

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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					
System 2: ELECTRIC GENERATION					
BOILER, NO. 1, NATURAL GAS, BABCOCK AND WILCOX, FRONT FIRED, WITH OXYGEN CONTENT CONTROL, 1785 MMBTU/HR WITH A/N: 408704	D39	C135	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 (5) [RULE 2009, 5-11-2001]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5B) [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 NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]	A195.1, A195.6, A305.1, A327.1, B59.1, D28.2, E193.2, K40.2
GENERATOR, 175 MW					
SELECTIVE CATALYTIC REDUCTION, SERVING BOILER NO. 1, IN-DUCT TYPE, CORMETECH, TITANIA/VANADIA HONEYCOMB EXTRUSION, 1871 CU.FT. WITH A/N: 376639	C135	D39		NH3: 10 PPMV (4) [RULE 1303(a)(1)-BACT, 5-10-1996]	A195.5, D12.6, D28.5, E179.4, E179.5, E193.2
AMMONIA INJECTION, TWO INJECTION GRIDS					

* (1) (1A) (1B) Denotes RECLAIM emission factor
 (3) Denotes RECLAIM concentration limit
 (5) (5A) (5B) Denotes command and control emission limit
 (7) Denotes NSR applicability limit
 (9) See App B for Emission Limits
 (2) (2A) (2B) Denotes RECLAIM emission rate
 (4) Denotes BACT emission limit
 (6) Denotes air toxic control rule limit
 (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (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.

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Process 1: EXTERNAL COMBUSTION					
BOILER, NO. 2, NATURAL GAS, BABCOCK AND WILCOX, FRONT FIRED, WITH OXYGEN CONTENT CONTROL, 1785 MMBTU/HR WITH A/N: 408705 GENERATOR, 175 MW	D42	C137	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 (5) [RULE 2009, 5-11-2001]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5B) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]	A195.1, A195.6, A305.2, A327.1, B59.1, D28.2, E193.2, K40.2
SELECTIVE CATALYTIC REDUCTION, SERVING BOILER NO. 2, IN-DUCT TYPE, CORMETECH, TITANIA/VANADIA HONEYCOMB EXTRUSION, 1871 CU.FT. WITH A/N: 377587 AMMONIA INJECTION, TWO INJECTION GRIDS	C137	D42		NH3: 10 PPMV (4) [RULE 1303(a)(1)-BACT, 5-10-1996]	A195.5, D12.6, D28.5, E179.4, E179.5, E193.2

* (1) (1A) (1B) Denotes RECLAIM emission factor
 (3) Denotes RECLAIM concentration limit
 (5) (5A) (5B) Denotes command and control emission limit
 (7) Denotes NSR applicability limit
 (9) See App B for Emission Limits
 (2) (2A) (2B) Denotes RECLAIM emission rate
 (4) Denotes BACT emission limit
 (6) Denotes air toxic control rule limit
 (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: EXTERNAL COMBUSTION					
BOILER, NO. 3, NATURAL GAS, COMBUSTION ENGINEERING, TANGENTIALLY FIRED, WITH FLUE GAS RECIRCULATION, OXYGEN CONTENT CONTROL, 3350 MMBTU/HR WITH A/N: 408706 GENERATOR, 320 MW	D45	C139	NOX: MAJOR SOURCE**	CO: 300 PPMV NATURAL GAS (5) [RULE 1303(b)(2)-Offset, 5-10-1996]; CO: 2000 PPMV (5A) [RULE 407, 4-2-1982]; NOX: 7 PPMV (5) [RULE 2009, 5-11-2001]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 GRAINS/SCF NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]	A195.4, A195.6, A305.3, A327.1, B59.1, D28.2, E193.2, K40.2
SELECTIVE CATALYTIC REDUCTION, SERVING BOILER NO. 3, IN-DUCT TYPE, CORMETECH, TITANIA/VANADIA HONEYCOMB EXTRUSION, 2312 CU.FT. WITH A/N: 372944 AMMONIA INJECTION, TWO INJECTION GRIDS	C139	D45		NH3: 10 PPMV (4) [RULE 1303(a)(1)-BACT, 5-10-1996]	A195.5, D12.6, D28.5, E179.4, E179.5, E193.2

* (1) (1A) (1B) Denotes RECLAIM emission factor
 (3) Denotes RECLAIM concentration limit
 (5) (5A) (5B) Denotes command and control emission limit
 (7) Denotes NSR applicability limit
 (9) See App B for Emission Limits
 (2) (2A) (2B) Denotes RECLAIM emission rate
 (4) Denotes BACT emission limit
 (6) Denotes air toxic control rule limit
 (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
 (10) See section J for NESHAP/MACT requirements
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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: EXTERNAL COMBUSTION					
BOILER, NO. 4, NATURAL GAS, COMBUSTION ENGINEERING, TANGENTIALLY FIRED, WITH FLUE GAS RECIRCULATION, OXYGEN CONTENT CONTROL, 3350 MMBTU/HR WITH A/N: 408707 GENERATOR, 320 MW	D48	C141	NOX: MAJOR SOURCE**	CO: 300 PPMV NATURAL GAS (5) [RULE 1303(b)(2)-Offset, 5-10-1996]; CO: 2000 PPMV (5A) [RULE 407, 4-2-1982]; NOX: 7 PPMV (5) [RULE 2009, 5-11-2001]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]	A195.4, A195.6, A305.4, A327.1, B59.1, D28.2, E193.2, K40.2
SELECTIVE CATALYTIC REDUCTION, SERVING BOILER NO. 4, IN-DUCT TYPE, CORMETECH, TITANIA/VANADIA HONEYCOMB EXTRUSION, 2312 CU.FT. WITH A/N: 372945 AMMONIA INJECTION, TWO INJECTION GRIDS	C141	D48		NH3: 10 PPMV (4) [RULE 1303(a)(1)-BACT, 5-10-1996]	A195.5, D12.6, D28.5, E179.4, E179.5, 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

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: EXTERNAL COMBUSTION					
BOILER, NO. 5, NATURAL GAS, BABCOCK AND WILCOX, MODEL UP-24, SUPERCRITICAL OPPOSED FIRING, WITH LOW NOX BURNER, FLUE GAS RECIRCULATION, 4750 MMBTU/HR WITH A/N: 408728	D51	C53	NOX: MAJOR SOURCE**	CO: 300 PPMV NATURAL GAS (5) [RULE 1303(b)(2) -Offset, 5-10-1996]; CO: 2000 PPMV (5A) [RULE 407, 4-2-1982]; NOX: 5 PPMV (5) [RULE 2009, 5-11-2001]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]	A195.2, A195.4, A195.7, A327.1, B59.1, D28.1, D28.2, K40.3
BURNER, NATURAL GAS, TODD COMBUSTION, MODEL DYNASWIRL, THIRTY TWO, WITH LOW NOX BURNER					
GENERATOR, 480 MW					

* (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

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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					
SELECTIVE CATALYTIC REDUCTION, NO. 5, VANADIUM/TITANIUM CATALYST BED, WITH 3475 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 30 FT ; HEIGHT: 41 FT ; LENGTH: 58 FT WITH A/N: 339179 AMMONIA INJECTION, INJECTION GRID, WITH 1800 INJECTION NOZZLES	C53	D51		NH3: 20 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	D12.5, D12.6, E73.1, E179.3, E193.1, K48.1, K67.8

* (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

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 1: EXTERNAL COMBUSTION					
BOILER, NO. 6, NATURAL GAS, BABCOCK AND WILCOX, SUPERCRITICAL OPPOSED FIRING, WITH FLUE GAS RECIRCULATION, 4752.2 MMBTU/HR WITH A/N: 408708 BURNER, NATURAL GAS, TODD COMBUSTION, MODEL DYNASWIRL, THIRTY TWO, WITH LOW NOX BURNER GENERATOR, 480 MW	D3	C55	NOX: MAJOR SOURCE**	CO: 300 PPMV NATURAL GAS (5) [RULE 1303(b)(2) -Offset, 5-10-1996]; CO: 2000 PPMV (5A) [RULE 407, 4-2-1982]; NOX: 5 PPMV (5) [RULE 2009, 5-11-2001]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5B) [RULE 409, 8-7-1981]; PM10: 11 LBS/HR NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]	A195.2, A195.4, A195.7, A327.1, B59.1, D28.1, D28.2
SELECTIVE CATALYTIC REDUCTION, NO. 6, VANADIUM/TITANIUM, WITH 3475 CUBIC FEET OF TOTAL CATALYST VOLUME, WIDTH: 30 FT ; HEIGHT: 41 FT ; LENGTH: 58 FT WITH A/N: 372949 AMMONIA INJECTION, INJECTION GRID, WITH 1800 INJECTION NOZZLES	C55	D3		NH3: 20 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1) -BACT, 12-6-2002]	D12.5, D12.6, E73.1, E179.3, E193.1, K48.1, K67.8

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

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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 4: INORGANIC CHEMICAL STORAGE					
STORAGE TANK, UNDERGROUND, TK-001, AQUEOUS AMMONIA, DOUBLE WALLED, 20000 GALS; DIAMETER: 10 FT 2 IN; HEIGHT: 37 FT 10 IN A/N: 339195	D19				C157.1, E144.1
STORAGE TANK, FIXED ROOF, NO. 1, AQUEOUS AMMONIA 29%, WITH A VAPOR RETURN LINE, 20000 GALS A/N: 372946	D151				C157.2, E144.1, E193.2
STORAGE TANK, FIXED ROOF, NO. 2, AQUEOUS AMMONIA 29%, WITH A VAPOR RETURN LINE, 20000 GALS A/N: 372947	D152				C157.2, E144.1, E193.2
STORAGE TANK, FIXED ROOF, NO. 3, AQUEOUS AMMONIA 29% SOLUTION, WITH A VAPOR RETURN LINE, 20000 GALS A/N: 376484	D153				C157.2, E144.1, E193.2
Process 11: Rule 219 Exempt Equipment Subject to Source-Specific Rules					
RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS	E126			ROG: (9) [RULE 1113, 11-8-1996; RULE 1113, 12-5-2003; RULE 1171, 8-2-2002; RULE 1171, 11-7-2003]	K67.7
RULE 219 EXEMPT EQUIPMENT, OIL WATER SEPARATORS, GRAVITY-TYPE, < 45 FT ² AIR/LIQUID INTERFACIAL AREA	E127				H23.1
RULE 219 EXEMPT EQUIPMENT, FUGITIVE EMISSIONS, COMPRESSORS	E128				H23.2

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

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Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 11: Rule 219 Exempt Equipment Subject to Source-Specific Rules					
RULE 219 EXEMPT EQUIPMENT, FUGITIVE EMISSIONS, PUMPS	E129				H23.2
RULE 219 EXEMPT EQUIPMENT, FUGITIVE EMISSIONS, FLANGES	E130				H23.3
RULE 219 EXEMPT EQUIPMENT, FUGITIVE EMISSIONS, PRV	E131				H23.4
RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, <= 53 FT3, WITH DUST FILTER	E132			PM: (9) [RULE 1140, 2-1-1980; RULE 1140, 8-2-1985; RULE 404, 2-7-1986; RULE 405, 2-7-1986]	D322.2, D381.1, K67.6

* (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

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**FACILITY PERMIT TO OPERATE
AES ALAMITOS, 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 ALAMITOS, LLC**

SECTION D: DEVICE ID INDEX

Device Index For Section D			
Device ID	Section D Page No.	Process	System
D3	7	1	2
D19	8	4	0
D39	1	1	2
D42	2	1	2
D45	3	1	2
D48	4	1	2
D51	5	1	2
C53	6	1	2
C55	7	1	2
E126	8	11	0
E127	8	11	0
E128	8	11	0
E129	9	11	0
E130	9	11	0
E131	9	11	0
E132	9	11	0
C135	1	1	2
C137	2	1	2
C139	3	1	2
C141	4	1	2
D151	8	4	0
D152	8	4	0
D153	8	4	0

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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
39	Unit 1	SO2	2751
42	Unit 2	SO2	105
45	Unit 3	SO2	290
48	Unit 4	SO2	814
51	Unit 5	SO2	4193
3	Unit 6	SO2	1476

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- 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]

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 500 PPM CO emission limit(s) is averaged over 60 minutes at 3 percent O₂, dry.

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

[Devices subject to this condition : D39, D42]

A195.2 The 20 PPM NH₃ emission limit(s) is averaged over 60 minutes at 3 percent O₂, dry.

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

[Devices subject to this condition : D3, D51]

A195.4 The 300 PPM CO emission limit(s) is averaged over 60 minutes at 3 percent O₂, dry.

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

[Devices subject to this condition : D3, D45, D48, D51]

A195.5 The 10 PPMV NH₃ emission limit(s) is averaged over 60 minutes at 3 percent O₂, dry. The operator shall calculate and continuously record the NH₃ slip concentration using the following: $NH_3 \text{ (ppmv)} = [a \cdot b^c / 1E6] \cdot 1E6 / b$, where a = NH₃ injection rate (lbs/hr)/17 (lbs/lb-mole), b = dry exhaust gas flow rate (lbs/hr)/29 (lbs/lb-mole), c = change in measured NO_x across the SCR (ppmvd). The operator shall install and maintain a NO_x analyzer to measure the SCR inlet NO_x ppmv accurate to +/- 5 percent calibrated at least once every 12 months.

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

[Devices subject to this condition : C135, C137, C139, C141]

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SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

A195.6 The 7.0 PPMV NOX emission limit(s) is averaged over 720 operating hours and is a heat input weighted average with consecutive, non-overlapping averaging periods, as detailed below.

A data acquisition system shall be installed and maintained to continuously record the raw data necessary to calculate the heat input weighted average NOx concentration (ppmv) and to calculate and record the heat input weighted average NOx concentration for each averaging period.

The average shall be calculated based on emissions during all boiler operating hours, except startups, shutdowns, CEMS calibration and maintenance periods, Part 75 linearity testing, RATA testing, equipment breakdown periods as defined in Rule 2004, and periods of zero fuel flow.

Startups are 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.

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

1. $PPMV(3\% O_2) = (Et/Qt)*K$; where $PPMV(3\% O_2)$ = the concentration of NOx in PPMV corrected to 3% O₂; K = a conversion factor from lbs/MMBtu to PPM, which can be determined using EPA 40CFR60 Method 19 (the default value of K 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; and Qt = Total heat input during the averaging period.

[RULE 2009, 5-11-2001]

[Devices subject to this condition : D39, D42, D45, D48]

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

A195.7 The 5.0 PPMV NOX emission limit(s) is averaged over 720 operating hours and is a heat input weighted average with consecutive, non-overlapping averaging periods, as detailed below.

A data acquisition system shall be installed and maintained to continuously record the raw data necessary to calculate the heat input weighted average NOx concentration (ppmv) and to calculate and record the heat input weighted average NOx concentration for each averaging period.

The average shall be calculated based on emissions during all boiler operating hours, except startups, shutdowns, CEMS calibration and maintenance periods, Part 75 linearity testing, RATA testing, equipment breakdown periods as defined in Rule 2004, and periods of zero fuel flow.

Startups are 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.

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

1. $PPMV(3\% O_2) = (Et/Qt)*K$; where $PPMV(3\% O_2)$ = the concentration of NOx in PPMV corrected to 3% O₂; K = a conversion factor from lbs/MMBtu to PPM, which can be determined using EPA 40CFR60 Method 19 (the default value of K 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; and Qt = Total heat input during the averaging period.

[RULE 2009, 5-11-2001]

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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 : D3, D51]

A305.1 Whenever this equipment is in operation, control device C135 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, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : D39]

A305.2 Whenever this equipment is in operation, control device C137 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, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : D42]

A305.3 Whenever this equipment is in operation, control device C139 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, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : D45]

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

A305.4 Whenever this equipment is in operation, control device C141 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, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : D48]

A327.1 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

[**RULE 475, 10-8-1976**; RULE 475, 8-7-1978]

[Devices subject to this condition : D3, D39, D42, D45, D48, D51]

B. Material/Fuel Type Limits

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

409 stainless steel or other equivalent material for air preheater baskets

[RULE 402, 5-7-1976]

[Devices subject to this condition : D3, D39, D42, D45, D48, D51]

C. Throughput or Operating Parameter Limits

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

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

[RULE 402, 5-7-1976]

[Devices subject to this condition : D19]

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 : D151, D152, D153]

D. Monitoring/Testing Requirements

D12.5 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the boiler exhaust at the outlet of the SCR reactor.

[**RULE 2012, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : C53, C55]

D12.6 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.

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[**RULE 2012, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : C53, C55, C135, C137, C139, C141]

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

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

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 at least annually.

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

The test shall be conducted that the NO_x concentration during the source test does not exceed the limit in condition A195.7 averaged over the full duration of the test and corrected to 3% O₂ dry.

[**RULE 1303(a)(1)-BACT, 5-10-1996**; **RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995**]

[Devices subject to this condition : D3, D51]

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

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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 CO emissions at the outlet.

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

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.

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.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition : D3, D39, D42, D45, D48, D51]

D28.5 The operator shall conduct source test(s) in accordance with the following specifications:

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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 during ammonia injection periods, at least quarterly during the first twelve months of operation of the SCR, and at least annually thereafter.

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

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 determine the NH₃ emissions using District Method 207.1 and 5.3, or EPA Method 17 measured over a 60 minute averaging time period. The NO_x 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 NO_x emissions using District Method 100.1 measured over a 60 minute averaging time period.

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

The test shall be conducted that the NO_x concentration during the source test does not exceed the limit in condition A195.6 averaged over the full duration of the test and corrected to 3% O₂ dry.

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

[Devices subject to this condition : C135, C137, C139, C141]

D322.2 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, 8-11-1995]

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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 : E132]

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 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, 8-11-1995]

[Devices subject to this condition : E132]

E. Equipment Operation/Construction Requirements

E73.1 Notwithstanding the requirements of Section E conditions, the operator may, at his discretion, choose not to use ammonia injection if any of the following requirement(s) are met:

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

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[RULE 402, 5-7-1976]

[Devices subject to this condition : C53, C55]

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; RULE 462, 6-9-1995**]

[Devices subject to this condition : D19, D151, D152, D153]

E179.3 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 12-6

[**RULE 2012, 12-7-1995; RULE 2012, 4-9-1999; RULE 402, 5-7-1976**]

[Devices subject to this condition : C53, C55]

E179.4 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 upon the average of the continuous monitoring for that hour.

Condition Number 12-6

Condition Number 12-7

Condition Number 195-5

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[**RULE 2012, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : C135, C137, C139, C141]

E179.5 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 12-8

[**RULE 2012, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : C135, C137, C139, C141]

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

In accordance with the operational phase air quality mitigation measures stipulated in the Mitigation Monitoring Plan document prepared for this project

[CA PRC CEQA, 11-23-1970]

[Devices subject to this condition : C53, C55]

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

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

In accordance with all mitigation measures stipulated in Environmental Impact Report (SCH No. 2000111039) that was prepared for this project by the South Coast Air Quality Management District.

In accordance with the Settlement Agreement between AES Alamos 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 September 9, 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 control 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 : D39, D42, D45, D48, C135, C137, C139, C141, D151, D152, D153]

H. Applicable Rules

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	464

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[RULE 464, 12-7-1990]

[Devices subject to this condition : E127]

H23.2 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	466

[RULE 466, 10-7-1983]

[Devices subject to this condition : E128, E129]

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

Contaminant	Rule	Rule/Subpart
ROG	District Rule	466.1

[RULE 466.1, 5-2-1980; RULE 466.1, 3-16-1984]

[Devices subject to this condition : E130]

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

Contaminant	Rule	Rule/Subpart
VOC	District Rule	467

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

[RULE 467, 3-5-1982]

[Devices subject to this condition : E131]

K. Record Keeping/Reporting

K40.2 The operator shall provide to the District a source test report in accordance with the following specifications:

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.

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

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

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1401, 3-17-2000; RULE 2012, 12-7-1995; RULE 2012, 4-9-1999]

[Devices subject to this condition : D39, D42, D45, D48]

FACILITY PERMIT TO OPERATE AES ALAMITOS, LLC

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

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

K40.3 The operator shall provide to the District a source test report in accordance with the following specifications:

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

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.

Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted.

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

[Devices subject to this condition : D51]

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. 12-5

Condition no. 12-6

[RULE 2012, 12-7-1995; RULE 2012, 4-9-1999]

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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 : C53, C55]

K67.6 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

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

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

[Devices subject to this condition : E132]

K67.7 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]

FACILITY PERMIT TO OPERATE AES ALAMITOS, 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 : E126]

K67.8 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, 12-7-1995**; RULE 2012, 4-9-1999]

[Devices subject to this condition : C53, C55]