotes RECLAIM emission factor
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(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and 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.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: DEVICE ID INDEX

**The following sub-section provides an index to the devices that make up the facility description sorted by device ID.**

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: DEVICE ID INDEX

| Device Index For Section D | | | |
|---|---|---|---|
| Device ID | Section D Page No. | Process | System |
| D6 | 3 | 1 | 0 |
| D8 | 4 | 1 | 0 |
| D18 | 5 | 5 | 0 |
| D20 | 1 | 1 | 0 |
| D23 | 2 | 1 | 0 |
| C26 | 3 | 1 | 0 |
| C28 | 4 | 1 | 0 |
| D72 | 5 | 1 | 0 |
| E77 | 5 | 8 | 0 |
| E78 | 5 | 8 | 0 |
| C79 | 1 | 1 | 0 |
| C81 | 2 | 1 | 0 |
| D83 | 5 | 5 | 0 |
| D84 | 5 | 1 | 0 |

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

### FACILITY CONDITIONS

F9.1 Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

[**RULE 401, 3-2-1984;** RULE 401, 9-11-1998]

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 |
| 23 | Boiler No. 6 | SO2 | 105 |
| 6 | Boiler No. 7 | SO2 | 554 |
| 8 | Boiler No. 8 | SO2 | 596 |
| 72 | Boiler No. 17 | SO2 | 0 |

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

a). The allowance allocation(s) shall apply to calendar years 2000 through 2009.

b). The number of allowances allocated to Phase II affected units by U.S. EPA may change in a 1998 revision to 40CFR73 Tables 2,3, and 4. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO2 allowance allocations identified in this permit (see 40 CFR 72.84)

**[40CFR 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 |
| Boiler No. 12 | SO2 | 0 |
| Boiler No. 13 | SO2 | 0 |
| Boiler No. 14 | SO2 | 0 |
| Boiler No. 15 | SO2 | 0 |
| Boiler No. 16 | SO2 | 0 |

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

a). The allowance allocation(s) shall apply to calendar years 2000 through 2009.

b). The number of allowances allocated to Phase II affected units by U.S. EPA may change in a 1998 revision to 40CFR73 Tables 2,3, and 4. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO2 allowance allocations identified in this permit (see 40 CFR 72.84).

c). A unit exempted under 40CFR72.8 shall not emit any sulfur dioxide starting on the date it is exempted.

d). The owners and operators of a unit exempted under 40CFR72.8 shall comply with monitoring requirements in accordance with part 75 and will be allocated allowances in accordance with 40CFR73.

e). A unit exempted under 40CFR73 shall not resume operation unless the designated representative of the source that includes the unit submits an Acid Rain permit application for the unit not less than 24 months prior to the later of January 1, 2000, or the date the unit is to resume operation. On the earlier of the date the written exemption expires or the date an Acid Rain permit application is submitted or is required to be submitted under this paragraph, the unit shall no longer be exempted and shall be subject to all requirements of 40CFR72.

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

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

F24.1 Accidental release prevention requirements of Section 112(r)(7):

a). The operator shall comply with the accidental release prevention requirements pursuant to 40 CFR Part 68 and shall submit to the Executive Officer, as a part of an annual compliance certification, a statement that certifies compliance with all of the requirements of 40 CFR Part 68, including the registration and submission of a risk management plan (RMP).

b). The operator shall submit any additional relevant information requested by the Executive Officer or designated agency.

**[40CFR 68 - Accidental Release Prevention, 5-24-1996]**

## DEVICE CONDITIONS

### A. Emission Limits

A195.1 The 10 PPMV NH3 emission limit(s) is averaged over 60 mins at 3 percent O2 dry. The operator shall calculate and continuously record the NH3 slip concentration using the following: NH3 (ppmv)=[a-(b*c/1000000)]*1000000/b, where a=NH3 injection rate(lb/hr)/17(lb/lbmole), b=dry exhaust gas flow rate(lb/hr)/29(lb/lbmole), and c=change in measured NOx across the SCR (ppmvd at stack O2). The operator shall install and maintain a NOx analyzer to measure the SCR inlet NOx ppmv accurate to plus or minus 5 percent calibrated at least once every 12 months.

**[RULE 1303(a)(1)-BACT, 5-10-1996]**

[Devices subject to this condition : C79, C81]

A195.2 The 7 PPMV NOX emission limit(s) is averaged over 720 hours, heat input weighted average, at 3 percent oxygen, dry basis.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

A data acquisition system shall be installed and maintained to continuously calculate and record the NOx ppm based on the 720 operating hour block average.

The average shall be calculated based on emissions during all boiler operating hours except start-ups defined as whenever the unit is being brought up to normal operating temperature from an inactive status, and the exhaust temperature entering the SCR catalyst is less than 465 degrees F.

Shutdowns are defined as whenever the unit is allowed to cool from a normal operating temperature to inactive status, and the exhaust temperature entering the SCR catalyst is less than 465 degrees F, calibration and maintenance periods, Part 75 linearity testing, RATA testing, equipment breakdown periods as defined in Rule 2004, and periods of zero fuel flow.

The heat input weighted average NOx concentration shall be calculated using the following equation, or other equivalent equation:

PPMV(3%O2) = (Et/Qt)*K; where PPMV(3%O2) = the concentration of NOx in PPMV at 3% O2; K = a conversion factor from lbs/MMBtu to PPM, which can be determined using EPA 40 CFR60 Method 19. The default K value is 819; Et = Total reported NOx emissions during the averaging period including emissions reported as a result of missing data procedures pursuant to Rule 2012; Qt = Total heat input during the averaging period

[RULE 2009, 5-11-2001]

[Devices subject to this condition : D20, D23]

A195.3 The 5 PPMV NOX emission limit(s) is averaged over 720 hours (heat input weighted average).

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

A data acquisition system shall be installed and maintained to continuously calculate and record the NOx ppm based on the 720 operating hour block average.

The heat input weighted average NOx concentration shall be calculated using the following equation, or other equivalent equation:

The average shall be calculated based on emissions during all boiler operating hours except start-ups defined as whenever the unit is being brought up to normal operating temperature from an inactive status, and the exhaust temperature entering the SCR catalyst is less than 465 degrees F.

Shutdowns are defined as whenever the unit is allowed to cool from a normal operating temperature to inactive status, and the exhaust temperature entering the SCR catalyst is less than 465 degrees F, calibration and maintenance periods, Part 75 linearity testing, RATA testing, equipment breakdown periods as defined in Rule 2004, and periods of zero fuel flow.

PPMV(3%O2) = (Et/Qt)*K; where PPMV(3%O2) = the concentration of NOx in PPMV at 3% O2; K = a conversion factor from lbs/MMBtu to PPM, which can be determined using EPA 40 CFR60 Method 19. The default K value is 819; Et = Total reported NOx emissions during the averaging period including emissions reported as a result of missing data procedures pursuant to Rule 2012; Qt = Total heat input during the averaging period

[RULE 2009, 5-11-2001]

[Devices subject to this condition : D6, D8]

A195.4 The 90 PPMV NOX emission limit(s) is averaged over an annual basis (heat input weighted average).

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

A data acquisition system shall be installed and maintained to continuously calculate and record the NOx ppm based on an annual block average (calendar year).

The heat input weighted average NOx concentration shall be calculated using the following equation, or other equivalent equation:

The average shall be calculated based on emissions during all boiler operating hours except start-ups defined as whenever the unit is being brought up to normal operating temperature from an inactive status, and the exhaust temperature entering the SCR catalyst is less than 465 degrees F.

Shutdowns are defined as whenever the unit is allowed to cool from a normal operating temperature to inactive status, and the exhaust temperature entering the SCR catalyst is less than 465 degrees F, calibration and maintenance periods, Part 75 linearity testing, RATA testing, equipment breakdown periods as defined in Rule 2004, and periods of zero fuel flow.

PPMV(3%O2) = (Et/Qt)*K; where PPMV(3%O2) = the concentration of NOx in PPMV at 3% O2; K = a conversion factor from lbs/MMBtu to PPM, which can be determined using EPA 40 CFR60 Method 19. The default K value is 819; Et = Total reported NOx emissions during the averaging period including emissions reported as a result of missing data procedures pursuant to Rule 2012; Qt = Total heat input during the averaging period

[RULE 2009, 5-11-2001]

[Devices subject to this condition : D72]

A305.1 Whenever this equipment is in operation, control device C79 may be operated at any control efficiency provided that the emission concentrations being monitored by the certified CEMS serving this equipment is below the valid upper range specified in the approved CEMS plan.

# FACILITY PERMIT TO OPERATE
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## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : D20]

A305.2 Whenever this equipment is in operation, control device C81 may be operated at any control efficiency provided that the emission concentrations being monitored by the certified CEMS serving this equipment is below the valid upper range specified in the approved CEMS plan.

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : D23]

### B. Material/Fuel Type Limits

B59.1 The operator shall only use the following material(s) in this device :

409 stainless steel or other equivelant material for air preheater baskets

[RULE 402, 5-7-1976]

[Devices subject to this condition : D6, D8, D20, D23]

B61.1 The operator shall not use refinery gas containing the following specified compounds:

| Compound | ppm by volume |
|---|---|
| sulfur compounds calculated as htdrogen sulfide greater than | 40 |

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

the 40 ppm limit is averaged over 4 hours

**[RULE 431.1, 6-12-1998]**

[Devices subject to this condition : D6, D8]

B61.3 The operator shall not use refinery gas containing the following specified compounds:

| Compound | ppm by volume |
|---|---|
| sulfur compounds calculated as hydrogen sulfide greater than | 40 |

the 40 ppm limit is averaged over 4 hours

**[RULE 431.1, 6-12-1998]**

[Devices subject to this condition : D20, D23]

### C. Throughput or Operating Parameter Limits

C1.1 The operator shall limit the refinery gas fuel usage to no more than 35 MM cubic feet per day.

This limit shall be based on the total combined limit for equipment D6, D8, D20, D23, D72.

**[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : D6, D8, D20, D23]

C1.2 The operator shall limit the operating time to no more than 600 hour(s) in any one year.

The operator shall install and maintain a non-resettable elapsed time meter to accurately indicate the elapsed operating time of the boiler.

[RULE 2009, 5-11-2001]

[Devices subject to this condition : D72]

C1.3 The operator shall limit the operating time to no more than 1 hour(s) in any one day.

**[RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D84]

C1.4 The operator shall limit the operating time to no more than 52 hour(s) in any one year.

**[RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D84]

C157.1 The operator shall install and maintain a pressure relief valve set at 50 psig.

[RULE 402, 5-7-1976]

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : D18]

C157.2 The operator shall install and maintain a pressure relief valve set at 25 psig.

**[RULE 1303(a)(1)-BACT, 5-10-1996]**

[Devices subject to this condition : D83]

### D. Monitoring/Testing Requirements

D12.1 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the boiler exhaust at the inlet of the selective catalytic reduction(SCR) reactor.

The operator shall maintain the exhaust temperature between 425 and 750 degrees F except during start ups and shutdowns

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C26, C28]

D12.2 The operator shall install and maintain a(n) non-resettable totalizing fuel meter to accurately indicate the flow rate of the refinery gas supplied to this boiler.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

**[RULE 1303(b)(2)-Offset, 5-10-1996]**

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : D6, D8, D20, D23]

D12.4 The operator shall install and maintain a(n) continuous monitoring system to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH3).

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the ammonia injection rate between 0 and 180 gallons per hour

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C26, C28]

D12.5 The operator shall install and maintain a(n) flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH3).

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the ammonia flow rate between 0 and 100 lbs per hour

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C79, C81]

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

D12.6 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the boiler exhaust at the inlet of the SCR reactor.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the exhaust temperature between 465 and 800 degrees F except during start ups and shut downs

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C79, C81]

D12.7 The operator shall install and maintain a(n) pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches water column.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The operator shall maintain the differential pressure between 0 and 10 inches water column

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C79, C81]

D28.1 The operator shall conduct source test(s) in accordance with the following specifications:

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

The test shall be conducted at least annually.

The test shall be conducted to determine the NH3 emissions at the outlet.

The test shall be conducted to determine the NH3 emissions using District method 207.1 measured over a 60 minute averaging time period.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

**[RULE 1303(a)(1)-BACT, 5-10-1996]**

[Devices subject to this condition : C26, C28]

D28.2 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted at least annually.

The test shall be conducted to determine the CO emissions at the outlet.

The test shall be conducted to demonstrate compliance with Rule 1303 concentration limit.

The test shall be conducted when the equipment is operating under normal conditions. No test shall be required in any one year for which the equipment is not in operation.

The test shall be conducted to determine compliance with the CO emissions by either: (a) conducting a source test using District method 100.1 measured over a 30 minute averaging time, or (b) using a portable analyzer and a District-approved test method.

**[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]**

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : D20, D23]

D28.4 The operator shall conduct source test(s) in accordance with the following specifications:

The District shall be notified of the date and time of the test at least 7 days prior to the test.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

The test shall be conducted and the results submitted to the District within 45 days after the test date.

The test shall be conducted to determine the NH3 emissions using District Methods 207.1 and 5.3, or EPA Method 17 measured over a 60 minute averaging time period. The NOx concentration, as determined by reading the CEMS, shall be simultaneously recorded during the test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 miniute averaging time period.

The test shall be conducted during ammonia injection periods, at least quarterly during the first twelve months of operation of the SCR, and at least annually thereafter.

**[RULE 1303(a)(1)-BACT, 5-10-1996;** RULE 1401, 3-17-2000]

[Devices subject to this condition : C79, C81]

D90.1 The operator shall sample and analyze the sulfur content of the blended refinery-natural gas according to the following specifications:

The operator shall sample once per month or once per batch when burning the blended refinery-natural gas. The draw time for the sample shall be at least 15 minutes. The analysis shall be conducted using District Method 307.91.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

**[40CFR 72 - Acid Rain Provisions, 11-24-1997]**

[Devices subject to this condition : D6, D8, D20, D23]

### E. Equipment Operation/Construction Requirements

E57.1 The operator shall vent this equipment to the delivery tank truck whenever the aqueous ammonia storage tank is being filled.

**[RULE 1303(a)(1)-BACT, 5-10-1996]**

[Devices subject to this condition : D18]

E73.1 Notwithstanding the requirements of Section E conditions, the operator shall not use ammonia injection if all of the following requirement(s) are met:

Inlet exhaust temperature of the SCR reactor is 400 Deg F or less

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C26, C28]

E144.1 The operator shall vent this equipment, during filling, only to the vessel from which it is being filled.

**[RULE 1303(a)(1)-BACT, 5-10-1996]**

[Devices subject to this condition : D83]

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

E179.1 For the purpose of the following condition number(s), continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.

Condition Number 12-5

Condition Number 12-6

Condition Number 195-1

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C79, C81]

E179.2 For the purpose of the following condition number(s), continuously record shall be defined as recording at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

Condition Number 12-7

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C79, C81]

E193.1 The operator shall upon completion of construction, operate and maintain this equipment according to the following specifications:

In accordance with all mitigation measures stipulated in the Mitigation Monitoring Plan document (Environmental Impact Report SCH Number 91031056) dated December, 1992 that was prepared for this project.

[CA PRC CEQA, 11-23-1970]

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : C26, C28]

E193.2 The operator shall construct, operate, and maintain this equipment according to the following specifications:

In accordance with all mitigation measures stipulated in the Mitigated Negative Declaration No. 00-144 that was prepared for this project by the City of Redondo Beach Planning Commission

In accordance with the settlement between AES Alamitos and the SCAQMD dated December 12, 2000, AES shall demonstrate compliance with item 5 of the agreement by installing and operating the air pollution control (APC) equipment by no later than July 22, 2001.

The schedule for installation of APC equipment shall be done in consultation with the California Energy Commission (CEC) and the California Independent System Operator (CISO) to ensure that compliance with air pollution laws and requirements can be achieved with no significant power interruption.

For facilities operating under an Order of Abatement or a Settlement Agreement, in the event the specified schedule of installation of APC equipment under these agreements cannot be met, the operator must seek amendment of the Order of Abatement or Settlement Agreement at SCAQMD discretion.

**[RULE 2010, 10-15-1993;** CA PRC CEQA, 11-23-1970]

[Devices subject to this condition : D20, D23, C79, C81, D83]

### H. Applicable Rules

H23.1 This equipment is subject to the applicable requirements of the following rules or regulations:

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

| Contaminant | Rule | Rule/Subpart |
|---|---|---|
| ROG | District Rule | 464 |

**[RULE 464, 12-7-1990]**

[Devices subject to this condition : E78]

H23.3 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule | Rule/Subpart |
|---|---|---|
| Sulfur compounds | District Rule | 431.2 |

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

[Devices subject to this condition : D84]

### I. Administrative

I296.1 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

To comply with this condition, the operator shall, prior to each compliance year hold a minimum of 6 lbs.

In accordance with Rule 2005(f) unused RTCs may be sold only during the reconciliation period of the fourth quarter of the applicable compliance year inclusive of the first compliance year.

**[RULE 2012, 5-6-2005]**

[Devices subject to this condition : D84]

### K. Record Keeping/Reporting

K40.1 The operator shall provide to the District a source test report in accordance with the following specifications:

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv), corrected to 3 percent oxygen, dry basis.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

All moisture concentration shall be expressed in terms of percent corrected to 3 percent oxygen.

Emission data shall be expressed in terms of mass rate (lbs/hr). In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

Emission data shall be expressed in terms of lbs/MM cubic feet.

Source test results shall also include fuel flow rate (CFH) and generator output (MW) under which the test was conducted.

[**RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1401, 3-17-2000; **RULE 2012, 5-11-2001; RULE 2012, 12-5-2003**]

[Devices subject to this condition : D20, D23]

K48.1 The operator shall maintain records in a manner approved by the District, to demonstrate compliance with the following condition number(s):

Condition no. 12-1

Condition no. 12-4

[**RULE 2012, 5-11-2001; RULE 2012, 12-5-2003**]

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

[Devices subject to this condition : C26, C28]

K67.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

For architectural applications where thinners, reducers, or other VOC containing materials are added, maintain daily records for each coating consisting of (a) coating type, (b) VOC content as applied in grams per liter (g/l) of materials used for low-solids coatings, (c) VOC content as applied in g/l of coating, less water and exempt solvent, for other coatings.

**[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995]**

[Devices subject to this condition : E77]

K67.3 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

the total hourly amount of injected ammonia (NH3)

**[RULE 2012, 5-11-2001; RULE 2012, 12-5-2003]**

[Devices subject to this condition : C26, C28]

K67.4 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

The date, time, and reason for operation

The time, in hours, of operation of the equipment

**[RULE 1303(b)(2)-Offset, 5-10-1996;** RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D84]

# FACILITY PERMIT TO OPERATE
# AES REDONDO BEACH, LLC

## SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

NONE