

Appendix 5.1E
SCAQMD Permit Application Forms



AES Redondo Beach
690 N. Studebaker Road
Long Beach, CA 90803
tel 562 493 7891
fax 562 493 7320

November 21, 2012

Mr. Andrew Lee, P.E.
Air Quality Analysis and Compliance Supervisor
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California 91765-4178

**RE: AES Redondo Beach, LLC (Facility ID 115536)
Application for District Permit to Construct and Modification to the Title V
Permit to Operate**

Dear Mr. Lee:

AES Redondo Beach, LLC (AES), a wholly owned subsidiary of AES Southland, LLC (AES), is submitting two copies of the application materials for a South Coast Air Quality Management District (District) permit to construct for the Redondo Beach Energy Project (RBEP) and a modification to the existing Title V Permit to Operate for Facility 115536.

RBEP is a natural gas-fired, combined-cycle electrical generating facility rated at a nominal generating capacity of 496 megawatts (MW) and maximum 530 MW, which will replace and be constructed on the site of AES's Redondo Beach Generating Station located in the City of Redondo Beach, CA. RBEP will consist of three natural gas combustion turbine generators with supplemental fired heat recovery steam generators, a steam turbine generator, an air-cooled condenser, and ancillary facilities. The attached application is being submitted in conjunction with an Application for Certification (AFC) that will be submitted to the California Energy Commission on or before November 21, 2012.

The RBEP application relies on the provisions contained in District Rule 1304(a)(2), which allows the replacement of older, less efficient electric utility steam boilers with specific new generation technologies on a MW-to-MW basis. The District Rule 1304(b)(2) offset exemption will be met by permanently retiring Redondo Beach Generating Station Unit 7 and using 50 MWs from the retirement of Redondo Beach Generating Station Units 6 and 8 and AES Huntington Beach, LLC Units 1 and 2.¹ All units proposed for retirement are owned by a wholly owned subsidiary of AES Southland, LLC. The attached organizational chart illustrates the corporate structure of the subject limited liability corporations and demonstrates the common ownership of AES Redondo Beach and AES Huntington

¹ The Huntington Beach Energy Project (Facility ID 115389) air permit application noted the retirement of 1,085 MWs of generating capacity from RBGS Units 6 and 8 and HBGS Units 1 and 2 to offset HBEP's 939 MWs of new generation. This results in 146 MWs of surplus generating capacity not needed at HBEP.

Beach, and AES Alamitos LLCs by AES Southland, LLC, per the requirements of Rule 1304(a)(2).

AES has also included three additional copies of this application for District distribution to EPA Region IX and other agencies as applicable.

The contents of this application package include the required District forms² and the following sections from the AFC:

- Section 1.0: Executive summary
- Section 2.0: Project Description
- Section 5.1: Air Quality (includes Appendices 5.1A through 5.1F)
- Section 5.2: Biological Resources (section included to satisfy Endangered Species consultation requirements with the United State Fish and Wildlife Service)
- Section 5.3: Cultural Resources (section included to satisfy Antiquities Act consultation requirements with the State Historic Preservation Office)
- Section 5.9: Public Health (includes Appendices 5.9A through 5.9C)
- Section 6.0: Alternatives Analysis

In addition to the health risk assessment (HRA) included in Section 5.9, AES conducted an HRA consistent with the District's current practice of estimating toxic emissions from gas turbines using emission factors listed in Table 3.1-3 of the EPA's AP42 *Compilation of Air Pollutant Emission Factors*. However, the formaldehyde emission rate was based on a maximum allowable formaldehyde concentration of 120 parts per billion for the natural-gas-fired turbines consistent with the toxic emissions discussion included in Section 5.9 of the AFC. A summary of the air toxics emissions included in the HRA is provided in Table 5.1B.5b of the attached AFC Appendix 5.1B.

A summary of the maximum incremental cancer risk (MICR), chronic health index, and acute health index at the point of maximum impact (PMI) locations have been included in Table 1. In accordance with District Rule 1401, the results represent the predicted risk for each individual emission unit. Overall, the predicted MICR at the PMI is below the individual source significance threshold of one in 1 million and the predicted chronic and acute indices are also below the District individual source significance threshold of 1.0. Furthermore, the RBEP design includes the use of an oxidation catalyst to reduce CO and VOC emissions to the best available control levels of 2.0 ppm and 1.0 ppm, respectively. Therefore, it is expected that the actual HAP emissions, and resulting predicted health risk impacts, would be significantly less than the potential risk presented in this analysis.³

The HARP report files have also been included on the dispersion modeling file DVD.

² Per discussion with District Staff (Andrew Lee and John Yee) during the pre-application meeting on April 19, 2012, Form 500-C1 has not been included in the application package.

³ AP-42 Section 3.1 Stationary Internal Combustion Processes guidance document updated in 2000, page 3.1-7— "The performance of these oxidation catalyst systems on combustion turbines results in 90-plus percent control of CO and about 85 to 90 percent control of formaldehyde. Similar emission reductions are expected on other HAP pollutants."

TABLE 1

RBEP Health Risk Assessment Summary: Individual Units (BASIS: AP-42 Emission Factors)^{a, b}

Risk	Turbine 1	Turbine 2	Turbine 3
MICR at the PMI ^c (per million)	0.72	0.66	0.65
Chronic Hazard Index at the PMI	0.0021	0.0019	0.0019
Acute Hazard Index at the PMI	0.019	0.013	0.010

^aThe results represent the predicted risk for each individual emission unit in accordance with District Rule 1401.

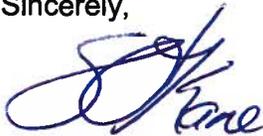
^bA source with a MICR less than one in 1 million individuals is considered to be less than significant. A chronic or acute hazard index less than 1.0 for each source is considered to be a less-than-significant health risk.

^cCancer risk values are based on the OEHHA Derived Methodology.

Also attached to this application are the dispersion modeling files and a check in the amount of \$42,416.35 for the requisite permit application filing fee.

AES looks forward to working with the District during the review of the RBEP application materials and the issuance of the District permit to construct and modified Title V operating permit.

Sincerely,

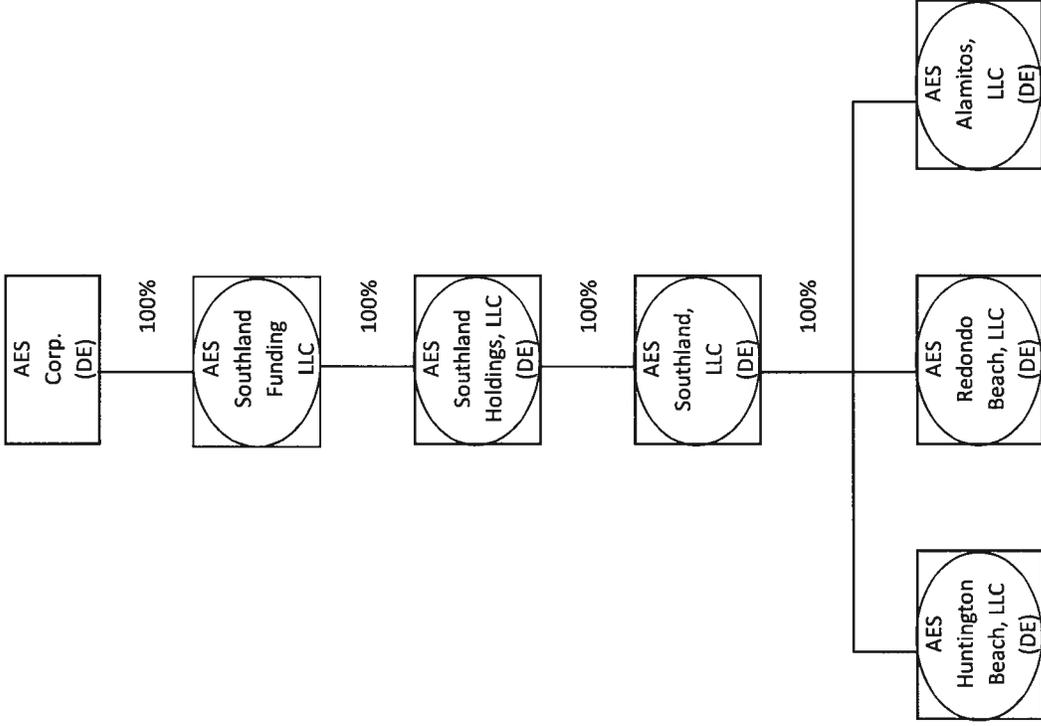


Stephen O'Kane
Manager
AES Redondo Beach, LLC
Vice-President
AES Southland Development, LLC

Attachments: Five (5) hard copies of the application materials
Five (5) dispersion modeling file DVDs

cc: Pat Kelly/CEC (cover letter only)
Jerry Salamy/CH2M HILL (cover letter only)
Robert Mason/CH2M HILL (cover letter only)
John McKinsey/Stoel Rives (cover letter only)

**AES Southland
Legal Ownership Structure**





South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765-0944, Tel: (909) 396-3385, www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: Fixed Location (selected) or Various Location
1100 North Harbor Drive
Street Address
Redondo Beach, CA 90277
City Zip
Stephen O'Kane Manager
Contact Name
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[] Check here if same as equipment location address
690 N. Studebaker Road
Address
Long Beach, CA 90803
City State Zip
Stephen O'Kane Manager
Contact Name
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section D - Application Type

6. The Facility Is: [] Not In RECLAIM or Title V [] In RECLAIM [] In Title V [X] In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: [] New Construction (Permit to Construct) [] Equipment On-Site But Not Constructed or Operational [] Equipment Operating Without A Permit * [] Compliance Plan [] Registration/Certification [] Streamlined Standard Permit
7b. Facility Permits: [X] Title V Application or Amendment (Also submit Form 500-A1) [] RECLAIM Facility Permit Amendment
7c. Equipment or Process with an Existing/Previous Application or Permit: [] Administrative Change [] Alteration/Modification [] Alteration/Modification without Prior Approval * [] Change of Condition [] Change of Condition without Prior Approval * [] Change of Location [] Change of Location without Prior Approval * [] Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number.

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Title V Revision
10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 0

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are \$500,000 or less OR a not-for-profit training center) [X] No [] Yes
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? If Yes, provide NOV/NC#: [X] No [] Yes

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? [] No [X] Yes
16. Are there any schools (K-12) within 1000 feet of the facility property line? [X] No [] Yes

Section F - Authorization/Signature

17. Signature of Responsible Official: [Signature]
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) [] No [X] Yes
20. Print Name: Stephen O'Kane
21. Date: 11/21/2012
22. Do you claim confidentiality of data? (If Yes, see instructions.) [X] No [] Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



South Coast Air Quality Management District

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Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: Fixed Location (1100 North Harbor Drive, Redondo Beach, CA 90277)
Contact Name: Stephen O'Kane, Manager
Phone #: (562) 493-7840, Fax #: (562) 493-7737
E-Mail: stephen.okane@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
690 N. Studebaker Road, Long Beach, CA 90803
Contact Name: Stephen O'Kane, Manager
Phone #: (562) 493-7840, Fax #: (562) 493-7737
E-Mail: stephen.okane@AES.com

Section D - Application Type

6. The Facility Is: In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: New Construction (Permit to Construct)
7b. Facility Permits: RECLAIM Facility Permit Amendment
7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Combined Cycle Combustion Turbines
10. For identical equipment, how many additional applications are being submitted with this application? 2

11. Are you a Small Business as per AQMD's Rule 102 definition? No
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? No

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? Yes
16. Are there any schools (K-12) within 1000 feet of the facility property line? No

Section F - Authorization/Signature

17. Signature of Responsible Official: Stephen O'Kane
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. Yes
20. Print Name: Stephen O'Kane
21. Date: 11/21/2012
22. Do you claim confidentiality of data? No

23. Check List: Authorized Signature/Date, Form 400-CEQA, Supplemental Form(s) (ie., Form 400-E-xx), Fees Enclosed

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



South Coast Air Quality Management District

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Mail To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765-0944, Tel: (909) 396-3385, www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: Fixed Location (selected) Various Location
1100 North Harbor Drive
Street Address
Redondo Beach, CA 90277
City Zip
Stephen O'Kane Manager
Contact Name Title
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
Check here if same as equipment location address
690 N. Studebaker Road
Address
Long Beach, CA 90803
City State Zip
Stephen O'Kane Manager
Contact Name Title
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section D - Application Type

6. The Facility Is: Not In RECLAIM or Title V In RECLAIM In Title V In RECLAIM & Title V Programs (selected)

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: New Construction (selected), Equipment On-Site But Not Constructed or Operational, Equipment Operating Without A Permit, Compliance Plan, Registration/Certification, Streamlined Standard Permit
7b. Facility Permits: Title V Application or Amendment, RECLAIM Facility Permit Amendment
7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change, Alteration/Modification, Change of Condition, Change of Location, Change of Location without Prior Approval, Equipment Operating with an Expired/Inactive Permit

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Combined Cycle Combustion Turbines
10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 2

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are \$500,000 or less OR a not-for-profit training center) No (selected) Yes
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? If Yes, provide NOV/NC#: No (selected) Yes

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? No Yes (selected)
16. Are there any schools (K-12) within 1000 feet of the facility property line? No (selected) Yes

Section F - Authorization/Signature I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: [Signature]
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) No Yes (selected)

20. Print Name: Stephen O'Kane
21. Date: 11/21/2012
22. Do you claim confidentiality of data? (If Yes, see instructions.) No (selected) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



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Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

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Contact Name Title
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Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

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City State Zip
Stephen O'Kane Manager
Contact Name Title
(562) 493-7840 (562) 493-7737
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Section D - Application Type

6. The Facility Is: Not In RECLAIM or Title V In RECLAIM In Title V In RECLAIM & Title V Programs (selected)

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: New Construction (selected)
7b. Facility Permits: Title V Application or Amendment (selected)
7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change, Alteration/Modification, etc.

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Combined Cycle Combustion Turbines
10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 2

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are \$500,000 or less OR a not-for-profit training center) No (selected) Yes
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? No (selected) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? No Yes (selected)
16. Are there any schools (K-12) within 1000 feet of the facility property line? No (selected) Yes

Section F - Authorization/Signature I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: [Signature]
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) No Yes (selected)

20. Print Name: Stephen O'Kane
21. Date: 4/21/2012
22. Do you claim confidentiality of data? (If Yes, see instructions.) No (selected) Yes

23. Check List: Authorized Signature/Date Form 400-CEQA Supplemental Form(s) (ie., Form 400-E-xx) Fees Enclosed

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



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Section A - Operator Information

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3. Owner's Business Name (If different from Business Name of Operator):

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Street Address
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City Zip
Stephen O'Kane Manager
Contact Name Title
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

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City State Zip
Stephen O'Kane Manager
Contact Name Title
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section D - Application Type

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7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: New Construction (selected)
7b. Facility Permits: Title V Application or Amendment (selected)
7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change, Alteration/Modification, etc.

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): SCR/Oxidation Catalyst
10. For identical equipment, how many additional applications are being submitted with this application? 2

11. Are you a Small Business as per AQMD's Rule 102 definition? No (selected)
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? No (selected)

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? Yes (selected)
16. Are there any schools (K-12) within 1000 feet of the facility property line? No (selected)

Section F - Authorization/Signature

17. Signature of Responsible Official: [Signature]
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. Yes (selected)
20. Print Name: Stephen O'Kane
21. Date: 11/21/2012
22. Do you claim confidentiality of data? No (selected)

23. Check List: Authorized Signature/Date, Form 400-CEQA, Supplemental Form(s), Fees Enclosed (all checked)

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



South Coast Air Quality Management District

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Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: Fixed Location (For equipment operated at various locations, provide address of initial site.)
1100 North Harbor Drive
Street Address
Redondo Beach, CA 90277
City Zip
Stephen O'Kane Manager
Contact Name
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
Check here if same as equipment location address
690 N. Studebaker Road
Address
Long Beach, CA 90803
City State Zip
Stephen O'Kane Manager
Contact Name
(562) 493-7840 (562) 493-7737
Phone # Ext. Fax #
E-Mail: stephen.okane@AES.com

Section D - Application Type

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7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: New Construction (Permit to Construct)
7b. Facility Permits: Title V Application or Amendment (Also submit Form 500-A1)
7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change, Alteration/Modification, etc.

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): SCR/Oxidation Catalyst
10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 2

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are \$500,000 or less OR a not-for-profit training center) No
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? If Yes, provide NOV/NC#: No

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? No
16. Are there any schools (K-12) within 1000 feet of the facility property line? No

Section F - Authorization/Signature I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: [Signature]
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) Yes

20. Print Name: Stephen O'Kane
21. Date: 11/21/2012
22. Do you claim confidentiality of data? (If Yes, see instructions.) No

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765-0944, Tel: (909) 396-3385, www.aqmd.gov

Section A - Operator Information
1. Facility Name (Business Name of Operator to Appear on the Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address
4. Equipment Location Is: Fixed Location (selected)
1100 North Harbor Drive
Redondo Beach, CA 90277
Stephen O'Kane, Manager
(562) 493-7840, (562) 493-7737
E-Mail: stephen.okane@AES.com
Section C - Permit Mailing Address
5. Permit and Correspondence Information:
690 N. Studebaker Road
Long Beach, CA 90803
Stephen O'Kane, Manager
(562) 493-7840, (562) 493-7737
E-Mail: stephen.okane@AES.com

Section D - Application Type
6. The Facility Is: In RECLAIM & Title V Programs (selected)

7. Reason for Submitting Application (Select only ONE):
7a. New Equipment or Process Application: New Construction (selected)
7b. Facility Permits: RECLAIM Facility Permit Amendment (selected)
7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change (selected)
Existing or Previous Permit/Application: If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number.

8a. Estimated Start Date of Construction (mm/dd/yyyy): 01/01/2016
8b. Estimated End Date of Construction (mm/dd/yyyy): 12/31/2020
8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/30/2019

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): SCR/Oxidation Catalyst
10. For identical equipment, how many additional applications are being submitted with this application? 2
11. Are you a Small Business as per AQMD's Rule 102 definition? No (selected)
12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? No (selected)

Section E - Facility Business Information
13. What type of business is being conducted at this equipment location? Electrical Power Generation
14. What is your business primary NAICS Code? 221112
15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? Yes (selected)
16. Are there any schools (K-12) within 1000 feet of the facility property line? No (selected)

Section F - Authorization/Signature
17. Signature of Responsible Official: [Signature]
18. Title of Responsible Official: Manager
19. I wish to review the permit prior to issuance. Yes (selected)
20. Print Name: Stephen O'Kane
21. Date: 11/21/2012
22. Do you claim confidentiality of data? No (selected)

23. Check List: Authorized Signature/Date, Form 400-CEQA, Supplemental Form(s) (ie., Form 400-E-xx), Fees Enclosed

Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN



South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765-0944, Tel: (909) 396-3385, www.aqmd.gov

Section A - Operator Information. 1. Facility Name: AES Redondo Beach, LLC. 2. Valid AQMD Facility ID: 115536. 3. Owner's Business Name: AES Redondo Beach, LLC.

Section B - Equipment Location Address and Section C - Permit Mailing Address. 4. Equipment Location: 1100 North Harbor Drive, Redondo Beach, CA 90277. 5. Permit and Correspondence Information: 690 N. Studebaker Road, Long Beach, CA 90803.

Section D - Application Type. 6. The Facility is: In RECLAIM & Title V Programs.

7. Reason for Submitting Application. 7a. New Equipment or Process Application: New Construction (Permit to Construct). 7b. Facility Permits: RECLAIM Facility Permit Amendment. 7c. Equipment or Process with an Existing/Previous Application or Permit: Administrative Change.

8a. Estimated Start Date of Construction: 01/01/2016. 8b. Estimated End Date of Construction: 12/31/2020. 8c. Estimated Start Date of Operation: 06/30/2019. 9. Description of Equipment or Reason for Compliance Plan: 19% Aqueous Ammonia Tank. 10. For identical equipment, how many additional applications are being submitted with this application? 0. 11. Are you a Small Business as per AQMD's Rule 102 definition? No. 12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? No.

Section E - Facility Business Information. 13. What type of business is being conducted at this equipment location? Electrical Power Generation. 14. What is your business primary NAICS Code? 221112. 15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? No. 16. Are there any schools (K-12) within 1000 feet of the facility property line? No.

Section F - Authorization/Signature. 17. Signature of Responsible Official: Stephen O'Kane. 18. Title of Responsible Official: Manager. 19. I wish to review the permit prior to issuance. Yes. 20. Print Name: Stephen O'Kane. 21. Date: 11/21/2012. 22. Do you claim confidentiality of data? No.

23. Check List: Authorized Signature/Date, Form 400-CEQA, Supplemental Form(s) (ie., Form 400-E-xx), Fees Enclosed. Table with columns: AQMD USE ONLY, APPLICATION TRACKING #, CHECK #, AMOUNT RECEIVED \$, PAYMENT TRACKING #, VALIDATION, DATE, APP REJ, DATE, APP REJ, CLASS I III, BASIC CONTROL, EQUIPMENT CATEGORY CODE, TEAM, ENGINEER, REASON/ACTION TAKEN.



Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765-0944, Tel: (909) 396-3385, www.aqmd.gov

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].

Section A - Facility Information
1. Facility Name (Business Name of Operator To Appear On The Permit): AES Redondo Beach, LLC
2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
3. Project Description: 530 MW Natural Gas Fired Combined Cycle Facility

Section B - Review For Exemption From Further CEQA Action
Check "Yes" or "No" as applicable
Table with 8 rows of questions regarding CEQA document preparation, permit changes, and Title V permits.

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA
Complete Parts I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.
Table with 4 rows of questions regarding public controversy, larger projects, and construction activities.

1 A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

2 To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.
3 To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	Part II - Air Quality (cont.)
5.	<input type="radio"/>	<input type="radio"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	<input type="radio"/>	<input type="radio"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="radio"/>	<input type="radio"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 17⁴
Part III – Water Resources			
8.	<input type="radio"/>	<input type="radio"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="radio"/>	<input type="radio"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Part IV – Transportation/Circulation			
10.	Will the project result in (Check all that apply):		
	<input type="radio"/>	<input type="radio"/>	a. the need for more than 350 new employees?
	<input type="radio"/>	<input type="radio"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="radio"/>	<input type="radio"/>	c. increase customer traffic by more than 700 visits per day?
Part V – Noise			
11.	<input type="radio"/>	<input type="radio"/>	Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?
Part VI – Public Services			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="radio"/>	<input type="radio"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="radio"/>	<input type="radio"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
REMINDER: For each "Yes" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.			
Section D - Signatures			
I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.			
1. Signature of Responsible Official of Firm: 		2. Title of Responsible Official of Firm: Manager	
3. Print Name of Responsible Official of Firm: Stephen O'Kane		4. Date Signed: 11/21/2012	
5. Phone # of Responsible Official of Firm: (562) 493-7840	6. Fax # of Responsible Official of Firm: (562) 493-7737	7. Email of Responsible Official of Firm: stephen.okane@AES.com	
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer:	
10. Print Name of Preparer: Same as above.		11. Date Signed:	
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:	

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND ANY ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



Form 400-E-5
Selective Catalytic Reduction (SCR) System,
Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC
Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 1100 North Harbor Drive, Redondo Beach, CA 90277
Fixed Location (checked) Various Locations (unchecked)

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst
Manufacturer: TBD Catalyst Active Material: Titanium/Vanadium/Tungsten
Model Number: TBD Type: ceramic honeycomb
Size of Each Layer or Module: L: 46 ft. 9 in. W: 2 ft. 1.25 in. H: 28 ft. 9 in.
No. of Layers or Modules: 1 Total Volume: 2803.54 cu. ft. Total Weight: 78000 lbs.

Reducing Agent
Urea (unchecked) Anhydrous Ammonia (unchecked) Aqueous Ammonia 19.00 % (checked)
Injection Rate: 255.8 lb/hr

Reducing Agent Storage *
Diameter: 6 ft. Height: 28 ft. 5 in. Capacity: 24000 gal
Pressure Setting: 50 psia * A separate permit may be needed for the storage equipment.

Space Velocity
Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity
Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee
NOx: 2.0 ppm %O2: 15.00 NOx: gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 %O2

Catalyst Life
3 years (expected)

Cost
Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Catalyst Replacement Cost: \$569650

Oxidation Catalyst

Oxidation Catalyst
Manufacturer: TBD Catalyst Active Material: Palladium
Model Number: TBD Type: ceramic honeycomb
Size of Each Layer or Module: L: 2 ft. 2 in. W: 2 ft. 2 in. H: 2 ft. 2 in.
No. of Layers or Modules: 260 Total Volume: 203.43 cu. ft. Total Weight: lbs.

Space Velocity
Gas Flow Rate/Catalyst Volume: 552465 per hour

Manufacturer's Guarantee
VOC: 1.0 ppm VOC: gm/bhp-hr %O2: 15.00
CO: 2.0 ppm CO: gm/bhp-hr %O2: 15.00

Catalyst Life
3 years (expected)

Cost
Capital Cost: \$595,000.00 Installation Cost: \$45,000.00 Catalyst Replacement Cost: \$491250

**Form 400-E-5
Selective Catalytic Reduction (SCR) System,
Oxidation Catalyst, and Ammonia Catalyst**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)													
Ammonia Catalyst													
Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.												
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour												
Manufacturer's Guarantee	NH ₃ : _____ ppm %O ₂ : _____												
Catalyst Life	_____ years (expected)												
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____												
Section C - Operation Information													
Operating Temperature	Minimum Inlet Temperature: _____ 500 °F (from cold start) Maximum Temperature: _____ 700 °F Warm-up Time: _____ 1 hr. _____ 30 min. (maximum)												
Operating Schedule	Normal: _____ 24 hours/day _____ 7 days/week _____ 40 weeks/yr Maximum: _____ 24 hours/day _____ 7 days/week _____ 52 weeks/yr												
Section D - Authorization/Signature													
I hereby certify that all information contained herein and information submitted with this application is true and correct.													
Preparer Info	<table style="width:100%; border: none;"> <tr> <td style="width: 30%;">Signature: _____</td> <td style="width: 20%;">Date: _____</td> <td style="width: 50%;">Name: _____</td> </tr> <tr> <td>Title: _____</td> <td>Company Name: _____</td> <td>Phone #: _____</td> </tr> <tr> <td>Manager</td> <td>AES-Southland</td> <td>Fax #: _____</td> </tr> <tr> <td></td> <td></td> <td>Email: _____</td> </tr> </table>	Signature: _____	Date: _____	Name: _____	Title: _____	Company Name: _____	Phone #: _____	Manager	AES-Southland	Fax #: _____			Email: _____
Signature: _____	Date: _____	Name: _____											
Title: _____	Company Name: _____	Phone #: _____											
Manager	AES-Southland	Fax #: _____											
		Email: _____											
Contact Info	<table style="width:100%; border: none;"> <tr> <td style="width: 50%;">Name: _____</td> <td style="width: 25%;">Phone #: _____</td> <td style="width: 25%;">Fax #: _____</td> </tr> <tr> <td>Title: _____</td> <td colspan="2">Email: _____</td> </tr> <tr> <td>Company Name: _____</td> <td colspan="2"></td> </tr> </table>	Name: _____	Phone #: _____	Fax #: _____	Title: _____	Email: _____		Company Name: _____					
Name: _____	Phone #: _____	Fax #: _____											
Title: _____	Email: _____												
Company Name: _____													

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information.



South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System,
Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
 SCAQMD
 P.O. Box 4944
 Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
 www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):
1100 North Harbor Drive, Redondo Beach, CA 90277 Fixed Location Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst	Manufacturer: <u>TBD</u> Catalyst Active Material: <u>Titanium/Vanadium/Tungsten</u>
	Model Number: <u>TBD</u> Type: <u>ceramic honeycomb</u>
	Size of Each Layer or Module: L: <u>46</u> ft. <u>9</u> in. W: <u>2</u> ft. <u>1.25</u> in. H: <u>28</u> ft. <u>9</u> in.
	No. of Layers or Modules: <u>1</u> Total Volume: <u>2803.54</u> cu. ft. Total Weight: <u>78000</u> lbs.
Reducing Agent	<input type="radio"/> Urea <input type="radio"/> Anhydrous Ammonia <input checked="" type="radio"/> Aqueous Ammonia <u>19.00</u> % Injection Rate: <u>255.8</u> lb/hr
Reducing Agent Storage *	Diameter: <u>6</u> ft. _____ in. Height: <u>28</u> ft. <u>5</u> in. Capacity: <u>24000</u> gal Pressure Setting: <u>50</u> psia * A separate permit may be needed for the storage equipment.
Space Velocity	Gas Flow Rate/Catalyst Volume: <u>40450</u> per hour
Area Velocity	Gas Flow Rate/Wetted Catalyst Surface Area: <u>85113</u> ft/hr
Manufacturer's Guarantee	NOx: <u>2.0</u> ppm %O ₂ : <u>15.00</u> NOx: _____ gm/bhp-hr Ammonia Slip: <u>5</u> ppm @ <u>15.00</u> %O ₂
Catalyst Life	<u>3</u> years (expected)
Cost	Capital Cost: <u>\$506,000.00</u> Installation Cost: <u>\$50,000.00</u> Catalyst Replacement Cost: <u>\$569650</u>

Oxidation Catalyst

Oxidation Catalyst	Manufacturer: <u>TBD</u> Catalyst Active Material: <u>Palladium</u>
	Model Number: <u>TBD</u> Type: <u>ceramic honeycomb</u>
	Size of Each Layer or Module: L: <u>2</u> ft. <u>2</u> in. W: _____ ft. <u>2</u> in. H: <u>2</u> ft. <u>2</u> in.
	No. of Layers or Modules: <u>260</u> Total Volume: <u>203.43</u> cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: <u>552465</u> per hour
Manufacturer's Guarantee	VOC: <u>1.0</u> ppm VOC: _____ gm/bhp-hr %O ₂ : <u>15.00</u> CO: <u>2.0</u> ppm CO: _____ gm/bhp-hr %O ₂ : <u>15.00</u>
Catalyst Life	<u>3</u> years (expected)
Cost	Capital Cost: <u>\$595,000.00</u> Installation Cost: <u>\$45,000.00</u> Catalyst Replacement Cost: <u>\$491250</u>

Form 400-E-5

Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

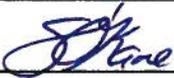
Ammonia Catalyst	
Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour
Manufacturer's Guarantee	NH ₃ : _____ ppm %O ₂ : _____
Catalyst Life	_____ years (expected)
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature	Minimum Inlet Temperature: _____ 500 °F (from cold start) Maximum Temperature: _____ 700 °F Warm-up Time: _____ 1 hr. _____ 30 min. (maximum)
Operating Schedule	Normal: _____ 24 hours/day _____ 7 days/week _____ 40 weeks/yr Maximum: _____ 24 hours/day _____ 7 days/week _____ 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature:  Date: <u>11/21/2012</u> Title: _____ Company Name: <u>Reynolds Beach, LLC</u> <u>Manager</u> <u>AES Southland</u>	Name: <u>Stephen O'Kane</u> Phone #: <u>(562) 493-7840</u> Fax #: <u>(562) 493-7737</u> Email: <u>stephen.okane@AES.com</u>
Contact Info	Name: <u>Same as Preparer</u> Phone #: _____ Fax #: _____ Title: _____ Company Name: _____ Email: _____	

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South Coast Air Quality Management District

**Form 400-E-5
Selective Catalytic Reduction (SCR) System,
Oxidation Catalyst, and Ammonia Catalyst**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):
1100 North Harbor Drive, Redondo Beach, CA 90277 Fixed Location Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst	Manufacturer: <u>TBD</u> Catalyst Active Material: <u>Titanium/Vanadium/Tungsten</u>
	Model Number: <u>TBD</u> Type: <u>ceramic honeycomb</u>
	Size of Each Layer or Module: L: <u>46</u> ft. <u>9</u> in. W: <u>2</u> ft. <u>1.25</u> in. H: <u>28</u> ft. <u>9</u> in.
	No. of Layers or Modules: <u>1</u> Total Volume: <u>2803.54</u> cu. ft. Total Weight: <u>78000</u> lbs.
Reducing Agent	<input type="radio"/> Urea <input type="radio"/> Anhydrous Ammonia <input checked="" type="radio"/> Aqueous Ammonia <u>19.00</u> % Injection Rate: <u>255.8</u> lb/hr
Reducing Agent Storage *	Diameter: <u>6</u> ft. in. Height: <u>28</u> ft. <u>5</u> in. Capacity: <u>24000</u> gal Pressure Setting: <u>50</u> psia * A separate permit may be needed for the storage equipment.
Space Velocity	Gas Flow Rate/Catalyst Volume: <u>40450</u> per hour
Area Velocity	Gas Flow Rate/Wetted Catalyst Surface Area: <u>85113</u> ft/hr
Manufacturer's Guarantee	NOx: <u>2.0</u> ppm %O ₂ : <u>15.00</u> NOx: _____ gm/bhp-hr Ammonia Slip: <u>5</u> ppm @ <u>15.00</u> %O ₂
Catalyst Life	<u>3</u> years (expected)
Cost	Capital Cost: <u>\$506,000.00</u> Installation Cost: <u>\$50,000.00</u> Catalyst Replacement Cost: <u>\$569650</u>

Oxidation Catalyst

Oxidation Catalyst	Manufacturer: <u>TBD</u> Catalyst Active Material: <u>Palladium</u>
	Model Number: <u>TBD</u> Type: <u>ceramic honeycomb</u>
	Size of Each Layer or Module: L: <u>2</u> ft. <u>2</u> in. W: _____ ft. <u>2</u> in. H: <u>2</u> ft. <u>2</u> in.
	No. of Layers or Modules: <u>260</u> Total Volume: <u>203.43</u> cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: <u>552465</u> per hour
Manufacturer's Guarantee	VOC: <u>1.0</u> ppm VOC: _____ gm/bhp-hr %O ₂ : <u>15.00</u> CO: <u>2.0</u> ppm CO: _____ gm/bhp-hr %O ₂ : <u>15.00</u>
Catalyst Life	<u>3</u> years (expected)
Cost	Capital Cost: <u>\$595,000.00</u> Installation Cost: <u>\$45,000.00</u> Catalyst Replacement Cost: <u>\$491250</u>

**Form 400-E-5
Selective Catalytic Reduction (SCR) System,
Oxidation Catalyst, and Ammonia Catalyst**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)																
Ammonia Catalyst																
Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.															
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour															
Manufacturer's Guarantee	NH ₃ : _____ ppm %O ₂ : _____															
Catalyst Life	_____ years (expected)															
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____															
Section C - Operation Information																
Operating Temperature	Minimum Inlet Temperature: _____ 500 _____ °F (from cold start) Maximum Temperature: _____ 700 _____ °F Warm-up Time: _____ 1 _____ hr. _____ 30 _____ min. (maximum)															
Operating Schedule	Normal: _____ 24 _____ hours/day _____ 7 _____ days/week _____ 40 _____ weeks/yr Maximum: _____ 24 _____ hours/day _____ 7 _____ days/week _____ 52 _____ weeks/yr															
Section D - Authorization/Signature																
I hereby certify that all information contained herein and information submitted with this application is true and correct.																
Preparer Info	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Signature: _____</td> <td style="border: none;">Date: _____</td> <td style="border: none;">Name: _____</td> </tr> <tr> <td style="border: none;">Title: _____</td> <td style="border: none;">Company Name: _____</td> <td style="border: none;">Phone #: _____ Fax #: _____</td> </tr> <tr> <td style="border: none;">Manager</td> <td style="border: none;">AES Southland</td> <td style="border: none;">(562) 493-7840 (562) 493-7737</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">Email: _____</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">stephen.okane@AES.com</td> </tr> </table>	Signature: _____	Date: _____	Name: _____	Title: _____	Company Name: _____	Phone #: _____ Fax #: _____	Manager	AES Southland	(562) 493-7840 (562) 493-7737			Email: _____			stephen.okane@AES.com
Signature: _____	Date: _____	Name: _____														
Title: _____	Company Name: _____	Phone #: _____ Fax #: _____														
Manager	AES Southland	(562) 493-7840 (562) 493-7737														
		Email: _____														
		stephen.okane@AES.com														
Contact Info	<table style="width:100%; border: none;"> <tr> <td style="border: none;">Name: _____</td> <td style="border: none;">Phone #: _____</td> <td style="border: none;">Fax #: _____</td> </tr> <tr> <td style="border: none;">Title: _____</td> <td style="border: none;">Company Name: _____</td> <td style="border: none;">Email: _____</td> </tr> </table>	Name: _____	Phone #: _____	Fax #: _____	Title: _____	Company Name: _____	Email: _____									
Name: _____	Phone #: _____	Fax #: _____														
Title: _____	Company Name: _____	Email: _____														

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Check here if you claim that this form or its attachments contain confidential trade secret information.



**Form 400-E-12
Gas Turbine**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 115536

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):
1100 North Harbor Drive, Redondo Beach, CA 90277 **Fixed Location** **Various Locations**

Section B - Equipment Description

Turbine	Manufacturer: <u>Mitsubishi Power System Americas</u> Model: <u>501DA</u> Serial No.: <u>TBD</u>
	Size (based on Higher Heating Value - HHV):
	Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh Manufacturer Maximum Output Rating: <u>1,492.00</u> MMBTU/hr <u>130,830.00</u> kWh
Function (Check all that apply)	<input checked="" type="checkbox"/> Electrical Generation <input type="checkbox"/> Driving Pump/Compressor <input type="checkbox"/> Emergency Peaking Unit <input checked="" type="checkbox"/> Steam Generation <input type="checkbox"/> Exhaust Gas Recovery <input type="checkbox"/> Other (specify): _____
Cycle Type	<input type="radio"/> Simply Cycle <input type="radio"/> Regenerative Cycle <input checked="" type="radio"/> Combined Cycle <input type="radio"/> Other (specify): _____
Combustion Type	<input type="radio"/> Tubular <input checked="" type="radio"/> Can-Annular <input type="radio"/> Annular
Fuel (Turbine)	<input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> LPG <input type="checkbox"/> Digester Gas* <input type="checkbox"/> Landfill Gas* <input type="checkbox"/> Propane <input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____ <small>* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).</small>
Heat Recovery Steam Generator (HRSG)	Steam Turbine Capacity: <u>152</u> MW Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F High Pressure Steam Output Capacity: <u>1232500</u> lb/hr @ <u>959</u> °F Superheated Steam Output Capacity: _____ lb/hr @ _____ °F
Duct Burner	Manufacturer: <u>TBD</u> Model: <u>TBD</u> Number of burners: _____ Rating of each burner (HHV): <u>507</u> Type: <input checked="" type="radio"/> Low NOx (please attach manufacturer's specifications) <input type="radio"/> Other: _____ <small>Show all heat transfer surface locations with the HRSG and temperature profile</small>
Fuel (Duct Burner)	<input checked="" type="radio"/> Natural Gas <input type="radio"/> LPG <input type="radio"/> Digester Gas* <input type="radio"/> Landfill Gas* <input type="radio"/> Propane <input type="radio"/> Refinery Gas* <input type="radio"/> Other*: _____ <small>* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).</small>

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control	<input type="radio"/> Selective Catalytic Reduction (SCR)* <input type="radio"/> Selective Non-Catalytic Reduction (SNCR)* <input checked="" type="radio"/> Oxidation Catalyst* <input type="radio"/> Other (specify)*: _____ <input type="radio"/> Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel * Separate application is required. Capital Cost: <u>\$595,000.00</u> Installation Cost: <u>\$45,000.00</u> Annual Operating Cost: _____
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Oxidation Catalyst Data (If Applicable)	Manufacturer: <u>TBD</u> Model: <u>TBD</u> Catalyst Dimensions: Length: <u>2</u> ft. <u>2</u> in. Width: _____ ft. _____ in. Height: <u>2</u> ft. <u>2</u> in. Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: <u>2.0</u> Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: <u>3</u> yrs VOC Control Efficiency: _____ % Operating Temp. Range: <u>500</u> °F Space Velocity (gas flow rate/catalyst volume): <u>552465</u> Area Velocity (gas flow/wetted catalyst surface area): <u>92078</u> VOC Concentration into Catalyst: <u>1</u> PPMVD@ 15%O ₂ CO Concentration inot Catalyst: <u>2</u> PPMVD@ 15%O ₂
--	--

Section C - Operation Information

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
ROG			1.0	2.5
NOx			2.0	14.3
CO			2.0	8.70
PM ₁₀				9.5
SOx				2.63
NH ₃			5	13.2

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):
 Manufacturer Emission Data EPA Emission Factors AQMD Emission Factors Source Test

Stack or Vent Data	Stack Height: <u>140</u> ft. <u>0</u> in. Stack Diameter: <u>18</u> ft. <u>0</u> in. Exhaust Temperature: <u>400</u> °F Exhaust Pressure: _____ inches water column Exhaust Flow Rate: <u>1140216</u> CFM Oxygen Level: <u>13.56</u> %
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Form 400-E-12

Gas Turbine

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Section C - Operation Information (cont.)					
Startup Data	No. of Startups per day: <u>3</u> No. of Startups per year: <u>624</u> Duration of each startup: <u>1.5</u> hrs.				
Shutdown Data	No. of Shutdowns per day: <u>3</u> No. of Shutdowns per year: <u>624</u> Duration of each Shutdown: <u>0.54</u> hrs.				
Startup and Shutdown Emissions Data	Pollutants	Startup Emissions		Shutdown Emissions	
		PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
	ROG		27.3		32.5
	NO _x		25.4		17.8
	CO		113.9		50.7
	PM ₁₀		9.5		4.5
	SO _x		2.63		1.96
Monitoring and Reporting	Continuous Emission Monitoring System (CEMS): CEMS Make: <u>TBD</u>				
	CEMS Model: <u>TBD</u>				
	Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input checked="" type="radio"/> Yes <input type="radio"/> No				
The following parameters will be continuously monitored:					
<input checked="" type="checkbox"/> NO _x <input checked="" type="checkbox"/> CO <input checked="" type="checkbox"/> O ₂					
<input checked="" type="checkbox"/> Fuel Flow Rate <input checked="" type="checkbox"/> Ammonia Injection Rate <input type="checkbox"/> Other (specify): _____					
<input checked="" type="checkbox"/> Ammonia Stack Concentration: Ammonia CEMS Make: <u>TBD</u>					
Ammonia CEMS Model: <u>TBD</u>					
Operating Schedule	Normal:	<u>24</u> hours/day	<u>7</u> days/week	<u>40</u> weeks/yr	
	Maximum:	<u>24</u> hours/day	<u>7</u> days/week	<u>52</u> weeks/yr	
Section D - Authorization/Signature					
I hereby certify that all information contained herein and information submitted with this application is true and correct.					
Preparer Info	Signature: 	Date: <u>4/21/2012</u>	Name: <u>Stephen O'Kane</u>		
	Title: <u>Manager</u>	Company Name: <u>AES Southland Develop</u>	Phone #: <u>(562) 493-7840</u>	Fax #: <u>(562) 493-7737</u>	
Contact Info	Name: <u>Same as Preparer</u>		Phone #: _____		
	Title: _____		Fax #: _____		
Company Name: _____		Email: _____			

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**Form 400-E-12
Gas Turbine**

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Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): <u>AES Redondo Beach, LLC</u>	Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): <u>115536</u>
Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): <u>1100 North Harbor Drive, Redondo Beach, CA 90277</u> <input checked="" type="radio"/> Fixed Location <input type="radio"/> Various Locations	

Section B - Equipment Description

Turbine	Manufacturer: <u>Mitsubishi Power System Americas</u>	Model: <u>501DA</u>	Serial No.: <u>TBD</u>
	Size (based on Higher Heating Value - HHV):		
	Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh		
Manufacturer Maximum Output Rating: <u>1,492.00</u> MMBTU/hr <u>130,830.00</u> kWh			
Function (Check all that apply)	<input checked="" type="checkbox"/> Electrical Generation	<input type="checkbox"/> Driving Pump/Compressor	<input type="checkbox"/> Emergency Peaking Unit
	<input checked="" type="checkbox"/> Steam Generation	<input type="checkbox"/> Exhaust Gas Recovery	<input type="checkbox"/> Other (specify): _____
Cycle Type	<input type="radio"/> Simply Cycle	<input type="radio"/> Regenerative Cycle	
	<input checked="" type="radio"/> Combined Cycle	<input type="radio"/> Other (specify): _____	
Combustion Type	<input type="radio"/> Tubular	<input checked="" type="radio"/> Can-Annular	<input type="radio"/> Annular
Fuel (Turbine)	<input checked="" type="checkbox"/> Natural Gas	<input type="checkbox"/> LPG	<input type="checkbox"/> Digester Gas*
	<input type="checkbox"/> Landfill Gas*	<input type="checkbox"/> Propane	<input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).			
Heat Recovery Steam Generator (HRSG)	Steam Turbine Capacity: <u>152</u> MW		
	Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F		
	High Pressure Steam Output Capacity: <u>1232500</u> lb/hr @ <u>959</u> °F		
	Superheated Steam Output Capacity: _____ lb/hr @ _____ °F		
Duct Burner	Manufacturer: <u>TBD</u>	Model: <u>TBD</u>	
	Number of burners: _____		Rating of each burner (HHV): <u>507</u>
	Type: <input checked="" type="radio"/> Low NOx (please attach manufacturer's specifications)		
	<input type="radio"/> Other: _____ Show all heat transfer surface locations with the HRSG and temperature profile		
Fuel (Duct Burner)	<input checked="" type="radio"/> Natural Gas	<input type="radio"/> LPG	<input type="radio"/> Digester Gas*
	<input type="radio"/> Landfill Gas*	<input type="radio"/> Propane	<input type="radio"/> Refinery Gas* <input type="radio"/> Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).			

**Form 400-E-12
Gas Turbine**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control	<input type="radio"/> Selective Catalytic Reduction (SCR)* <input type="radio"/> Selective Non-Catalytic Reduction (SNCR)* <input checked="" type="radio"/> Oxidation Catalyst* <input type="radio"/> Other (specify)*: _____ <input type="radio"/> Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel * Separate application is required.
	Capital Cost: <u>\$595,000.00</u> Installation Cost: <u>\$45,000.00</u> Annual Operating Cost: _____

Oxidation Catalyst Data (If Applicable)	Manufacturer: <u>TBD</u> Model: <u>TBD</u>
	Catalyst Dimensions: Length: <u>2</u> ft. <u>2</u> in. Width: _____ ft. _____ in. Height: <u>2</u> ft. <u>2</u> in.
	Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: <u>2.0</u>
	Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: <u>3</u> yrs VOC Control Efficiency: _____ % Operating Temp. Range: <u>500</u> °F
	Space Velocity (gas flow rate/catalyst volume): <u>552465</u> Area Velocity (gas flow/wetted catalyst surface area): <u>92078</u> VOC Concentration into Catalyst: <u>1</u> PPMVD@ 15%O ₂ CO Concentration inot Catalyst: <u>2</u> PPMVD@ 15%O ₂

Section C - Operation Information

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
ROG			1.0	2.5
NOx			2.0	14.3
CO			2.0	8.70
PM ₁₀				9.5
SOx				2.63
NH ₃			5	13.2

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):
 Manufacturer Emission Data EPA Emission Factors AQMD Emission Factors Source Test

Stack or Vent Data	Stack Height: <u>140</u> ft. <u>0</u> in. Stack Diameter: <u>18</u> ft. <u>0</u> in.
	Exhaust Temperature: <u>400</u> °F Exhaust Pressure: _____ inches water column
	Exhaust Flow Rate: <u>1140216</u> CFM Oxygen Level: <u>13.56</u> %

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Operation Information (cont.)

Startup Data	No. of Startups per day: <u>3</u> No. of Startups per year: <u>624</u> Duration of each startup: <u>1.5</u> hrs.				
Shutdown Data	No. of Shutdowns per day: <u>3</u> No. of Shutdowns per year: <u>624</u> Duration of each Shutdown: <u>0.54</u> hrs.				
Startup and Shutdown Emissions Data	Startup Emissions		Shutdown Emissions		
	Pollutants	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
	ROG		27.3		32.5
	NO _x		25.4		17.8
	CO		113.9		50.7
	PM ₁₀		9.5		4.5
	SO _x		2.63		1.96
Monitoring and Reporting	Continuous Emission Monitoring System (CEMS): CEMS Make: <u>TBD</u>				
	CEMS Model: <u>TBD</u>				
	Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input checked="" type="radio"/> Yes <input type="radio"/> No				
Operating Schedule	The following parameters will be continuously monitored:				
	<input checked="" type="checkbox"/> NO _x	<input checked="" type="checkbox"/> CO	<input checked="" type="checkbox"/> O ₂		
	<input checked="" type="checkbox"/> Fuel Flow Rate	<input checked="" type="checkbox"/> Ammonia Injection Rate	<input type="checkbox"/> Other (specify): _____		
	<input checked="" type="checkbox"/> Ammonia Stack Concentration:	Ammonia CEMS Make: <u>TBD</u>			
		Ammonia CEMS Model: <u>TBD</u>			
Operating Schedule	Normal:	<u>24</u> hours/day	<u>7</u> days/week	<u>40</u> weeks/yr	
	Maximum:	<u>24</u> hours/day	<u>7</u> days/week	<u>52</u> weeks/yr	

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: <u></u>	Date: <u>11/21/2012</u>	Name: <u>Stephen O'Kane</u>
	Title: <u>Manager</u>	Company Name: <u>AES Southland Develop</u>	Phone #: <u>(562) 493-7840</u> Fax #: <u>(562) 493-7737</u>
Contact Info	Name: <u>Same as Preparer</u>	Phone #: _____	Fax #: _____
	Title: _____	Company Name: _____	Email: _____

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Gas Turbine**

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Tel: (909) 396-3385
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Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): <u>AES Redondo Beach, LLC</u>	Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): <u>115536</u>
Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): <u>1100 North Harbor Drive, Redondo Beach, CA 90277</u>	
<input checked="" type="radio"/> Fixed Location <input type="radio"/> Various Locations	

Section B - Equipment Description

Turbine	Manufacturer: <u>Mitsubishi Power System Americas</u>	Model: <u>501DA</u>	Serial No.: <u>TBD</u>
	Size (based on Higher Heating Value - HHV):		
	Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh	Manufacturer Maximum Output Rating: <u>1,492.00</u> MMBTU/hr <u>130,830.00</u> kWh	
Function (Check all that apply)	<input checked="" type="checkbox"/> Electrical Generation	<input type="checkbox"/> Driving Pump/Compressor	<input type="checkbox"/> Emergency Peaking Unit
	<input checked="" type="checkbox"/> Steam Generation	<input type="checkbox"/> Exhaust Gas Recovery	<input type="checkbox"/> Other (specify): _____
Cycle Type	<input type="checkbox"/> Simply Cycle	<input type="checkbox"/> Regenerative Cycle	
	<input checked="" type="checkbox"/> Combined Cycle	<input type="checkbox"/> Other (specify): _____	
Combustion Type	<input type="checkbox"/> Tubular	<input checked="" type="checkbox"/> Can-Annular	<input type="checkbox"/> Annular
Fuel (Turbine)	<input checked="" type="checkbox"/> Natural Gas	<input type="checkbox"/> LPG	<input type="checkbox"/> Digester Gas*
	<input type="checkbox"/> Landfill Gas*	<input type="checkbox"/> Propane	<input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).			
Heat Recovery Steam Generator (HRSG)	Steam Turbine Capacity: <u>152</u> MW		
	Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F		
	High Pressure Steam Output Capacity: <u>1232500</u> lb/hr @ <u>959</u> °F		
	Superheated Steam Output Capacity: _____ lb/hr @ _____ °F		
Duct Burner	Manufacturer: <u>TBD</u>	Model: <u>TBD</u>	
	Number of burners: _____		Rating of each burner (HHV): <u>507</u>
	Type: <input checked="" type="radio"/> Low NOx (please attach manufacturer's specifications)		
	<input type="radio"/> Other: _____ Show all heat transfer surface locations with the HRSG and temperature profile		
Fuel (Duct Burner)	<input checked="" type="checkbox"/> Natural Gas	<input type="checkbox"/> LPG	<input type="checkbox"/> Digester Gas*
	<input type="checkbox"/> Landfill Gas*	<input type="checkbox"/> Propane	<input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).			

**Form 400-E-12
Gas Turbine**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control	<input type="radio"/> Selective Catalytic Reduction (SCR)* <input type="radio"/> Selective Non-Catalytic Reduction (SNCR)* <input checked="" type="radio"/> Oxidation Catalyst* <input type="radio"/> Other (specify)*: _____ <input type="radio"/> Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel * Separate application is required.
	Capital Cost: <u>\$595,000.00</u> Installation Cost: <u>\$45,000.00</u> Annual Operating Cost: _____

Oxidation Catalyst Data (If Applicable)	Manufacturer: <u>TBD</u> Model: <u>TBD</u>
	Catalyst Dimensions: Length: <u>2</u> ft. <u>2</u> in. Width: _____ ft. _____ in. Height: <u>2</u> ft. <u>2</u> in.
	Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: <u>2.0</u>
	Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: <u>3</u> yrs VOC Control Efficiency: _____ % Operating Temp. Range: <u>500</u> °F
	Space Velocity (gas flow rate/catalyst volume): <u>552465</u> Area Velocity (gas flow/wetted catalyst surface area): <u>92078</u> VOC Concentration into Catalyst: <u>1</u> PPMVD@ 15%O ₂ CO Concentration inot Catalyst: <u>2</u> PPMVD@ 15%O ₂

Section C - Operation Information

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
ROG			1.0	2.5
NOx			2.0	14.3
CO			2.0	8.70
PM ₁₀				9.5
SOx				2.63
NH ₃			5	13.2

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):
 Manufacturer Emission Data EPA Emission Factors AQMD Emission Factors Source Test

Stack or Vent Data	Stack Height: <u>140</u> ft. <u>0</u> in. Stack Diameter: <u>18</u> ft. <u>0</u> in.
	Exhaust Temperature: <u>400</u> °F Exhaust Pressure: _____ inches water column
	Exhaust Flow Rate: <u>1140216</u> CFM Oxygen Level: <u>13.56</u> %

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Operation Information (cont.)

Startup Data	No. of Startups per day: <u>3</u> No. of Startups per year: <u>624</u> Duration of each startup: <u>1.5</u> hrs.				
Shutdown Data	No. of Shutdowns per day: <u>3</u> No. of Shutdowns per year: <u>624</u> Duration of each Shutdown: <u>0.54</u> hrs.				
Startup and Shutdown Emissions Data	Pollutants	Startup Emissions		Shutdown Emissions	
			PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry
	ROG		27.3		32.5
	NO _x		25.4		17.8
	CO		113.9		50.7
	PM ₁₀		9.5		4.5
	SO _x		2.63		1.96
Monitoring and Reporting	Continuous Emission Monitoring System (CEMS): CEMS Make: <u>TBD</u>				
	CEMS Model: <u>TBD</u>				
	Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input checked="" type="radio"/> Yes <input type="radio"/> No				
	The following parameters will be continuously monitored:				
	<input checked="" type="checkbox"/> NO _x	<input checked="" type="checkbox"/> CO	<input checked="" type="checkbox"/> O ₂		
	<input checked="" type="checkbox"/> Fuel Flow Rate	<input checked="" type="checkbox"/> Ammonia Injection Rate	<input type="checkbox"/> Other (specify): _____		
	<input checked="" type="checkbox"/> Ammonia Stack Concentration:		Ammonia CEMS Make: <u>TBD</u>		
	Ammonia CEMS Model: <u>TBD</u>				
Operating Schedule	Normal:	<u>24</u> hours/day	<u>7</u> days/week	<u>40</u> weeks/yr	
	Maximum:	<u>24</u> hours/day	<u>7</u> days/week	<u>52</u> weeks/yr	

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: <u><i>S. Kane</i></u>	Date: <u>4/24/2012</u>	Name: <u>Stephen O'Kane</u>
	Title: <u>Manager</u>	Company Name: <u>AES Southland Develop</u>	Phone #: <u>(562) 493-7840</u> Fax #: <u>(562) 493-7737</u>
Contact Info	Name: <u>Same as Preparer</u>	Phone #: _____	Fax #: _____
	Title: _____	Company Name: _____	Email: _____

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information.



**Form 400-E-12
Gas Turbine**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):
1100 North Harbor Drive, Redondo Beach, CA 90277 Fixed Location Various Locations

Section B - Equipment Description

Turbine	Manufacturer: <u>Mitsubishi Power System Americas</u> Model: <u>501DA</u> Serial No.: <u>TBD</u>
	Size (based on Higher Heating Value - HHV):
	Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh Manufacturer Maximum Output Rating: <u>1,492.00</u> MMBTU/hr <u>130,830.00</u> kWh
Function (Check all that apply)	<input checked="" type="checkbox"/> Electrical Generation <input type="checkbox"/> Driving Pump/Compressor <input type="checkbox"/> Emergency Peaking Unit <input checked="" type="checkbox"/> Steam Generation <input type="checkbox"/> Exhaust Gas Recovery <input type="checkbox"/> Other (specify): _____
Cycle Type	<input type="checkbox"/> Simply Cycle <input type="checkbox"/> Regenerative Cycle <input checked="" type="radio"/> Combined Cycle <input type="radio"/> Other (specify): _____
Combustion Type	<input type="radio"/> Tubular <input checked="" type="radio"/> Can-Annular <input type="radio"/> Annular
Fuel (Turbine)	<input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> LPG <input type="checkbox"/> Digester Gas* <input type="checkbox"/> Landfill Gas* <input type="checkbox"/> Propane <input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____ <small>* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).</small>
Heat Recovery Steam Generator (HRSG)	Steam Turbine Capacity: <u>152</u> MW Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F High Pressure Steam Output Capacity: <u>1232500</u> lb/hr @ <u>959</u> °F Superheated Steam Output Capacity: _____ lb/hr @ _____ °F
Duct Burner	Manufacturer: <u>TBD</u> Model: <u>TBD</u> Number of burners: _____ Rating of each burner (HHV): <u>507</u> Type: <input checked="" type="radio"/> Low NOx (please attach manufacturer's specifications) <input type="radio"/> Other: _____ <small>Show all heat transfer surface locations with the HRSG and temperature profile</small>
Fuel (Duct Burner)	<input checked="" type="radio"/> Natural Gas <input type="radio"/> LPG <input type="radio"/> Digester Gas* <input type="radio"/> Landfill Gas* <input type="radio"/> Propane <input type="radio"/> Refinery Gas* <input type="radio"/> Other*: _____ <small>* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).</small>

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control	<input checked="" type="radio"/> Selective Catalytic Reduction (SCR)* <input type="radio"/> Selective Non-Catalytic Reduction (SNCR)* <input type="radio"/> Oxidation Catalyst* <input type="radio"/> Other (specify)*: _____ <input type="radio"/> Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel * Separate application is required. Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Annual Operating Cost: _____
------------------------------	---

Oxidation Catalyst Data (If Applicable)	Manufacturer: _____ Model: _____ <hr/> Catalyst Dimensions: Length: _____ ft. _____ in. Width: _____ ft. _____ in. Height: _____ ft. _____ in. Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: _____ Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: _____ yrs VOC Control Efficiency: _____ % Operating Temp. Range: _____ °F Space Velocity (gas flow rate/catalyst volume): _____ Area Velocity (gas flow/wetted catalyst surface area): _____ VOC Concentration into Catalyst: _____ PPMVD@ 15%O ₂ CO Concentration inot Catalyst: _____ PPMVD@ 15%O ₂
--	---

Section C - Operation Information

On-line Emissions Data		Maximum Emissions Before Control *		Maximum Emissions After Control	
	Pollutants	PPM@15% O₂, dry	lb/hour	PPM@15% O₂, dry	lb/hour
	ROG			1.0	2.5
	NOx			2.0	14.3
	CO			2.0	8.70
	PM ₁₀				9.5
	SOx				2.63
	NH ₃			5	13.2
* Based on temperature, fuel consumption, and MW output.					
Reference (attach data):					
<input checked="" type="checkbox"/> Manufacturer Emission Data <input type="checkbox"/> EPA Emission Factors <input type="checkbox"/> AQMD Emission Factors <input type="checkbox"/> Source Test					

Stack or Vent Data	Stack Height: _____ 140 ft. _____ 0 in. Stack Diameter: _____ 18 ft. _____ 0 in. Exhaust Temperature: _____ 400 °F Exhaust Pressure: _____ inches water column Exhaust Flow Rate: _____ 1140216 CFM Oxygen Level: _____ 13.56 %
---------------------------	---



**Form 400-E-12
Gas Turbine**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): <u>AES Redondo Beach, LLC</u>	Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): <u>115536</u>
Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): <u>1100 North Harbor Drive, Redondo Beach, CA 90277</u>	
<input checked="" type="radio"/> Fixed Location <input type="radio"/> Various Locations	

Section B - Equipment Description

Turbine	Manufacturer: <u>Mitsubishi Power System Americas</u>	Model: <u>501DA</u>	Serial No.: <u>TBD</u>
	Size (based on Higher Heating Value - HHV):		
	Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh		
Manufacturer Maximum Output Rating: <u>1,492.00</u> MMBTU/hr <u>130,830.00</u> kWh			
Function (Check all that apply)	<input checked="" type="checkbox"/> Electrical Generation	<input type="checkbox"/> Driving Pump/Compressor	<input type="checkbox"/> Emergency Peaking Unit
	<input checked="" type="checkbox"/> Steam Generation	<input type="checkbox"/> Exhaust Gas Recovery	<input type="checkbox"/> Other (specify): _____
Cycle Type	<input type="checkbox"/> Simply Cycle	<input type="checkbox"/> Regenerative Cycle	
	<input checked="" type="radio"/> Combined Cycle	<input type="radio"/> Other (specify): _____	
Combustion Type	<input type="radio"/> Tubular	<input checked="" type="radio"/> Can-Annular	<input type="radio"/> Annular
Fuel (Turbine)	<input checked="" type="checkbox"/> Natural Gas	<input type="checkbox"/> LPG	<input type="checkbox"/> Digester Gas*
	<input type="checkbox"/> Landfill Gas*	<input type="checkbox"/> Propane	<input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).			
Heat Recovery Steam Generator (HRSG)	Steam Turbine Capacity: <u>152</u> MW		
	Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F		
	High Pressure Steam Output Capacity: <u>1232500</u> lb/hr @ <u>959</u> °F		
	Superheated Steam Output Capacity: _____ lb/hr @ _____ °F		
Duct Burner	Manufacturer: <u>TBD</u>	Model: <u>TBD</u>	
	Number of burners: _____ Rating of each burner (HHV): <u>507</u>		
	Type: <input checked="" type="radio"/> Low NOx (please attach manufacturer's specifications)		
	<input type="radio"/> Other: _____ Show all heat transfer surface locations with the HRSG and temperature profile		
Fuel (Duct Burner)	<input checked="" type="radio"/> Natural Gas	<input type="radio"/> LPG	<input type="radio"/> Digester Gas*
	<input type="radio"/> Landfill Gas*	<input type="radio"/> Propane	<input type="radio"/> Refinery Gas* <input type="radio"/> Other*: _____
* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).			

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control

Selective Catalytic Reduction (SCR)* Selective Non-Catalytic Reduction (SNCR)*
 Oxidation Catalyst* Other (specify)*: _____
 Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel
 * Separate application is required.
 Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Annual Operating Cost: _____

Oxidation Catalyst Data (If Applicable)

Manufacturer: _____ Model: _____
 Catalyst Dimensions: Length: _____ ft. _____ in. Width: _____ ft. _____ in. Height: _____ ft. _____ in.
 Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: _____
 Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: _____ yrs
 VOC Control Efficiency: _____ % Operating Temp. Range: _____ °F
 Space Velocity (gas flow rate/catalyst volume): _____ Area Velocity (gas flow/wetted catalyst surface area): _____
 VOC Concentration into Catalyst: _____ PPMVD@ 15%O₂ CO Concentration inot Catalyst: _____ PPMVD@ 15%O₂

Section C - Operation Information

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
ROG			1.0	2.5
NOx			2.0	14.3
CO			2.0	8.70
PM ₁₀				9.5
SOx				2.63
NH ₃			5	13.2

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):

Manufacturer Emission Data EPA Emission Factors AQMD Emission Factors Source Test

Stack or Vent Data

Stack Height: 140 ft. 0 in. Stack Diameter: 18 ft. 0 in.
 Exhaust Temperature: 400 °F Exhaust Pressure: _____ inches water column
 Exhaust Flow Rate: 1140216 CFM Oxygen Level: 13.56 %

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Operation Information (cont.)

Startup Data	No. of Startups per day: <u>3</u> No. of Startups per year: <u>624</u> Duration of each startup: <u>1.5</u> hrs.				
Shutdown Data	No. of Shutdowns per day: <u>3</u> No. of Shutdowns per year: <u>624</u> Duration of each Shutdown: <u>0.54</u> hrs.				
Startup and Shutdown Emissions Data	Startup Emissions		Shutdown Emissions		
	Pollutants	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
	ROG		27.3		32.5
	NOx		25.4		17.8
	CO		113.9		50.7
	PM ₁₀		9.5		4.5
	SOx		2.63		1.96
Monitoring and Reporting	Continuous Emission Monitoring System (CEMS): CEMS Make: <u>TBD</u>				
	CEMS Model: <u>TBD</u>				
	Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input checked="" type="radio"/> Yes <input type="radio"/> No				
	The following parameters will be continuously monitored:				
	<input checked="" type="checkbox"/> NOx	<input checked="" type="checkbox"/> CO	<input checked="" type="checkbox"/> O ₂		
	<input checked="" type="checkbox"/> Fuel Flow Rate	<input checked="" type="checkbox"/> Ammonia Injection Rate	<input type="checkbox"/> Other (specify): _____		
	<input checked="" type="checkbox"/> Ammonia Stack Concentration:	Ammonia CEMS Make: <u>TBD</u>			
		Ammonia CEMS Model: <u>TBD</u>			
Operating Schedule	Normal:	<u>24</u> hours/day	<u>7</u> days/week	<u>40</u> weeks/yr	
	Maximum:	<u>24</u> hours/day	<u>7</u> days/week	<u>52</u> weeks/yr	

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: <u><i>S. Okane</i></u> Date: <u>4/21/2012</u>	Name: <u>Stephen O'Kane</u>
	Title: <u>Manager</u> Company Name: <u>AES Southland Develop</u>	Phone #: <u>(562) 493-7840</u> Fax #: <u>(562) 493-7737</u>
Contact Info	Name: <u>Same as Preparer</u>	Phone #: _____ Fax #: _____
	Title: _____ Company Name: _____	Email: _____

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**Form 400-E-12
Gas Turbine**

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Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 115536

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site):
1100 North Harbor Drive, Redondo Beach, CA 90277 **Fixed Location** **Various Locations**

Section B - Equipment Description

Turbine	Manufacturer: <u>Mitsubishi Power System Americas</u> Model: <u>501DA</u> Serial No.: <u>TBD</u>
	Size (based on Higher Heating Value - HHV):
	Manufacturer Maximum Input Rating: _____ MMBTU/hr _____ kWh Manufacturer Maximum Output Rating: <u>1,492.00</u> MMBTU/hr <u>130,830.00</u> kWh
Function (Check all that apply)	<input checked="" type="checkbox"/> Electrical Generation <input type="checkbox"/> Driving Pump/Compressor <input type="checkbox"/> Emergency Peaking Unit <input checked="" type="checkbox"/> Steam Generation <input type="checkbox"/> Exhaust Gas Recovery <input type="checkbox"/> Other (specify): _____
Cycle Type	<input type="radio"/> Simply Cycle <input type="radio"/> Regenerative Cycle <input checked="" type="radio"/> Combined Cycle <input type="radio"/> Other (specify): _____
Combustion Type	<input type="radio"/> Tubular <input checked="" type="radio"/> Can-Annular <input type="radio"/> Annular
Fuel (Turbine)	<input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> LPG <input type="checkbox"/> Digester Gas* <input type="checkbox"/> Landfill Gas* <input type="checkbox"/> Propane <input type="checkbox"/> Refinery Gas* <input type="checkbox"/> Other*: _____ <small>* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).</small>
Heat Recovery Steam Generator (HRSG)	Steam Turbine Capacity: <u>152</u> MW Low Pressure Steam Output Capacity: _____ lb/hr @ _____ °F High Pressure Steam Output Capacity: <u>1232500</u> lb/hr @ <u>959</u> °F Superheated Steam Output Capacity: _____ lb/hr @ _____ °F
Duct Burner	Manufacturer: <u>TBD</u> Model: <u>TBD</u> Number of burners: _____ Rating of each burner (HHV): <u>507</u> Type: <input checked="" type="radio"/> Low NOx (please attach manufacturer's specifications) <input type="radio"/> Other: _____ <small>Show all heat transfer surface locations with the HRSG and temperature profile</small>
Fuel (Duct Burner)	<input checked="" type="radio"/> Natural Gas <input type="radio"/> LPG <input type="radio"/> Digester Gas* <input type="radio"/> Landfill Gas* <input type="radio"/> Propane <input type="radio"/> Refinery Gas* <input type="radio"/> Other*: _____ <small>* (If Digester Gas, Landfill Gas, Refinery Gas, and/or Other are checked, attach fuel analysis indicating higher heating value and sulfur content).</small>

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (Cont.)

Air Pollution Control

Selective Catalytic Reduction (SCR)* Selective Non-Catalytic Reduction (SNCR)*
 Oxidation Catalyst* Other (specify)*: _____
 Steam/Water Injection: Injection Rate: _____ lbs. water/lbs. fuel, or _____ mole water/mole fuel
 * Separate application is required.
 Capital Cost: \$506,000.00 Installation Cost: \$50,000.00 Annual Operating Cost: _____

Oxidation Catalyst Data (If Applicable)

Manufacturer: _____ Model: _____
 Catalyst Dimensions: Length: _____ ft. _____ in. Width: _____ ft. _____ in. Height: _____ ft. _____ in.
 Catalyst Cell Density: _____ cells/sq.in. Pressure Drop Across Catalyst: _____
 Manufacturer's Guarantee: CO Control Efficiency: _____ % Catalyst Life: _____ yrs
 VOC Control Efficiency: _____ % Operating Temp. Range: _____ °F
 Space Velocity (gas flow rate/catalyst volume): _____ Area Velocity (gas flow/wetted catalyst surface area): _____
 VOC Concentration into Catalyst: _____ PPMVD@ 15%O₂ CO Concentration inot Catalyst: _____ PPMVD@ 15%O₂

Section C - Operation Information

Pollutants	Maximum Emissions Before Control *		Maximum Emissions After Control	
	PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
ROG			1.0	2.5
NOx			2.0	14.3
CO			2.0	8.70
PM ₁₀				9.5
SOx				2.63
NH ₃			5	13.2

* Based on temperature, fuel consumption, and MW output.

Reference (attach data):

Manufacturer Emission Data EPA Emission Factors AQMD Emission Factors Source Test

Stack or Vent Data

Stack Height: 140 ft. 0 in. Stack Diameter: 18 ft. 0 in.
 Exhaust Temperature: 400 °F Exhaust Pressure: _____ inches water column
 Exhaust Flow Rate: 1140216 CFM Oxygen Level: 13.56 %

Form 400-E-12

Gas Turbine

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Operation Information (cont.)

Startup Data	No. of Startups per day: <u>3</u> No. of Startups per year: <u>624</u> Duration of each startup: <u>1.5</u> hrs.				
Shutdown Data	No. of Shutdowns per day: <u>3</u> No. of Shutdowns per year: <u>624</u> Duration of each Shutdown: <u>0.54</u> hrs.				
Startup and Shutdown Emissions Data	Pollutants	Startup Emissions		Shutdown Emissions	
		PPM@15% O ₂ , dry	lb/hour	PPM@15% O ₂ , dry	lb/hour
	ROG		27.3		32.5
	NOx		25.4		17.8
	CO		113.9		50.7
	PM ₁₀		9.5		4.5
	SOx		2.63		1.96
Monitoring and Reporting	Continuous Emission Monitoring System (CEMS): CEMS Make: <u>TBD</u>				
	CEMS Model: <u>TBD</u>				
	Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input checked="" type="radio"/> Yes <input type="radio"/> No				
	The following parameters will be continuously monitored:				
<input checked="" type="checkbox"/> NOx	<input checked="" type="checkbox"/> CO	<input checked="" type="checkbox"/> O ₂			
<input checked="" type="checkbox"/> Fuel Flow Rate	<input checked="" type="checkbox"/> Ammonia Injection Rate	<input type="checkbox"/> Other (specify): _____			
<input checked="" type="checkbox"/> Ammonia Stack Concentration:	Ammonia CEMS Make: <u>TBD</u>				
	Ammonia CEMS Model: <u>TBD</u>				
Operating Schedule	Normal:	<u>24</u> hours/day	<u>7</u> days/week	<u>40</u> weeks/yr	
	Maximum:	<u>24</u> hours/day	<u>7</u> days/week	<u>52</u> weeks/yr	

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: <u></u>	Date: <u>11/21/2012</u>	Name: <u>Stephen O'Kane</u>
	Title: <u>Manager</u>	Company Name: <u>AES Southland Develop</u>	Phone #: <u>(562) 493-7840</u> Fax #: <u>(562) 493-7737</u>
Contact Info	Name: <u>Same as Preparer</u>	Phone #: _____	Fax #: _____
	Title: _____	Company Name: _____	Email: _____

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information.



Form 400-E-18 Storage Tank

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To: SCAQMD P.O. Box 4944 Diamond Bar, CA 91765-0944 Tel: (909) 396-3385 www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536 Address where the equipment will be operated (for equipment which will be moved to various locations in AQMD's jurisdiction, please list the initial location site): 1100 North Harbor Drive, Redondo Beach, CA 90277

Tank Type (Select ONE): External Floating Roof Tank (EFRT), Internal Floating Roof Tank (IFRT), Horizontal Tank (HT), Vertical Fixed Roof Tank (VFRT), Domed External Roof Tank (DEFRT) Identification: Tank Identification Number: TBD Tank Contents/Product (include MSDS): 19% Aqueous Ammonia

Section B - Tank Information

Tank Characteristics: Shell Diameter (ft.): 6, Shell Length (ft.): 28.4, Shell Height (ft.):, Turnovers Per Year: 21, Is Tank Heated?, Is Tank Underground?, Net Throughput (gal/year): 504000, Self Support Roof:, Number of Columns?, Effective Column Diameter:, External Shell Condition:, Internal Shell Color:, External Shell Color:, Average Liquid Height (ft.) (Vertical Only):, Maximum Liquid Height (ft.) (Vertical Only):, Working Volume (gal.) (Vertical Only):, Actual Volume (gal.) (Vertical Only):, Paint Condition:, Paint Color/Shade:

Roof Characteristics (Floating Roof Tank): Roof Type: Pontoon, Double Deck, Dome Roof, Cone Roof, Roof Fitting Category: Typical, Detail, Roof Height (ft.):, Roof Paint Condition:, Roof Color/Shade:

Deck Characteristics (Floating Roof Tank): Deck Type: Welded, Bolted, Deck Fitting Characteristics: Typical, Detailed (Complete Deck Seam), Construction: Sheet, Panel, Deck Seam Length (ft.):, Deck Seam: 5 ft. wide, 6 ft. wide, 7 ft. wide, 5 x 7.5 ft., 5 x 12 ft.

Tank Construction and Rim-Seal System (Floating Roof Tank): Tank Construction: Welded, Riveted, Primary Seal: Mechanical Shoe, Vapor Mounted, Liquid Mounted, Secondary Seal: Rim Mounted, Shoe Mounted, None

Breather Vent Setting: Vacuum Setting (psig): -1.25 Pressure Setting (psig): 50

* Section D of the application MUST be completed.

**Form 400-E-18
Storage Tank**

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section D - Roof/Deck Fitting (cont.)

Roof/Deck Fitting Details (cont.)	<p>4. Gauge Hatch/Sample Well (8" diameter well)</p> <p>_____ Weighted Mechanical Actuation, Gasketed</p> <p>_____ Weighted Mechanical Actuation, Ungasketed</p> <p>6. Rim Vent (6" diameter)</p> <p>_____ Weighted Mechanical Actuation, Gasketed</p> <p>_____ Weighted Mechanical Actuation, Ungasketed</p> <p>8. Roof Leg (3" diameter leg)</p> <p>_____ Adjustable, Pontoon Area, Ungasketed</p> <p>_____ Adjustable, Center Area, Ungasketed</p> <p>_____ Adjustable, Double-Deck Roofs</p> <p>_____ Fixed</p> <p>_____ Adjustable, Pontoon Area, Gasketed</p> <p>_____ Adjustable, Pontoon Area, Sock</p> <p>_____ Adjustable, Center Area, Gasketed</p> <p>_____ Adjustable, Center Area, Sock</p>	<p>5. Ladder Well (36" diameter)</p> <p>_____ Sliding Cover, Gasketed</p> <p>_____ Sliding Cover, Ungasketed</p> <p>7. Roof Drain (3" diameter)</p> <p>_____ Open</p> <p>_____ 90% Close</p> <p>9. Roof Leg or Hang Well</p> <p>_____ Adjustable</p> <p>_____ Fixed</p> <p>10. Sample Pipe (24" diameter)</p> <p>_____ Slotted Pipe – Sliding Cover, Gasketed</p> <p>_____ Slotted Pipe – Sliding Cover, Ungasketed</p> <p>_____ Slit Fabric Seal, 10% Open</p>
	<p>11. Guided Pole/Sample Well</p> <p>_____ Ungasketed, Sliding Cover, Without Float</p> <p>_____ Ungasketed Sliding Cover, With Float</p> <p>_____ Gasketed Sliding Cover, Without Float</p> <p>_____ Gasketed Sliding Cover, With Float</p> <p>_____ Gasketed Sliding Cover, With Pole Sleeve</p> <p>_____ Gasketed Sliding Cover, With Pole Wiper</p> <p>_____ Gasketed Sliding Cover, With Float, Wiper</p> <p>_____ Gasketed Sliding Cover, With Float, Sleeve, Wiper</p> <p>_____ Gasketed Sliding Cover, With Pole Sleeve, Wiper</p>	<p>12. _____ Stub Drain (1" diameter)</p> <p>13. Unslotted Guide – Pole Well</p> <p>_____ Ungasketed, Sliding Cover</p> <p>_____ Gasketed Sliding Cover</p> <p>_____ Ungasketed Sliding Cover with Sleeve</p> <p>_____ Gasketed Sliding Cover with Sleeve</p> <p>_____ Gasketed Sliding Cover with Wiper</p> <p>14. Vacuum Breaker (10" diameter well)</p> <p>_____ Weighted Mechanical Actuation, Gasketed</p> <p>_____ Weighted Mechanical Actuation, Ungasketed</p>

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: 	Date: 11/21/2012	Name: Stephen O'Kane
	Title: Manager	Company Name: <i>Rebdo Beach, LLC</i> AES Southland Develop	Phone #: (562) 493-7840 Fax #: (562) 493-7737
Contact Info	Name: Same as Preparer	Phone #:	Fax #:
	Title:	Company Name:	Email:

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information.



South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Mail To: SCAQMD, P.O. Box 4944, Diamond Bar, CA 91765-0944, Tel: (909) 396-3385, www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appear On The Permit): AES Redondo Beach, LLC
Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536
Address where the equipment will be operated (If it will be moved to various location in AQMD's jurisdiction, please list the initial location site): 1100 North Harbor Drive, Redondo Beach, CA 90277
Fixed Location [X] Various Locations []

Section B - Location Data

Plot Plan: Please attach a site map for the project with distances and scales.
Location of Schools Nearby: Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? [X] Yes [] No
School Name: Yak Academy Learning Center
School Address: 553 N. Pacific Coast Highway, Suite C
Distance from stack or equipment vent to the outer boundary of the school: 925 feet
Population Density: [X] Urban [] Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)
Zoning Classification: [X] Heavy Commercial (C-4) [] Mixed Use Residential Commercial Zone (M-U) [] Service and Professional Zone (C-S) [] Medium Commercial (C-3) [] Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data: Stack Height: 140.00 feet (above ground level)
Stack Inside Diameter: 216.00 inches
Stack Flow: 1,140,216 acfm
Stack Temperature: 400 F
Rain Cap Present: [] Yes [X] No
Stack Orientation: [X] Vertical [] Horizontal
What is the height of the closest building nearest the stack? 83 feet
Building #/Name: See AFC Appendix 5.1C
Building Height: feet (above ground level)
Building Width: feet
Building Length: feet
Receptor Distance From Equipment Stack or Roof Vents/Openings: Distance to nearest residence: 650 feet
Distance to nearest business: 70 feet
Building Information: Are the emissions released from vents and/or openings from a building? [] Yes [X] No
Building #/Name:
Building Height: feet (above ground level)
Building Width: feet
Building Length: feet

Form 400-PS

Plot Plan And Stack Information Form

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Form 400A and Form 400-CEQA.

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Signature of Preparer: 	Title of Preparer: Manager	Preparer's Phone #: (562) 493-7840 Preparer's Email: stephen.okane@AES.com
---	-------------------------------	---

Contact Person: Stephen O'Kane	Contact's Phone#: (562) 493-7840	Date Signed: 11/21/2012
Contact's Email: stephen.okane@AES.com	Contact's Fax#: (562) 493-7737	

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information.



Form 500-A1
Title V Permit Application Supplemental

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. Facility Name (Business Name of Operator That Appears On Permit):

AES Redondo Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD):

115536

3. Facility Is Located In Title V Area:

- 1 All other zip codes not listed below
2 92201 92202 92203 92210 92211 92234 92235 92236 92239* 92240 92241 92247 92248 92253 92254 92255 92258 92260 92261 92262 92263 92264 92270 92274 92275 92276 92282 92292 92561
3 92239*

* If your zip code is 92239, please call (909) 396-3385 to verify your Title V area.

Section II - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):

- a. Initial Title V Permit
b. Permit Renewal: (Provide current permit expiration date)
c. Administrative Change (check all that apply)
Change of Operator. (Complete and attach equipment-specific Form 400-E-XX series forms)
Change of Facility Information
Other, Please specify:
d. Title V Permit Revision
e. Title V Exemption Plan
f. MACT Part 1
g. Permit Shield

Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.

2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section III - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:

Table with 4 columns of form types and quantities: 8 400-A (REQUIRED), 1 400-CEQA (REQUIRED), 1 400-A2 (REQUIRED), 1 500-B (REQUIRED), 500-C1 (REQUIRED), 500-C2, 500-D, 500-E, 1 500-F1, 500-F2, 500-F3, 500-F4, 1 500-H (REQUIRED), 500-MACT PART 1, OTHER (SPECIFY):

2. Additional information referenced in this application submitted:

California Energy Commission, 2012. Redondo Beach Energy Project Application for Certification. November.



South Coast Air Quality Management District
Form 500-A2
Title V Application Certification

Mail To:
 SCAQMD
 P.O. Box 4944
 Diamond Bar, CA 91765-0944
 Tel: (909) 396-3385
 www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit):
 AES Redondo Beach, LLC
2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD):
 115536
3. **This Certification is submitted with a** (Check one):
 a. Title V Application (Initial, Revision or Renewal)
 b. Supplement/Correction to a Title V Application
 c. MACT Part 1
4. **Is Form 500-C2 included with this Certification?** Yes No

Section II - Responsible Official Certification Statement

Read each statement carefully and check each that applies – You must check 3a or 3b.

1. **For Initial, Permit Renewal, and Administrative Application Certifications:**
- a. The facility, including equipment that are exempt from written permit per Rule 219, is currently operating and will continue to operate in compliance with all applicable requirement(s) identified in Section II and Section III of Form 500-C1,
 i. except for those requirements that do not specifically pertain to such devices or equipment and that have been identified as "Remove" on Section III of Form 500-C1.
 ii. except for those devices or equipment that have been identified on the completed and attached Form 500-C2 that will not be operating in compliance with the specified applicable requirement(s).
- b. The facility, including equipment that are exempt from written permit per Rule 219, will meet in a timely manner, all applicable requirements with future effective dates.
2. **For Permit Revision Application Certifications:**
- a. The equipment or devices to which this permit revision applies, will in a timely manner comply with all applicable requirements identified in Section II and Section III of Form 500-C1.
3. **For MACT Hammer Certifications:**
- a. The facility is subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63), also known as the MACT "hammer." The following information is submitted with a Title V application to comply with the Part 1 requirements of Section 112(j).
 b. The facility is not subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63).

Section III - Authorization/Signature

I certify under penalty of law that I am the responsible official for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statement and information in this document and in all attached application forms and other materials are true, accurate, and complete.

1. Signature of Responsible Official: 	2. Title of Responsible Official: Manager
3. Print Name: Stephen O'Kane	4. Date: 11/21/2012
5. Phone #: (562) 493-7840	6. Fax #: (562) 493-7737
7. Address of Responsible Official: 690 N. Studebaker Road Long Beach CA 90803	
Street # City State Zip	

Acid Rain Facilities Only: Please Complete Section IV

Acid Rain facilities must certify their compliance status of the devices subject to applicable requirements under Title IV by an individual who meets the definition of Designated (or Alternate) Representative in 40 CFR Part 72.

Section IV - Designated Representative Certification Statement	
<p>For Acid Rain Facilities Only: I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.</p>	
1. Signature of Designated Representative or Alternate: 	2. Title of Designated Representative or Alternate: Manager
3. Print Name of Designated Representative or Alternate: Stephen O'Kane	4. Date: 11/21/2012
5. Phone #: (562) 493-7840	6. Fax #: (562) 493-7737
7. Address of Designated Representative or Alternate: 690 N. Studebaker Road	
Street #	City State Zip Long Beach CA 90803

Trivial Activities	
<ul style="list-style-type: none"> • Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources • Air-conditioning units used for human comfort that do not have applicable requirements under Title VI of the Act • Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process • Non-commercial food preparation • Consumer use of office equipment and products, not including printers or businesses primarily involved in photographic reproduction • Janitorial services and consumer use of janitorial products • Internal combustion engines used for landscaping purposes • Laundry activities, except for dry-cleaning and steam boilers • Bathroom/toilet vent emissions • Emergency (backup) electrical generators at residential locations • Tobacco smoking rooms and areas • Blacksmith forges • Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification¹ • Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification • Portable electrical generators that can be moved by hand from one location to another² • Hand-held equipment for buffing, polishing, cutting, grinding, sawing, drilling, turning or machining wood, metal or plastic • Brazing, soldering and welding equipment, and cutting torches related to manufacturing and construction activities that do not result in emission of HAP metals³ • Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents⁴ • Routine calibration and maintenance of laboratory equipment or other analytical instruments • Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis • Hydraulic and hydrostatic testing equipment • Environmental chambers not using hazardous air pollutant (HAP) gasses • Shock chambers • Humidity chambers • Solar simulators 	<ul style="list-style-type: none"> • Fugitive emission related to movement of passenger vehicles, provided any required fugitive dust control plan or its equivalent is submitted • Process water filtration systems and demineralizers • Demineralized water tanks and demineralizer vents Air compressors and pneumatically operated equipment, including hand tools • Batteries and battery charging stations, except at battery manufacturing plants • Storage tanks, vessels and containers holding or storing liquid substances that will not emit any VOC or HAP⁵ • Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized • Equipment used to mix and package soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized • Drop hammers or hydraulic presses for forging or metalworking • Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment • Vents from continuous emissions monitors and other analyzers • Natural gas pressure regulator vents, excluding venting at oil and gas production facilities • Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation • Equipment used for surface coating, painting, dipping or spraying operations, except those that will emit VOC or HAP • CO₂ lasers, used only on metals and other materials which do not emit HAP in the process • Consumer use of paper trimmers/binders • Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substance being processed in the ovens or autoclaves or the boilers delivering the steam • Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants • Laser trimmers using dust collection to prevent fugitive emissions • Boiler water treatment operations, not including cooling towers • Oxygen scavenging (de-aeration) of water • Ozone generators • Fire suppression systems • Emergency road flares • Steam vents and safety relief valves • Steam leaks • Steam cleaning operations • Steam sterilizers

¹ Cleaning and painting activities qualify as trivial if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise required.

² "Moved by hand" means it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance or device.

³ Brazing, soldering and welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals are more appropriate for treatment as unpermitted equipment. Brazing, soldering, welding and cutting torches directly related to plant maintenance and upkeep and repair or maintenance shop activities that emit HAP metals are treated as trivial and listed separately in this appendix.

⁴ Many lab fume hoods or vents might qualify for treatment as unpermitted equipment.

⁵ Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.



Mail To:
 SCAQMD
 P.O. Box 4944
 Diamond Bar, CA 91765-0944
 Tel: (909) 396-3385
 www.aqmd.gov

This form shall be completed by Acid Rain facilities ONLY and shall accompany all requests for Phase II permit actions unique to Acid Rain facilities. Also attach a completed Form 500-A2. In addition, if an initial Title V permit, permit renewal, or permit revision is requested, attach Form 500-A1 and any supplemental Acid Rain forms (Forms 500-F2, 500-F3, and 500-F4), as appropriate.

Section I - General Information

1. Facility Name (Business Name of Operator That Appears On Permit): AES Redondo Beach, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115536

3. ORIS Code (5-Digit): _____

4. This is an application for a (Check all that apply to the facility):

- a. Phase II Acid Rain Permit or Revision (Complete Section II of this form)
- b. Repowering Extension Plan or Revision (Complete Form 500-F2)
- c. New Unit Exemption or Revision (Complete Form 500-F3)
- d. Retired Unit Exemption or Revision (Complete Form 500-F4)

5. The requested permit action involves a(n) (Check one):

- a. Administrative Permit Revision
- b. Significant Permit Revision
- c. Fast Track Permit Revision
- d. Automatic Permit Revision
- e. Other (specify): _____

6. For all applications requesting a permit revision, provide a general description of the proposed changes (Attach additional sheets as necessary):

Section II - Phase II Acid Rain Device Summary

1. The following information is (Check one): a. New b. Revised

AQMD Device #	EPA Unit #	Will device need a Repowering Extension Plan?	Has device started operations on or after 11/15/90?	Device Operations Start Date (mo/day/yr)	For devices starting-up after 11/15/90, provide date when Monitoring Certification will begin (mo/day/yr)
TBD	TBD	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No		
		<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No		
		<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No		
		<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No		
		<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No		

To complete this application, type or print the information in the appropriate blanks.

Section I - General Information

1. **Facility Name:** Provide the name of the legal entity that operates the facility.
AQMD Facility ID: Complete only if the facility has been issued a 6-digit identification or ID number by AQMD. If not, leave these boxes blank. An ID number will be assigned when the application is submitted.
ORIS Code: Provide the 5-digit code that has been assigned to facility by Department of Energy.
2. Check all applicable boxes to indicate the type of Acid Rain application filed. If box 1a. is checked, complete Section II of this form. If box 1b. is checked, complete and attach Form 500-F2 - Title IV Phase II Acid Rain Repowering Extension Plan. If box 1c. is checked, complete and attach Form 500-F3 - Title IV Phase II Acid Rain New Unit Exemption Request. If box 1d. is checked, complete and attach Form 500-F4 - Title IV Phase II Acid Rain Retired Unit Exemption Request.
3. Check one box that best represents the type of permit action requested. If box 1e. is checked, in the space provided identify any additional elements regarding the application or the facility that need to be considered during the processing of this application (i.e., Initial Title V Permit Application).
4. If the application is a revision request, describe in general terms the changes that are proposed in the application revision request. Attach additional sheets as necessary.

Section II - Phase II Acid Rain Device Summary

1. Before completing this section, check one box to indicate whether this is a new application or a revision.

AQMD Device #:	Provide the identification number for each AQMD-assigned device subject to Phase II requirements.
EPA Unit #:	Provide the identification number for each EPA-assigned device subject to Phase II requirements.
Will device need a Repowering Extension Plan?:	Indicate with a "yes" or "no" if the device is or will be participating under a Repowering Extension Plan.
Has device started operations on or after 11/15/90?:	Indicate with a "yes" or "no" if the device was source tested or started operating on or after November 15, 1990.
Device Operations Start Date:	Complete this column <u>only</u> if the device was source tested or started operating on or after November 15, 1990. Provide the date (mo/day/yr) when the device started or will start operating. Note: If the date of beginning operations changes, an administrative permit revision application will be required.
For Devices starting-up after 11/15/90, provide date when Monitoring Certification will begin:	Complete this column <u>only</u> if the device was source tested or started operating on or after November 15, 1990. Provide the date (mo/day/yr) when compliance with the monitoring procedures for the device will begin. Refer to 40 CFR Part 75.4 to determine this date. Note: If the monitoring certification date changes, an administrative permit revision application will be required.

Instructions for Determining Applicability to the CAM Rule

With the exception of emission units that are municipally-owned backup utility power units as described by 40 CFR Part 64, Section 64.2(b)(2)¹, the CAM rule is applicable to each emission unit (existing and new construction) at a Title V facility that meets ALL of the following criteria²:

1. The emission unit is subject to an emission limitation or standard³ (often found in permit conditions);
2. The emission unit uses a control device to achieve compliance with the emission limitation or standard; and,
3. The emission unit has a potential to emit (PTE)⁴, either pre-control or post-control depending on the type of Title V application⁵, that exceeds or is equivalent to any of Title V major source thresholds shown in the following table:

CAM Potential to Emit (PTE) Emission Threshold⁶ For Individual Emission Units at a Title V Facility (tons per year)			
Pollutant	South Coast Air Basin (SOCAB)	Riverside County Portion of Salton Sea Air Basin (SSAB) and Los Angeles County Portion of Mojave Desert Air Basin (MDAB)	Riverside County Portion of Mojave Desert Air Basin (MDAB)
VOC	10	25	100
NOx	10	25	100
SOx	100	100	100
CO	50	100	100
PM-10	70	70	100
1 HAP ⁷	10	10	10
2+ HAPs	25	25	25

1 The facility must attach the documentation required by 40 CFR Part 64, Section 64.2 (b)(2) to demonstrate that the backup utility power unit only operates during periods of peak demand or emergency situations, and has actual emissions, averaged over the last three calendar years of operation, less than 50% of the major source emission thresholds.

2 Additional information about the CAM rule can be found on EPA's website at <http://www.epa.gov/ttnemc01/cam.html>.

3 Only emission limitations and standards from an "applicable requirement" for emission units with control devices are subject to the CAM rule. Applicable requirements are federally-enforceable requirements that are rules adopted by AQMD or the State that are approved by EPA into the State Implementation Plan (SIP) (i.e. "SIP-approved rules"). Refer to Form 500-C1 for the latest versions of SIP-approved and non-SIP approved rules.

For emissions units with control devices that are subject to following federally enforceable requirements, the CAM rule does NOT apply: 1) NSPS (40 CFR Part 60); 2) NESHAP (40 CFR Parts 61 and 63); 3) Title VI of the Federal Clean Air Act (CAA) for Stratospheric Ozone Protection; 4) Title IV of the CAA and SCAQMD Regulation XXXI for Acid Rain facilities; 5) SCAQMD Regulation XX - RECLAIM; 6) Any emission cap that is federally enforceable, quantifiable, and meets the requirements in 40 CFR Part 70, Section 70.4 (b)(12); and 6) Emission limitation or standards for which a continuous compliance determination method is required.

4 To calculate the pre-control device and post-control device PTE for emission units at the facility, refer to the Title V Technical Guidance Document Version 4.0, Appendix A (pages A-12 through A-23). The calculations are used to determine the CAM applicability according to 40 CFR Part 64, Section 64.5 of the CAM rule.

5 For initial Title V or significant permit revision applications submitted after April 20, 1998, use the post-control device PTE emissions to determine CAM applicability. For Title V permit renewal applications (submittals will begin in 2002), the CAM applicability will be based on the pre-control device PTE.

6 The following table is based on Rule 3001 (Amended November 14, 1997) and Rule 3008 (Amended March 16, 2001). Please be advised that the threshold values are subject to change based on rule amendments.

7 Hazardous Air Pollutant